

Tungsten halogen lamps (non-vehicle)

The European Standard EN 60357 has the status of a
British Standard

ICS 29.140.20

Cooperating organizations

The European Committee for Electrotechnical Standardization (CENELEC), under whose supervision this European Standard was prepared, comprises the National Committees of the following countries.

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Norway
France	Portugal
Germany	Spain
Greece	Sweden
Ireland	Switzerland
	United Kingdom

Amendments issued since publication

Amd. No.	Date of issue	Comments
6810	July 1992	
8103	July 1994	
8414	April 1995	
8719	November 1995	
9127	November 1996	
9247	April 1997	
9774	January 1998	See national foreword
10814	July 2000	See national foreword
13025	20 September 2001	Indicated by a sideline and see national foreword

This British Standard, having been prepared under the direction of the Electrical Illumination Standards Committee, was published under the authority of the Board of BSI and comes into effect on 28 February 1989

© BSI 20 September 2001
First published January 1943
First revision January 1961
Second revision May 1985
Third revision February 1989

The following BSI references relate to the work on this standard:
Committee reference LGL/6
Draft for comment 84/29930 DC

ISBN 0 580 17104 3

Contents

	Page
Cooperating organizations	Inside front cover
National foreword	ii
Text of EN 60357	7
National appendix W	213

National foreword

This British Standard has been prepared by Technical Committee CPL/34/1 (formerly LGL/6) and is the English language version of EN 60357:1988 and its Amendments A4, A5, A6, A7, A8, A9, A10, A11, A12 and A13. It was derived from IEC 60357:1982 *Tungsten halogen lamps (non-vehicle)* including Amendment 1 (1984), Amendment 2 (1985), Amendment 3 (1987), Amendment 4 (1989), Amendment 5 (1992), Amendment 6 (1993), Amendment 7 (1993), Amendment 8 (1995), Amendment 9 (1996), Amendment 10 (1996), Amendment 11 (1997) Amendment 12 (1999) and Amendment 13 (2000), published by the International Electrotechnical Commission (IEC) with modifications.

The foreword of Amendment A9 of the EN makes reference to “date of withdrawal (dow) of conflicting national standards” as 1996-12-01. In this case the relevant national standard is BS 1075 but the date of withdrawal relates only to those parts of the British Standard subject to Amendment A9. Certificates and marks will not be awarded after this date with respect to the British Standard not incorporating Amendment A9. They will be awarded only to the amended British Standard. However, such certificates and marks already awarded with respect to the British Standard not incorporating Amendment A9 may continue to apply for production until 2001-12-01.

Analogous provisions obtain in respect of Amendments A10 and A11, for both of which the dow is 1998-06-01 and the expiry date for current approvals is 2003-06-01.

This British Standard is supplied in the form of separate standard sheets. Amendments containing new or revised standard sheets will be issued in the future to ensure that this standard is kept up to date.

No sidelining is used on data sheets but the amendment by which each page was introduced is indicated by an extension to the shoulder heading at the top of the page (e.g. EN 60357:1988/A13:2000). Where no such extension appears, the page is part of the original BS 1075:1989.

From 1 January 1997, all IEC publications have the number 60000 added to the old number. For instance, IEC 27-1 has been renumbered as IEC 60027-1. For a period of time during the change over from one numbering system to the other, publications may contain identifiers from both systems.

Attention is drawn to the fact that the numbering system used on the lamp data sheets is derived from the IEC publication number (see clause 7).

For ease of reproduction the French text in the standard sheets has been retained.

National appendix W lists the United Kingdom cooperating organizations involved in the production of this British Standard.

For the convenience of the user, amendment A12 to EN 60357:1988 has been incorporated into a consolidated version of the British Standard. Thus amendment 8 to BS 1075:1989 has not been published separately.

Cross-references. The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index” or by using the “Find” facility of the BSI Standards Electronic Catalogue.

Additional information. On page 2 of the text of EN 60357 under the title “Technical text”, abbreviations *doa*, *dolp* and *dow* are given. These represent “date of announcement at national level that the EN exists”, “date of latest publication of the corresponding harmonized national standard” and “date of withdrawal of conflicting requirements in national standards”. These dates have been set by the CENELEC Technical Board.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 16, lamp data sheets, pages 203 to 213 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Sidelining in this document indicates the most recent changes by amendment.

English version

Tungsten halogen lamps (non-vehicle)

(includes amendments A4:1991, A5:1993, A6:1994, A7:1994, A8:1995, A9:1996, A10:1997, A11:1997, A12:1999 and A13:2000)

(IEC 357:1982 + amendments 1 (1984), 2 (1985), 3 (1987), 4 (1989), 5 (1992), 6 (1993), 7 (1994), 8 (1995), 9 (1996), 10 (1996), 11 (1997), 12 (1999) and 13 (2000), modified)

Lampes tungstène-halogène
(véhicules exceptés) (inclut les amendements
A4:1991, A5:1993, A6:1994, A7:1994, A8:1995,
A9:1996, A10:1997, A11:1997, A12:1999)
et A13:2000
(CEI 60357:1982 + les amendements 1 (1984),
2 (1985), 3 (1987), 4 (1989), 5 (1992), 6 (1993),
7 (1994), 8 (1995), 9 (1996), 10 (1996), 11 (1997),
12:1999 et 13:2000, modifiée)

Halogen-Glühlampen (Fahrzeuglampen
ausgenommen)
(enthält Änderungen A4:1991, A5:1993,
A6:1994, A7:1994, A8:1995, A9:1996, A10:1997,
A11:1997, A12:1999, und A13:2000)
(IEC 60357:1982 + Änderungen 1 (1984), 2
(1985), 3 (1987), 4 (1989), 5 (1992), 6 (1993),
7 (1994), 8 (1995), 9 (1996), 10 (1996), 11 (1997),
12:1999 und 13:2000, modifiziert)

This European Standard was approved by CENELEC on 1986-09-10. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

Brief history

The CENELEC Questionnaire Procedure performed for finding out whether or not IEC 357 (2nd edition, 1982) with Amendment No. 1 (1984) could be accepted without textual changes, has shown that common modifications were necessary for the acceptance as European Standard (EN). The Reference Document was submitted to the CENELEC members for vote and acceptance by CENELEC.

Technical text

The text of the International Standard IEC 357 (2nd edition, 1982) with Amendment No. 1 (1984) was approved by CENELEC on 10th September 1986 as a European Standard with agreed CENELEC common modifications. For the sake of clarity, the places in the text of IEC 357 to which the CENELEC common modifications apply have been marked by a vertical line in the left-hand margin and details of the original IEC text affected are given in Annex C (informative).

The following dates were fixed:

doa: 1987-03-15
dolp/dow: 1988-03-15

Appendices designated “normative” are part of the body of the standard. Appendices designated “informative” are given only for information.

In this European Standard, Annex A from the Reference Document is normative and also Annex B added by CENELEC.

Annex C added by CENELEC is informative.

Foreword to amendment A4

The CENELEC Questionnaire Procedure, performed for finding out whether or not amendments 2:1985, 3:1987 and 4:1989 to IEC 357:1982 could be accepted without textual changes, has shown that some CENELEC common modifications were necessary for the acceptance as European Standard. The reference documents, together with the common modification prepared by the Central Secretariat were submitted to the CENELEC members for formal vote.

The text of the draft was approved by CENELEC as amendment 4 to EN 60357:1988 on 15 March 1991.

The following dates were fixed:

- latest date of publication of an identical amendment to the national standard (dop) 1992-03-01
- latest date of withdrawal of conflicting national standards (dow) 1992-03-01

For products which have complied with EN 60357:1988 before 1992-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-03-01.

NOTE Amendments 1, 2 and 3 to EN 60357 do not exist. Amendment 1 to IEC 357:1982 was already endorsed by EN 60357:1988, amendments 2 and 3 to the IEC 357:1982 are endorsed by EN 60357:1988/A4:1991.

Endorsement notice

The text of amendments 2:1985, 3:1987 and 4:1989 to the International Standard IEC 357:1982 was approved by CENELEC as an amendment to the European Standard with agreed common modifications as given below.

Common modifications

In amendment 4 to IEC 357:1982, replace data sheet 357-IEC-3005-2, page 1 by the new sheet given on page 4.

NOTE The new data sheet includes the following three lamp types which were deleted by mistake when drafting a common modification to EN 60357:1988.

1 000 W HV Z nom = 88,4 mm

800 W HV Z nom = 114,2 mm

1 000 W HV Z nom = 114,2 mm

Foreword to amendment A5

The CENELEC questionnaire procedure, performed for finding out whether or not the amendment 5:1992 to the International Standard IEC 357:1982 and its corrigenda June 1992 and November 1992 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as a European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as amendment A5 to EN 60357 on 22 September 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-10-01
- latest date of withdrawal of conflicting national standards (dow) 1994-10-01

For products which have complied with EN 60357:1988 and its amendment A4:1991 before 1994-10-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-10-01.

Annexes designated “normative” are part of the body of the standard. In this standard, Annex ZA is normative.

Foreword to amendment A6

At the request of the CENELEC Reporting Secretariat SR 34A, amendment 6:1993 to the International Standard IEC 357:1982 was submitted to the CENELEC Unique Acceptance Procedure (UAP) in September 1993 for acceptance as a European Standard.

The text of the International Standard was approved by CENELEC as amendment A6 to EN 60357 on 15 May 1994.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-07-15
- latest date of withdrawal of conflicting national standards (dow) 1995-07-15

For products which have complied with EN 60357:1988 and its amendments A4:1991 and A5:1993 before 1995-07-15, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-07-15.

Foreword to amendment A7

The text of document 34A(CO)700, future amendment 7 to IEC 357:1982, 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 A7 to EN 60357 on 1994-12-06.

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) 1995-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1995-12-01

For products which have complied with EN 60357:1988 and its amendments A4:1991, A5:1993 and A6:1994 before 1995-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-12-01.

Foreword to amendment A8

The text of document 34A/589/DIS, future amendment 8 to IEC 357:1982, 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 A8 to EN 60357:1988 on 1995-11-28.

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) 1996-09-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1996-09-01

For products which have complied with EN 60357:1988 and its amendments A4:1991, A5:1993, A6:1994 and A7:1994 before 1996-09-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-09-01.

Foreword to amendment A9

The text of document 34A/612/FDIS, future amendment 9 to IEC 357:1982, 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 A9 to EN 60357:1988 on 1996-03-05.

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) 1996-12-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1996-12-01

For products which have complied with EN 60357:1988 and its amendments A4:1991, A5:1993, A6:1994, A7:1994 and A8:1995 before 1996-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-12-01.

Foreword to amendment A10

The text of Amendment 10:1996 to the International Standard IEC 60357:1982, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, together with common modifications prepared by the CENELEC Reporting Secretariat SR 34A, was submitted to the formal vote and was approved by CENELEC as amendment A10 to EN 60357:1988 on 1997-07-01.

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) 1998-06-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1998-06-01

For products which have complied with EN 60357:1988 and its amendments A4:1991, A5:1993, A6:1994, A7:1994, A8:1995 and A9:1996 before 1998-06-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2003-06-01.

Foreword to amendment A11

The text of document 34A/703/FDIS, future amendment 11 to IEC 60357:1982, 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 A11 to EN 60357:1988 on 1997-07-01.

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) 1998-06-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1998-06-01

For products which have complied with EN 60357:1988 and its amendments A4:1991, A5:1993, A6:1994, A7:1994, A8:1995 and A9:1996 before 1998-06-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2003-06-01.

Foreword to amendment A12

The text of document 34A/869/FDIS, future amendment 12 to IEC 60357, 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 A12 to EN 60357:1988 on 1999-10-01.

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) 2000-07-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2002-10-01

Foreword to amendment A13

The text of document 34A/909/FDIS, future amendment 13 to IEC 60357:1982, 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 A13 to EN 60357:1988 on 2000-08-01.

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) 2001-05-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2003-08-01

Contents

	page
Brief history	2
Foreword	2
Section 1. General	9
1 Scope	9
2 Limits on maximum watts	9
3 Guidance for the application of tungsten halogen lamps	9
4 Cautionary notice	10
5 Use of external fuses	11
6 Maximum pinch temperatures for quartz tungsten halogen lamps	13
7 Numbering system for lamp data sheets	13
8 Standard sheets	14
9 Low-pressure tungsten halogen lamps	14
10 Maximum bulb temperatures for tungsten halogen lamps	15
11 Maximum permissible cap-contact or base-pin temperatures for tungsten halogen lamps	15
12 Self-shielded tungsten halogen lamps	16
13 Use of cap/holder fits for lamps of section 6 "General purpose lamps"	16

Section 2. Projection lamps	
<i>Lamp data sheets</i>	51
Section 3. Photographic lamps	
<i>Lamp data sheets</i>	105
Section 4. Floodlight lamps	
<i>Lamp data sheets</i>	135
Section 5. Special purpose lamps	
<i>Lamp data sheets</i>	143
Section 6. General purpose lamps	
<i>Lamp data sheets</i>	151
Section 7. Stage lighting lamps	
<i>Lamp data sheets</i>	201
Annex A Recommended method of testing of low-pressure tungsten halogen lamps	207
Annex B ANSI codes for photographic and projection lamps	207
Annex C Conditions and methods of measurement of bulb temperatures	210
Annex D Symbols	211
Annex ZA (normative) Other international publications quoted in this standard with the references of the relevant European publications	212
Table I — Fuse values for photographic lamps	11
Table II — Fuse values for floodlight lamps	12
Table III	12
Table IV — Permissible maximum pinch temperature	13
Table V — List of exceptions	15
Table VI	16

TUNGSTEN HALOGEN LAMPS (NON-VEHICLE)

Information as to original IEC text

The foreword of IEC publication 357 is not part of this European Standard. It reads:

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.
- 4) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its recommendations.

Preface of IEC Publication 357

This standard has been prepared by Sub-Committee 34A: Lamps, of IEC Technical Committee No. 34: Lamps and related equipment.

It forms the second edition of IEC Publication 357 and replaces the first edition of 1971 and its supplement of 1973.

Drafts were discussed at the meetings held in The Hague in 1975 and in Brussels in 1977. As a result of these meetings, several drafts, Documents 34A(Central Office) 114, 115, 117, 129, 130, 131, 144, 145, 148, 149 and 150, were submitted to the National Committees for approval under the Six Months' Rule between November 1976 and September 1978.

The National Committees of the following countries voted explicitly in favour of publication of these documents:

Countries	Documents 34A(CO)										
	114	115	117	129	130	131	144	145	148	149	150
Austria	X	X	X								
Belgium	X	X	X	X	X	X	X	X	X	X	X
Brazil				X	X	X			X	X	X
Canada			X	X	X	X	X	X	X	X	X
Denmark	X	X	X	X	X	X	X	X			
Egypt	X	X	X	X	X	X	X	X			
Finland	X	X	X	X	X	X	X	X	X	X	X
France		X		X	X	X	X	X	X	X	X
Germany	X	X	X	X	X	X	X	X	X	X	X
Hungary	X	X	X	X	X	X	X	X	X	X	X
Israel					X		X	X			
Italy	X	X	X	X	X	X	X	X	X	X	X
Japan	X	X	X	X	X	X	X	X	X	X	X
Korea (Democratic People's Republic of)									X	X	X
Korea (Republic of)							X	X			
Netherlands	X	X	X	X	X	X	X	X	X	X	X
Norway				X		X	X	X			
Poland				X	X	X	X	X	X	X	X

Countries	Documents 34A(CO)										
	114	115	117	129	130	131	144	145	148	149	150
Romania	X	X	X	X	X	X			X	X	X
South Africa (Republic of)	X	X	X	X	X	X			X	X	X
Sweden	X			X	X	X	X	X			
Switzerland	X	X	X	X	X	X	X	X	X	X	X
Turkey	X	X	X				X	X	X	X	X
United Kingdom	X	X	X	X	X	X	X	X	X	X	X
United States of America		X	X				X	X	X	X	X
Union of Soviet Socialist Republics	X	X	X	X	X	X	X	X	X	X	X
Yugoslavia	X	X	X	X	X	X					

Other IEC publications quoted in this standard:

Publications Nos. 61:	Lamps caps and holders together with gauges for the control of interchangeability and safety
61-1:	Part 1: Lamp caps.
127:	Cartridge fuse-links for miniature fuses.
241 (1968):	Fuses for domestic and similar proposes.
682 (1980):	Standard method of measuring the pinch temperature of quartz-tungsten-halogen lamps.

Section 1. General

1 Scope

This standard specifies dimensions and characteristics of tungsten halogen lamps.

The standard has been divided into sections according to the following lamp applications:

PROJECTION
 PHOTOGRAPHIC (including studio)
 FLOODLIGHTING
 SPECIAL PURPOSE
 GENERAL PURPOSE
 STAGE LIGHTING

Lamps for automobile, aircraft and similar applications are not covered by this standard.

NOTE Projection lamps include those used for cinematograph and still projection applications.

The specific requirements for tubular low-pressure tungsten halogen lamps are given in Clause 9.

The requirements for lamp caps are given in IEC Publication 61-1.

For the purpose of this standard the following voltage designations apply:

<i>Voltage designation</i>	<i>Range of supply voltage</i>
A	< 50 V
B	50 – 170 V
C	> 170 – 250 V

2 Limits on maximum watts

Lamps covered by this standard shall have a maximum wattage at rated voltage as follows:

Maximum wattage = rated wattage + 8 %

Except where the standard sheet states:

Maximum wattage = rated wattage + 12 %

For each type, 95 % of production shall comply with this requirement.

3 Guidance for the application of tungsten halogen lamps

The life of tungsten halogen lamps will be adversely affected by switching-on with, and/or operation at, supply voltages which are higher than the lamp rated voltage.

Lamps which are designed for use on higher supply voltages (voltage designations B and C will, in general, tolerate larger increases in supply voltage than those of low rated voltage (voltage designation A) particularly those lamps designed for very high luminous efficacy and/or high correlated colour temperature.

Luminous efficacy and correlated colour temperature are closely related to the attainable lamp life, therefore, rated lamp voltage and declared lamp life are good indicators of the degree of overvoltage which is tolerable to achieve acceptable lamp performance.

For this purpose the following guidelines should be observed.

Declared lamp life (h)	Maximum percentage of rated lamp voltage	
	Voltage designation A	Voltage designation B and C
< 25	100 %	110 %
25 to < 50	105 %	
50 to < 200	108 %	
≥ 200	110 %	

NOTE 1 If lamps are marked with a voltage range, the rated voltage shall be taken as the mean of the voltages marked.

NOTE 2 Better control of voltage fluctuations can be obtained by use of a properly designed power supply. This is particularly applicable to lamps of voltage designation A.

Series operation of ELV lamps (voltage designation A) is not permitted unless the lamps are especially designed for such operation and approved for such use by the lamp manufacturer.

Special circuits which suitably limit the lamp voltage and/or current are also permitted.

4 Cautionary notices

4.1 Cautionary notice for photographic and floodlight lamps

It is recommended that cautionary notices should be supplied with tungsten halogen photographic and floodlight lamps. These notices should cover at least the following minimum requirements and should be based on the wording shown below:

“Caution: To ensure maximum safety, the following precautions should be observed:

- a) The luminaire should be provided with a protective shield.
- b) Disconnect the luminaire from the power supply before removing or installing a lamp or an equipment fuse.
- c) When installing a lamp do not remove the protective cover — if provided — until the lamp has been inserted into the equipment.

If the quartz bulb has been touched by bare fingers it should be cleaned before use, using a clean, lint-free cloth moistened with methylated spirit.

- d) Always operate the lamp in series with a fuse rated for a current of _____¹⁾ amperes. and complying with _____¹⁾.

- e) Avoid improper use of the lamp, such as:

- i) burning positions other than those recommended by the manufacturer;
- ii) operation at over-voltage, or for a longer period than specified;
- iii) operation in conjunction with improper fuses or equipment not specifically designed for that type and rating of the lamp.

- f) Care should be taken when inserting double-ended tubular lamps that the pip of the exhaust tube does not touch any part of the luminaire.”

NOTE 1 If required by IEC 598 or equivalent National Standard:

Non observance of these precautions may lead to damage to the lamp and equipment, and, in extreme cases, to bursting of the lamp.

Note to equipment manufacturers

Since specific conditions may have to be observed to ensure correct and safe operation of the lamp, equipment manufacturers should request the latest detailed information from the lamp manufacturers.

Symbols

For symbols covering specific aspects of the above-cautionary notice, see Annex D.

4.2 Cautionary notice for general purpose tungsten halogen lamps

In subclause 4.21 of IEC 598-1, guidance is given on lamps for which the luminaire has to be fitted with a protective shield.

In order to draw the user's attention to this fact, it is recommended that a cautionary notice should be supplied with such lamps, based on the following wording:

“The luminaire shall be provided with a protective shield.”

For a corresponding symbol, see Annex D.

¹⁾ The manufacturer shall specify the rated value for this fuse and the relevant standard as given in Table I, subclause 5.1 or Table II, subclause 5.2.

5 Use of external fuses

5.1 Photographic lamps

The current ratings for the fuses that are recommended in the cautionary notices (item d) of clause 4 of the cautionary notices) should be in accordance with Table I

Table I — Fuse values for photographic lamps

Lamp		Fuse	
Voltage (V)	Wattage (W)	Rated Current (A)	
		a	b
100 – 135	500	6,3	—
200 – 250		4,0	—
100 – 135	600	6,3	—
200 – 250		4,0	—
100 – 109	650	10,0 ^c	10,0
110 – 135		6,3	6,0
200 – 250		4,0	4,0
100 – 135	800	10,0 ^c	10,0
200 – 250		6,3	6,0
100 – 109	1 000	—	16,0
110 – 135		10,0 ^c	10,0
200 – 250		6,3	6,0
200 – 250	1 250	10,0 ^c	10,0
100 – 135	2 000	—	25,0
200 – 219		—	16,0
220 – 250		—	10,0
110 – 135	5 000	—	50,0
200 – 219		—	35,0
220 – 250		—	25,0
110 – 135	10 000	—	100,0
200 – 250		—	50,0

^a “Quick-acting” miniature fuses 250 V with high breaking capacity (IEC 127-2: *Miniature fuses — Cartridge fuse-links*, or the equivalent national standard).

^b “Quick-acting” D-fuses, 500 V (IEC 241: *Fuses for Domestic and Similar Purposes*, or the equivalent national standard).

^c Not included in IEC 127-2, but in common use.

5.2 Floodlight lamps

The current ratings for the fuses that are recommended in the cautionary notices (Item d) of Clause 4) shall be in accordance with Table II

Table II — Fuse values for floodlight lamps

Lamp		Fuse	
Voltage (V)	Wattage (W)	Rated Current (A)	
		^a	^b
100 – 135	100	2,0	—
200 – 250	100	2,0	—
100 – 135	150	2,0	—
200 – 250	150	2,0	—
100 – 135	200	4,0	—
200 – 250	200	2,0	—
100 – 135	250	4,0	—
200 – 250	250	2,0	—
100 – 135	300	4,0 ^d	—
200 – 250	300	2,0 ^d	—
100 – 135	500	6,3	—
200 – 250	500	4,0	—
100 – 135	750	10,0 ^c	10,0
200 – 250	750	6,3	6,0
100 – 135	1 000	10,0 ^c	10,0
200 – 250	1 000	6,3	6,0
100 – 135	1 500	—	20,0
200 – 250	1 500	—	10,0
100 – 135	2 000	—	25,0
200 – 250	2 000	—	10,0

^a “Quick-acting” miniature fuses 250 V with high breaking capacity (IEC 127-2, or the equivalent national standard).
^b “Quick-acting” D-fuses 500 V (IEC 241, or the equivalent national standard).
^c Not included in IEC 127-2, but in common use.
^d Under consideration.

5.3 General purpose halogen lamps

5.3.1 Supply voltage range < 50 V (Voltage designation A)

Single-ended lamps with a rated voltage of ≥ 24 V shall always be operated in series with a fuse as specified in Table III. This fuse shall be in the secondary (lamp) circuit of the transformer/convertor.

Table III

Lamp		Fuse ^e
Voltage (V)	Wattage (W)	Rated Current (A)
24	20	2
	50	4
	75	6,3
	100	6,3
	150	10,0 ^f

Recommendations for fuses for lamps of other wattages and voltage ratings are under consideration.

^e “Quick-acting” miniature fuses 250 V with high breaking capacity (IEC 127-2: *Miniature Fuses — Cartridge Fuse-links*, or the equivalent national standard).
^f Not included in IEC 127-2, but in common use.

6 Maximum pinch temperatures for quartz tungsten halogen lamps

Permissible maximum pinch temperatures of quartz lamps under conditions of use are specified for each lamp on the relevant lamp data sheet. The methods of measuring the pinch temperature are prescribed in IEC Publication 682.

The permissible maximum pinch temperature is dependent on the rated lamp life as declared by the manufacturer.

Compliance with the maximum pinch temperature requirement will avoid premature lamp failure and reduce the risk of lamp shattering.

The following values should be used as a general guideline.

Table IV — Permissible maximum pinch temperature

Lamp rated life (h)	Maximum pinch temperature (°C)
≤ 6	520
> 6 and ≤ 15	450
> 15 and < 300	400
≥ 300	350

NOTE 1 Higher maximum pinch temperatures may be specified on the relevant lamp data sheet for certain lamp types of special design, provided the same level of safety is ensured.

NOTE 2 Under extremely humid conditions, i.e. at a relative humidity of over 90 %, lamp life may be shortened due to pinch failure.

7 Numbering system for lamp data sheets

The first number represents the number of this publication (60357), followed by the letters “IEC”.

The second number represents the lamp group and data sheet number within that group.

Projection lamps	2 000 – 2 999
Photographic lamps	3 000 – 3 999
Floodlight lamps	4 000 – 4 999
Special purpose lamps	5 000 – 5 999
General purpose lamps	6 000 – 6 999
Stage lighting lamps	7 000 – 7 999

The third number represents the edition of the page of the data sheet. In the case where a data sheet has more than one page it is possible for the page to have different edition numbers with the data sheet number remaining the same.

In the case of amendments to single pages of a data sheet, these pages are issued with an amended edition number. For example, only page 1 of lamp data sheet 60357-IEC-2016-1 has been amended so this page is now numbered 60357-IEC-2016-2. The two remaining pages therefore retain the number 60357-IEC-2016-1.

8 Standard sheets

The following standard sheets are to be found at the end of section 1:

Title	Sheet number
Principle of dimensioning of tubular tungsten halogen lamps fitted with caps R7s and RX7s	60357-IEC-1001
Principle of dimensioning of tubular tungsten halogen lamps fitted with Fa4 caps	60357-IEC-1002
Centring principle for 50 mm integral mirror tungsten halogen lamps with base GZ6.35	60357-IEC-1003
Centring principle for 2 in integral mirror tungsten halogen lamps	60357-IEC-1004
External dimensions of tungsten halogen projection lamps having a 2 in integral reflector and a GX5.3 or GY5.3 base	60357-IEC-1005
Holding systems for 2 in integral mirror tungsten halogen lamps with GX5.3 or GY5.3 bases	60357-IEC-1006
Principle of dimensioning of single-ended tungsten halogen lamps with G6.35 or GY6.35 bases	60357-IEC-1007
Centring principle for 42 mm integral mirror tungsten halogen lamps with base GX5.3 or GY5.3	60357-IEC-1008
External dimensions of tungsten halogen projection lamps having a 42 mm integral reflector and a GX5.3 or GY5.3 base	60357-IEC-1009
External dimensions of tungsten halogen lamps having a 35 mm integral reflector and either a GZ4 or GU4 base	60357-IEC-1010
External dimensions of tungsten halogen general purpose lamps having a 35 mm integral mirror and front cover	60357-IEC-1011
External dimensions of tungsten halogen general purpose lamps having a 51 mm (2 in) integral mirror and front cover	60357-IEC-1012
External dimensions of tungsten halogen general purpose lamps having 51 mm (2 in) integral mirror and either a GX5.3 or GU5.3 base	60357-IEC-1013
External dimensions of general purpose tungsten halogen lamps having 51 mm diameter integral mirror and front cover with GU7 base	60357-IEC-1014
External dimensions of general purpose tungsten halogen lamps having 51 mm diameter integral mirror and front cover, and a GZ10 OR GU10 base	60357-IEC-1015

9 Low-pressure tungsten halogen lamps

9.1 Definitions

9.1.1

mains voltage (voltage designation B and C) double-ended low-pressure lamp

a tungsten halogen lamp with a working gas pressure below 10^5 Pa (1 bar)

9.1.2

extra-low voltage, ≤ 12 V, single-ended low-pressure lamp

a tungsten halogen lamp with a working gas pressure below $2,5 \times 10^5$ Pa (2,5 bar)

NOTE The higher working gas pressure compared with the version of 9.1.1 is permissible because of the much smaller volume and the fact that arcing at the end of life is not likely to occur.

9.2 Dimensions

9.2.1 Mains voltage double-ended lamp

In order to obtain non-interchangeability with existing normal-pressure tungsten halogen lamps, double-ended low-pressure lamps are longer than existing lamps.

9.3 Marking

The packing of low-pressure tungsten halogen lamps shall be provided with a marking indicating clearly that it contains a low-pressure lamp.

NOTE The symbol is that for self-shielded lamps (see Annex D)

9.4 Filling gas pressure

The filling gas pressure shall not exceed the values given in 9.1, during operation.

Compliance is checked by determining the normal room temperature filling gas pressure, which shall be multiplied:

- for a mains voltage double-ended lamp, by a factor 4,3 related to a bulb temperature of 950 °C;
- for an extra-low voltage single-ended lamp, by a factor 2,5 related to a bulb temperature of 500 °C for wattages ≤ 20 W.

NOTE A recommended method for testing is specified in Annex A. Values for higher wattages are under consideration.

9.5 UV radiation

The specific effective radiant UV power of a lamp shall not exceed 0,35 mW/klm or, for a reflector lamp, 0,35 mW/(m² · klx).

NOTE 1 The effective power of the radiation is obtained by weighting the spectral power of the lamp with the action spectrum published by the ACGIH.

NOTE 2 The specific effective radiant UV power is the UV radiation of a lamp related to its luminous flux (unit: mW/klm).

NOTE 3 Double-ended photographic lamps are exempted from this requirement because of the short time of operation and the fact that, in line with 9.6.2.2 of IEC 598-2-9, the luminaire provides a cover for the lamp.

10 Maximum bulb temperatures for tungsten halogen lamps

Under conditions of use the bulb wall temperature of lamps where access to the bulb is possible shall not exceed 900 °C.

Exceptions from this temperature limit due to application or bulb material (for example use of hard glass) are listed below.

Compliance with these limits will avoid weakening of the bulb. Conditions and methods of measurement are described in Annex C

Table V — List of exceptions

Section	Standard sheet or rated wattage	Maximum bulb temperature (°C)
Three	357-IEC-3105- 357-IEC-3155- 357-IEC-3230- 357-IEC-3231- 357-IEC-3310- 357-IEC-3405-	1 000 ^a 950 ^b 700 700 700 1 000 ^a
Six	≤ 20 W > 20 W ≤ 50 W	600 under consideration
^a Relates to lamps having a rated life of 15 h or less. ^b For low-pressure lamps see Appendix A.		

11 Maximum permissible cap-contact or base-pin temperatures for tungsten halogen lamps

Under conditions of use the cap-contact or base-pin temperature shall not exceed the values specified in the tables below. The conditions of measurement are those given in Annex C for the measurement of the bulb temperature.

a) Bi-pin lamp bases

This group covers bases with contact pins like G4, GU4, GX5.3, GU5.3 and GY6.35.

The temperature is measured in the area of electrical contact with the holder. This measurement may be combined with the checking of the operating temperature of the lampholder during testing of the luminaire. The temperature difference between the holder contact and the base pin is usually negligible.

NOTE According to IEC 838 Miscellaneous lampholders, the measuring point for the operating temperature of the lampholder is that area of the lampholder which makes electrical contact with the lamp cap/base.

Table VI

Section	Rated voltage (W)	Maximum pin temperature (°C)
Two and three	under consideration	under consideration
Six	≤ 20	200
	$> 20 < 50$	250
	≥ 50	300
Seven	under consideration	under consideration

12 Self-shielded tungsten halogen lamps

12.1 Definition

self-shielded tungsten halogen lamp

(abbreviated: self-shielded lamp) a tungsten halogen lamp for which the luminaire needs no protective shield

NOTE 1 These lamps are usually designed for general lighting purposes, exemption: tubular low-pressure photographic lamps of sheet 357-IEC-3155.

NOTE 2 For detailed information regarding the need for protective shields on luminaires, see 4.21 of IEC 60598-1.

NOTE 3 Examples of self-shielded lamps are ELV lamps with integral outer envelope, low pressure tungsten halogen lamps and mains voltage lamps which conform to IEC 60432-2.

12.2 Marking

12.2.1 Extra low voltage (ELV) lamps (voltage designation A)

The immediate lamp wrapping or container shall be provided with a symbol (see Annex D) indicating that it contains a self-shielded lamp.

12.2.2 Mains voltage lamps (voltage designation B and C)

Lamps which conform to IEC 60432-2, i.e. tungsten halogen lamps designed as direct replacement for conventional tungsten filament lamps, do not need to be provided with the symbol.

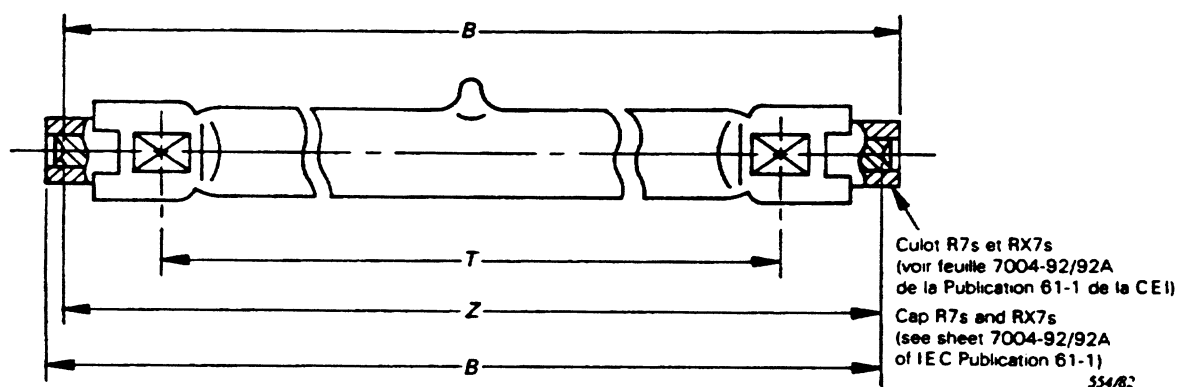
13 Use or cap/holder fits for lamps of section 6 “General purpose lamps”

Cap/holder fits originally developed for single ended extra low voltage (ELV) lamps (voltage designation: A) shall not be used for mains voltage lamps (voltage designation: B and C). Examples of such fits are:

G4, GU4, GX5.3, GU5.3, G6.35 and GY6.35.

**PRINCIPE DE DIMENSIONNEMENT DES LAMPES
TUBULAIRES TUNGSTÈNE-HALOGÈNE MUNIES DES
CULOTS R7s ET RX7s
PRINCIPLE OF DIMENSIONING OF TUBULAR
TUNGSTEN HALOGEN LAMPS FITTED WITH CAPS R7s
AND RX7s**

Dimensions en millimètres — Dimensions in millimetres



La dimension Z nom. est la distance entre les fonds des contacts, les valeurs B max. et T nom. sont indiquées sur la feuille de caractéristiques de la lampe correspondante.

Dimensions Z nom. the distance between the bottoms of the contacts, B max. and T nom. are shown on the relevant lamp data sheet.

$$Z \text{ min.} = Z \text{ nom.} - 1,6 \text{ mm}$$

$$Z \text{ max.} = Z \text{ nom.} + 1,6 \text{ mm}$$

$$B \text{ max.} = Z \text{ nom.} + 3,4 \text{ mm}$$

$$T \text{ nom.} = Z \text{ nom.} - 28,0 \text{ mm}$$

L'axe de la lampe est par définition la droite passant par les centres des contacts.

The lamp axis is defined as the line through the centres of the contacts.

La dimension T qui est la distance entre les lignes médianes des surfaces planes prévues pour l'utilisation de refroidisseurs (voir feuille 7004-92 de la Publication 61-1 de la CEI) s'applique seulement aux lampes pour lesquelles cette dimension est spécifiée dans la feuille de caractéristiques de la lampe correspondante.

Dimension T , the distance between the centre-lines of the flat areas intended to accommodate heat sinks (see sheet 7004-92/92A of IEC Publication 61-1), is applicable only for those lamps for which this dimension is specified in the relevant lamp data sheet.

Il n'est pas nécessaire que ces surfaces soient positionnées symétriquement par rapport aux fonds des contacts.

It is not necessary for these areas to be positioned symmetrically with respect to the bottoms of the contacts.

Les refroidisseurs devront être ajustables et flexibles.

The heat sinks have to be adjustable and flexible.

Lorsque la dimension T s'applique, il n'est pas toujours possible d'utiliser complètement la tolérance sur la dimension S de la feuille 7004-92 de la Publication 61-1 de la CEI.

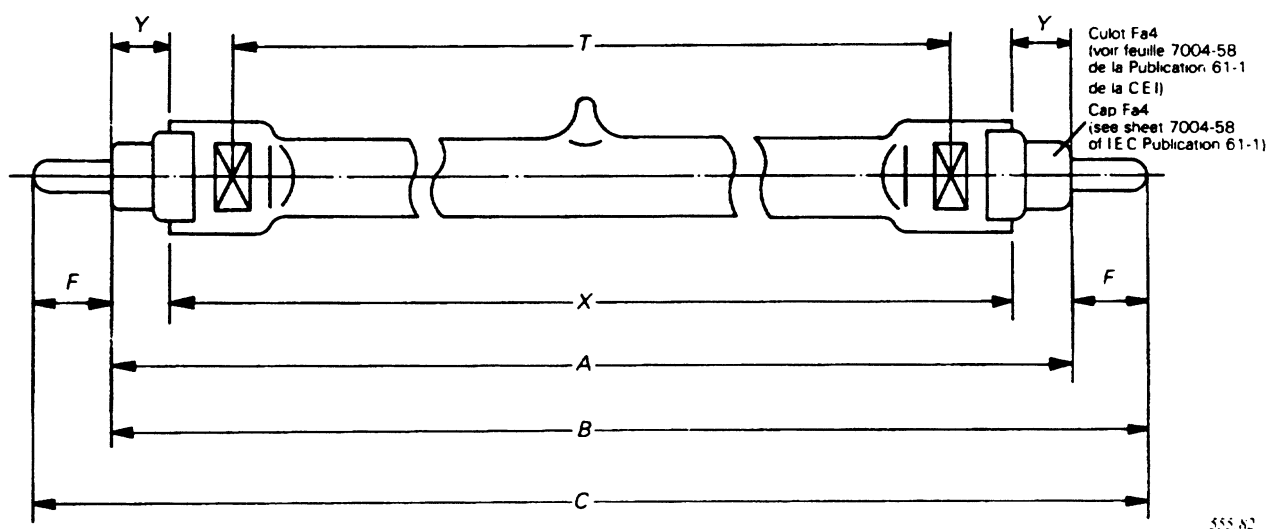
Where dimension T applies, advantage cannot always be taken of the full tolerance on dimension S of sheet 7004-92/92A of IEC Publication 61-1.

La dimension T , utile seulement à la conception des douilles, n'a pas à être vérifiée sur la lampe.

Dimension T is solely for lampholder design and is not to be gauged on the lamp.

**PRINCIPE DE DIMENSIONNEMENT DES
LAMPES TUBULAIRES TUNGSTÈNE-HALOGÈNE
MUNIES DE CULOTS Fa4
PRINCIPLE OF DIMENSIONING OF TUBULAR
TUNGSTEN HALOGEN LAMPS FITTED WITH Fa4
CAPS**

Dimensions en millimètres — Dimensions in millimetres



555,82

X est la valeur nominale de la longueur de l'ampoule tubulaire. La tolérance pour X est de $\pm 1,5$ mm. On admet pour Y une longueur de $7,5 \pm 0,15$ mm. X et Y sont seulement indiquées pour expliquer le système de dimensionnement de la lampe. Leurs valeurs ne doivent pas être contrôlées sur celle-ci.

X denotes the nominal length of the envelope. The tolerance on X is ± 1.5 mm. Dimension Y is taken as 7.5 ± 0.15 mm. Dimensions X and Y are indicated only to explain the principle of lamp dimensioning and are not to be checked on the lamp.

Les dimensions diverses sont déterminées comme suit:
The various dimensions are determined as follows:

$$A \text{ max.} = X \text{ max.} + 2 Y \text{ max.} = X + 16,8$$

$$B \text{ max.} = A \text{ max.} + F \text{ max.} = X + 27,1$$

$$B \text{ min.} = A \text{ max.} + F \text{ min.} - \text{Tol. sur } X - 2 \text{ Tol. sur } Y = X + 22,9$$

$$C \text{ max.} = A \text{ max.} + 2 F \text{ max.} = X + 37,4$$

$$* T \text{ nom.} = X - 21,0$$

* La dimension T est la distance entre les axes des surfaces planes prévues pour l'utilisation des refroidisseurs (voir la feuille 7004-58 de la Publication 61-1 de la CEI). Il n'est pas nécessaire que ces surfaces soient placées symétriquement par rapport aux extrémités des broches. (Cette dimension s'applique seulement à la douille et ne doit pas être vérifiée sur la lampe.)

* Dimension T is the distance between the centre-lines of the flat areas intended to accommodate the heat-sinks (see sheet 7004-58 of IEC Publication 61-1). It is not necessary for these areas to be positioned symmetrically with respect to the ends of the pins. (This dimension is solely for lampholder design and is not to be gauged on the lamp.)

Les dimensions $A \text{ max.}$, $B \text{ max.}$, $C \text{ max.}$ et $T \text{ nom.}$ sont indiquées sur la feuille relative à la lampe. La dimension $F \text{ max.}$ a une valeur de 10,3 mm (voir la feuille 7004-58 de la Publication 61-1 de la CEI).

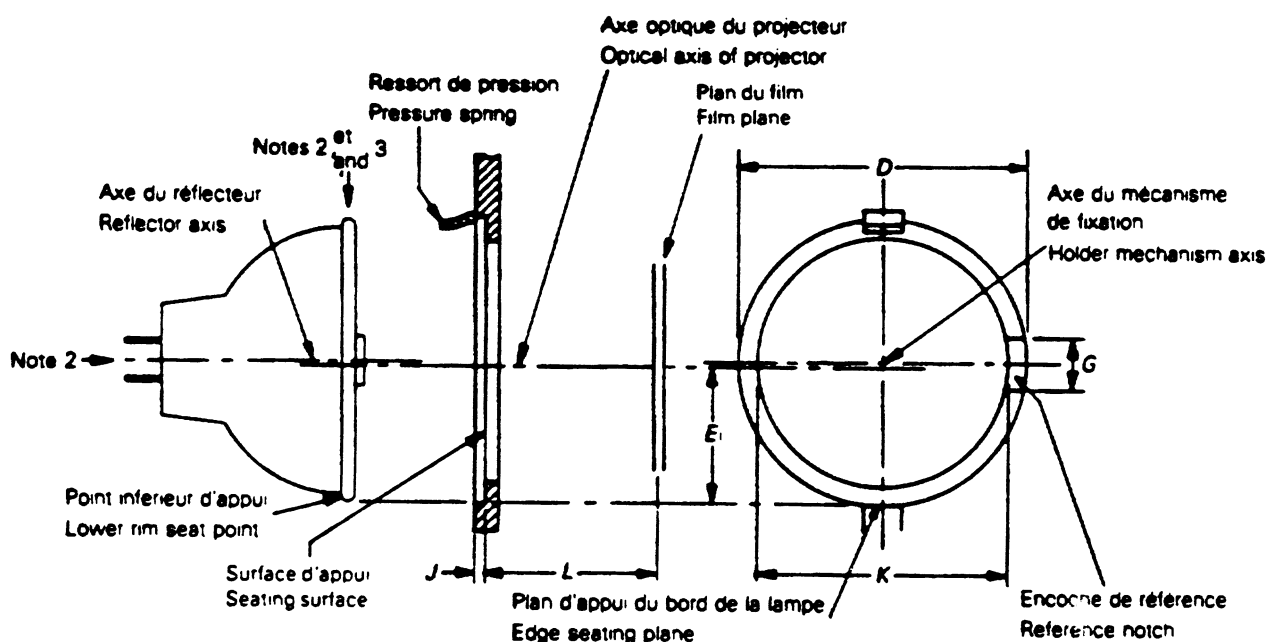
Dimensions $A \text{ max.}$, $B \text{ max.}$, $C \text{ max.}$ and $T \text{ nom.}$ are shown on the appropriate lamp sheet. Dimension $F \text{ max.}$ has a value of 10.3 mm (see sheet 7004-58 of IEC Publication 61-1).

**PRINCIPE DE CENTRAGE
POUR LES LAMPES TUNGSTÈNE-HALOGÈNE
DE PROJECTION À MIROIR DICHROÏQUE
INTÉGRÉ ET À SOCLE GZ6.35
CENTRING PRINCIPLE FOR 50 mm INTEGRAL
MIRROR TUNGSTEN HALOGEN LAMPS
WITH BASE GZ6.35**

Page 1

Dimensions en millimètres — Dimensions in millimetres

Le dessin a uniquement pour but d'indiquer les dimensions qui doivent être contrôlées
The drawing is intended only to indicate the dimensions to be controlled



825/88

Référence Reference	Min.	Max.
<i>D</i>	50,05	50,20
<i>E</i>	24,85	
<i>L</i>	Note 1	
<i>G</i>	9,00	9,20
<i>J</i>	1,50	—
<i>K</i>	44,00	45,00

Pour obtenir le centrage le plus favorable par rapport au passe-film, du faisceau lumineux d'une lampe halogène à miroir dichroïque intégré, le principe figuré ci-dessus est recommandé.

For obtaining the most favourable centring of the light beam of an integral mirror reflector lamp to the film gate the centring principle illustrated in the above figure is recommended.

NOTE 1 La cote *L* définit la distance entre la surface d'appui de la lampe et le plan du film.

La valeur optimale de *L* est influencée par le type d'objectif utilisé.

Dimension *L* defines the distance between the seating surface and the film plane.

The optimum value of *L* is influenced by the type of objective lens used.

NOTE 2 Le mécanisme du ressort est tel que le bord du réflecteur, indépendamment de son épaisseur, soit pressé contre le plan d'appui et vers le bas.

Le réflecteur de la lampe est pressé contre un plan d'appui ou contre trois bossages d'appui. Une encoche de référence est prévue dans le support afin que dans le cas où la lampe possède un ergot de référence elle puisse être immobilisée en rotation en ayant son ergot de référence engagé dans l'encoche de référence du support.

The spring arrangement shall be such that the reflector rim, independent of its thickness, is pressed both downwards and against the seating surface.

The reflector of the lamp shall be pressed onto a seating surface or onto three seating bosses. A reference notch is provided in the holder so that in those cases where a lamp does have a reference lug the lamp may be locked against turning by having the reference lug of the lamp enter the reference notch of the holder.

NOTE 3 Pour maintenir le minimum de décalage axial, il est nécessaire que le point inférieur d'appui soit pressé contre le plan d'appui du bord de la lampe. Ceci peut être obtenu en donnant au ressort supérieur une forme telle qu'il presse le réflecteur plus latéralement qu'en avant, permettant ainsi que le bord opposé du réflecteur se place contre le plan d'appui.

Publication CEI 357
IEC Publication 357

357-IEC-1003-3

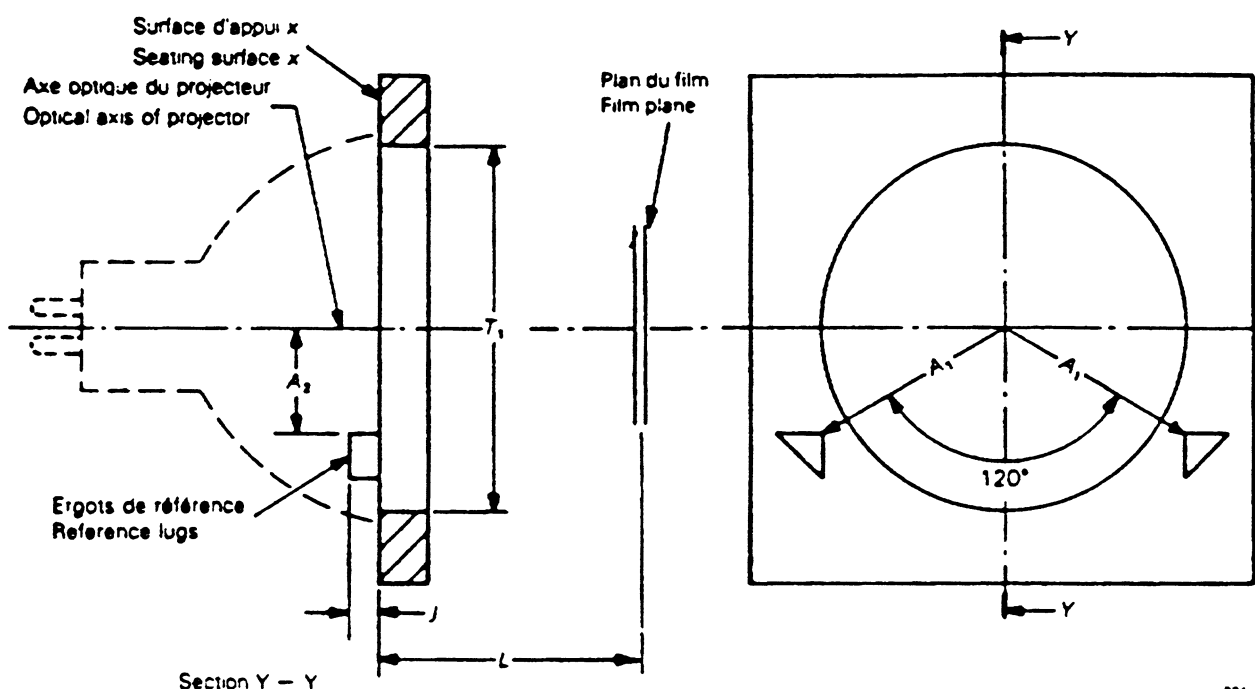
Date: 1989

	PRINCIPE DE CENTRAGE POUR LES LAMPES TUNGSTÈNE-HALOGÈNE DE PROJECTION À MIROIR DICHROÏQUE INTÉGRÉ ET À SOCLE GZ6.35 CENTRING PRINCIPLE FOR 50 mm INTEGRAL MIRROR TUNGSTEN HALOGEN LAMPS WITH BASE GZ6.35	Page 2
La cote <i>E</i>, de l'espace entre le plan d'appui du bord de la lampe et l'axe optique du projecteur doit être considérée comme une valeur visée. (Voir page 1.) To keep the axial misalignment to a minimum, it is necessary for the lower rim seat point to be pressed against the edge seating plane. This can be achieved by giving the upper spring such a shape as to press the reflector rim more laterally than forward, thereby ensuring that the opposite edge of the reflector rim locates on the seating surface. Dimension <i>E</i>, the spacing between the edge seating plane and the optical axis of the projector, shall be considered as an objective value. (See Page 1.)		
Publication CEI 357 IEC Publication 357	357-IEC-1003-2	Date: 1984

**PRINCIPE DE CENTRAGE
POUR LES LAMPES TUNGSTÈNE-HALOGÈNE
DE PROJECTION À RÉFLECTEUR INTÉGRÉ DE
50,8 mm (2 pouces) MÉTHODE 1 — MÉTHODE
ORDINAIRE
CENTRING PRINCIPLE FOR 2 in INTEGRAL
MIRROR TUNGSTEN HALOGEN LAMPS
METHOD 1 — COMMON METHOD**

Page 1

Dimensions en millimètres — Dimensions in millimetres
Le dessin a pour seul but d'indiquer les dimensions à contrôler
The drawing is intended only to indicate the dimensions to be controlled



E24 66

Dimension	Min.	Max.
A_1		24,94
A_2		12,47
J	—	2,16
T_1	47,0	—
L	Note 2	

NOTE 1 La figure ci-dessus décrit la méthode la plus souvent utilisée pour le centrage d'un faisceau lumineux sur l'axe optique du projecteur. Le réflecteur de lampe doit être pressé fermement sur la surface d'appui x et latéralement sur les deux ergots de référence.

The above figure describes the most commonly used method of centring the light beam on the optical axis of the projector. The lamp reflector shall be pressed firmly onto the seating surface x and laterally onto the two reference lugs.

NOTE 2 La cote L définit la distance entre la surface d'appui de la lampe et le plan du film.

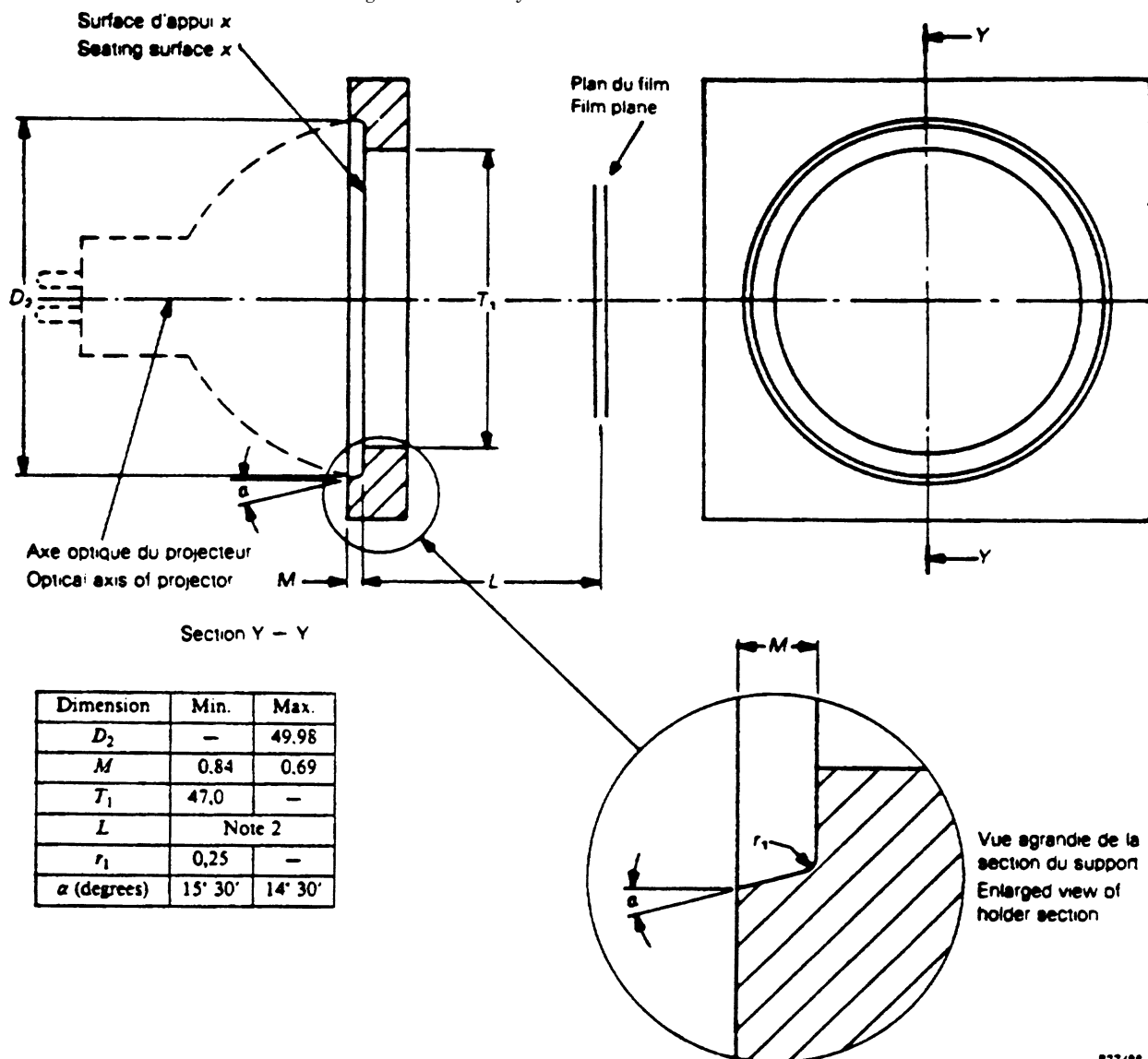
La valeur optimale de L est influencée par le type d'objectif utilisé et varie avec le type de lampe à moins que tous les types de lampes n'aient exactement un miroir de même forme.

Dimension L defines the distance between the seating surface and the film plane. The optimum value of L is influenced by the type of objective lens used and will vary with the lamp type unless all lamp types have exactly the same reflector contour.

**PRINCIPE DE CENTRAGE
POUR LES LAMPES TUNGSTÈNE-HALOGÈNE
DE PROJECTION À RÉFLECTEUR INTÉGRÉ DE
50,8 mm (2 pouces) MÉTHODE 2 — MÉTHODE
PRÉCISE
CENTRING PRINCIPLE FOR 2 in INTEGRAL
MIRROR TUNGSTEN HALOGEN LAMPS
METHOD 2 — PRECISE METHOD**

Page 2

Dimensions en millimètres — Dimensions in millimetres
Le dessin a pour seul but d'indiquer les dimensions à contrôler
The drawing is intended only to indicate the dimensions to be controlled



827/88

NOTE 1 Pour assembler la lampe et pour obtenir le centrage le plus précis du faisceau lumineux dans le projecteur, le principe esquissé dans la figure ci-dessus est recommandé. Le réflecteur de lampe doit être pressé fermement sur la surface d'appui x. L'évidement défini par D_2 , M et x sert à restreindre le déplacement latéral de la lampe.

For lamp assembly purposes and for obtaining the most precise centring of the light beam in the projector, the principle outlined in the above figure is recommended. The lamp reflector shall be pressed firmly onto the seating surface x . The recess defined by D_2 , M and x serves to restrict the lamp's lateral displacement.

NOTE 2 La cote L définit la distance entre la surface d'appui de la lampe et le plan du film.

La valeur optimale de L est influencée par le type d'objectif utilisé et varie avec le type de lampe à moins que tous les types de lampes n'aient exactement un miroir de même forme.

Dimension L defines the distance between the seating surface and the film plane.

The optimum value of L is influenced by the type of objective lens used and will vary with the lamp type unless all lamp types have exactly the same reflector contour.

Publication CEI 357
IEC Publication 357

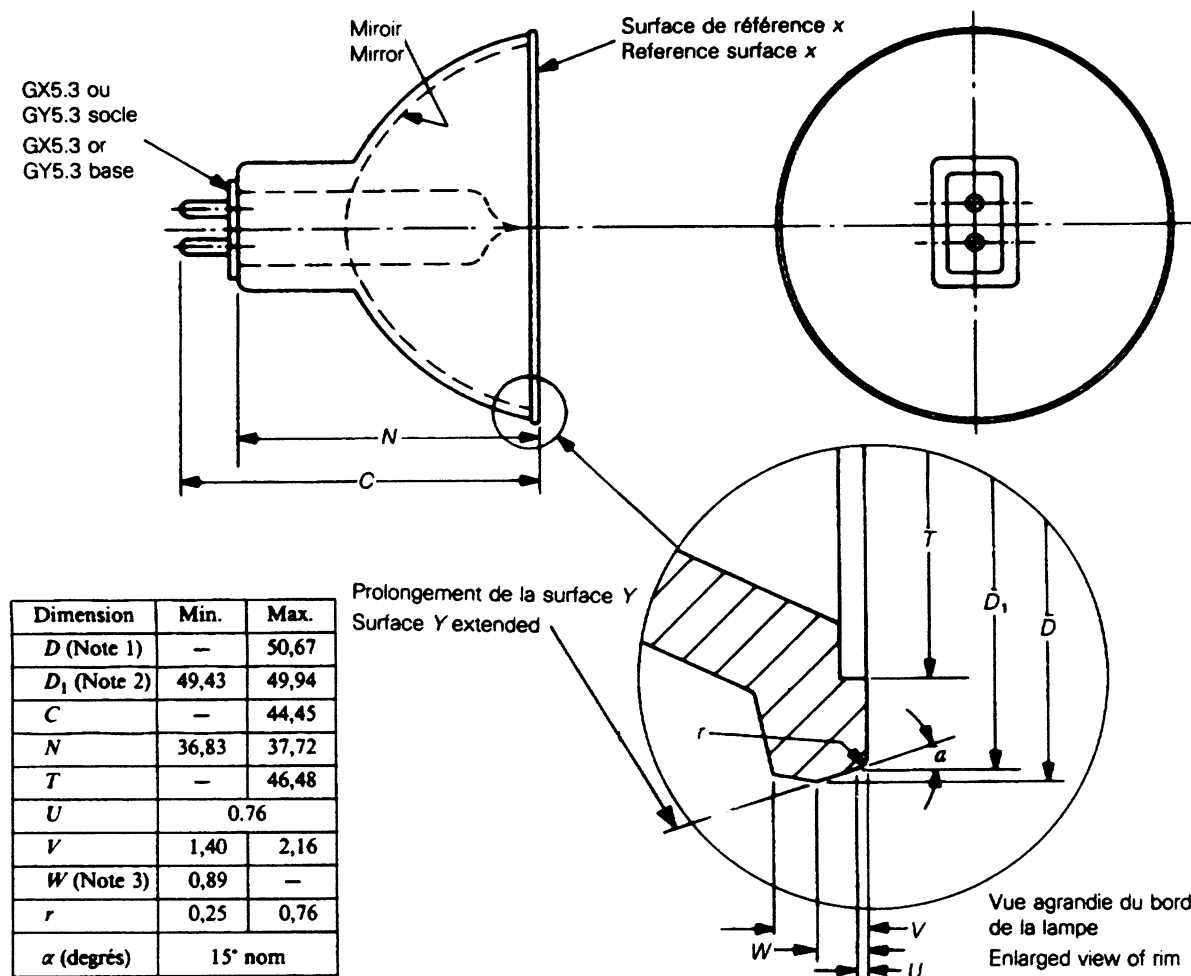
357-IEC-1004-2

Date: 1989

**DIMENSIONS EXTERNES DES LAMPES
TUNGSTÈNE-HALOGÈNE DE PROJECTION À
RÉFLECTEUR INTÉGRÉ DE 50,8 mm (2 pouces)
ET À SOCLE GX5.3 OU GY5.3
EXTERNAL DIMENSIONS OF TUNGSTEN
HALOGEN PROJECTION LAMPS HAVING A 2 in
INTEGRAL REFLECTOR AND A GX5.3 OR GY5.3
BASE**

Dimensions en millimètres — Dimensions in millimetres

Le dessin a pour but d'indiquer les dimensions qui sont importantes pour le montage de la lampe dans son support
The drawing is intended only to indicate the dimensions which are important for the fit of the lamp in the lampholder



166/84

NOTE 1 Diamètre maximal permis compris la bavure de moulage et l'ovalisation.

Allowable maximum diameter includes mould flash and out-of-roundness.

NOTE 2 Diamètre de la surface Y mesuré à la distance U de la surface de référence x .
Diameter of surface Y measured at distance U from reference surface x .

NOTE 3 Espace minimal entre la surface x et la bavure de moulage.

Minimum clearance from surface x to mould flash.

NOTE 4 La surface x positionne la lampe et doit s'adapter fermement à la douille pour obtenir un alignement optique convenable de l'axe.

Surface x positions the lamp and shall mate firmly with the holder to obtain proper optical axis alignment.

NOTE 5 Les surfaces non définies et bornées par le côté N peuvent varier par rapport au contour indiqué pour tenir compte des variations d'exécution du réflecteur.

The undefined areas bounded by dimension N may vary from the contour shown to accommodate variations in reflector design.

NOTE 6 Les côtés α , D_1 , W , T , U , V et r sont destinées à la construction de la lampe. Lorsque ces dimensions sont utilisées aux fins de référence la, définition de la lampe est meilleure.

Dimensions α , D_1 , W , T , U , V , and r are intended for lamp construction purposes. When used for lamp referencing purposes these dimensions offer greater lamp aiming accuracy.

Publication CEI 357

357-IEC-1005-1

Date: 1984

IEC Publication 357



Documents

Document Sharing Hub

	DISPOSITIFS DE FIXATION POUR LES LAMPES TUNGSTÈNE-HALOGÈNE DE 50,8 mm (2 pouces) À RÉFLECTEUR INTÉGRÉ AVEC SOCLE GX5.3 OU GY5.3 HOLDING SYSTEMS FOR 2 in INTEGRAL MIRROR TUNGSTEN HALOGEN LAMPS WITH BASES GX5.3 OR GY5.3	Page 1
1 Types de dispositifs de fixation a) <i>Dispositif à connecteur à encliquetage:</i> La lampe, fixée uniquement du côté du réflecteur, est raccordée électriquement au moyen d'un connecteur souple. b) <i>Dispositif flexible à deux extrémités:</i> Dispositif en une pièce assurant la fixation des deux extrémités de la lampe. 1 Types of holding systems a) <i>Push-on connector system:</i> Lamp supported entirely at its reflector end and employing a flexible electrical connector. b) <i>Double-ended flexible system:</i> A unitized device providing support at both ends of the lamp. 2 Eléments des dispositifs 2.1 Dimensions des lampes Les dimensions des lampes à réflecteur intégré de deux pouces sont spécifiées en détail dans 357-IEC-1005-. Des tolérances serrées pour certaines dimensions des lampes sont essentielles pour le fonctionnement satisfaisant des dispositifs de fixation flexibles à deux extrémités. 2.2 Dimensions des socles Les exigences relatives aux dimensions des socles GX5.3 et GY5.3 se trouvent dans la Publication 61 de la CEI. Il est à remarquer que les problèmes d'insertion peuvent se présenter lorsqu'il s'agit de lampes dont les broches présentent des longueurs proches du maximum de 7,62 mm. 2.3 Dispositifs de centrage du réflecteur Les deux méthodes de centrage du réflecteur sont décrites dans 357-IEC-1004-. Ces méthodes sont dénommées Méthode I — méthode ordinaire — et Méthode II — méthode de précision. Dans les deux cas, le dispositif de centrage du réflecteur assure au moins en partie la fixation de la lampe. Chacune des deux méthodes de centrage du réflecteur peut être utilisée dans les deux types de dispositifs de fixation. 2.4 Connecteurs et blocs de contacts Les exigences relatives aux connecteurs et (ou) aux blocs de contacts utilisés dans ces dispositifs de fixation sont à l'étude. 2.5 Eléments de fixation auxiliaires Ainsi qu'il est indiqué aux articles 3 et 4, certains modèles de dispositifs de fixation peuvent requérir des éléments auxiliaires pour assurer le support ou pour fournir la force nécessaire au ferme maintien du réflecteur contre la surface de référence du dispositif de centrage. Les détails de tels éléments ne sont pas spécifiés afin de ne pas entraver la liberté de conception, dans le cadre du respect des dimensions normalisées. 2 Elements of the systems 2.1 Lamp dimensions Detailed lamp dimensions for the 2 inch integral reflector lamps are specified in 357-IEC-1005-. Close control over certain of these lamp dimensions is essential to the proper operation of the double-ended flexible holding system. 2.2 Base dimensions The dimensional requirements for GX5.3 or GY5.3 bases are included in IEC Publication 61. It should be noted that when lamps are made with a base pin length near the maximum of 7.62 mm insertion problems may occur. 2.3 Rim-centring devices The two methods of centring the reflector rim in the holding system are described in 357-IEC-1004-. These methods are identified as Method I, common method and Method II, precise method. In each case the rim-centring device provides at least part of the means of supporting the lamp. Either of the two rim-centring devices may be used with either of the holding systems. 2.4 Connectors and contact assemblies The dimensional requirements for connectors and/or contact assemblies for use in these holding systems are under consideration.		
Publication CEI 357 IEC Publication 357	357-IEC-1006-1	Date: 1985

**DISPOSITIFS DE FIXATION POUR LES LAMPES
TUNGSTÈNE-HALOGÈNE DE 50,8 mm (2 pouces) À
RÉFLECTEUR INTÉGRÉ AVEC SOCLE GX5.3 OU GY5.3
HOLDING SYSTEMS FOR 2 in INTEGRAL MIRROR
TUNGSTEN HALOGEN LAMPS WITH
BASES GX5.3OR GY5.3**

Page 2

2.5 Auxiliary support devices

As noted in Clauses 3 and 4, some versions of these holding systems may require auxiliary means of mechanical support or force to ensure that the reflector rim of a lamp is pressed firmly against the reference surface of the rim-centring device. Details of such devices are not defined in order to leave open design options, provided no interference occurs with standardized dimensions.

3 Dispositifs à connecteur à encliquetage

Le dispositif de centrage du réflecteur assure la mise en place et l'ajustement correct de la lampe, tandis que des ressorts ou éléments analogues pressent le bord de la lampe sur la surface de référence du dispositif de centrage. Le raccordement électrique s'effectue au moyen d'un connecteur relié à un câble souple. Ces dispositifs sont conçus de façon à ce que la lampe soit mise en place par un simple mouvement de coulissage jusqu'à ce que le bord du réflecteur s'appuie sur des butées et sur la surface de référence, après quoi le connecteur est poussé contre le socle de la lampe, ou vice versa.

3 Push-on connector system

The rim-centring device provides for the positioning and aiming of the lamp while springs or similar elements hold the rim of the lamp against the reference surface of the centring device. Electrical connection is made by means of a connector on a flexible cord. This system is designed for installation of a lamp by a single slide-in-motion to locate the reflector rim against mechanical stops and the reference surface, followed by the operation of pushing the connector on to the base of the lamp, or vice-versa.

4 Dispositifs de fixation flexibles à deux extrémités

Ces dispositifs à deux extrémités supportent la lampe tant du côté du réflecteur que du côté du socle. Du côté réflecteur, un dispositif de centrage fait fonction de support principal et de moyen de mise en place. Des ressorts auxiliaires ou des éléments analogues peuvent être nécessaires pour fournir une pression supplémentaire. Du côté socle, un bloc de contacts assure le raccordement électrique et aussi la fixation. Ces dispositifs sont conçus de façon à ce que la lampe soit mise en place en un seul mouvement simple qui fait reposer le bord du réflecteur sur des butées et sur la surface de référence, tandis que les broches du socle coulisent simultanément dans les rainures du bloc de contacts.

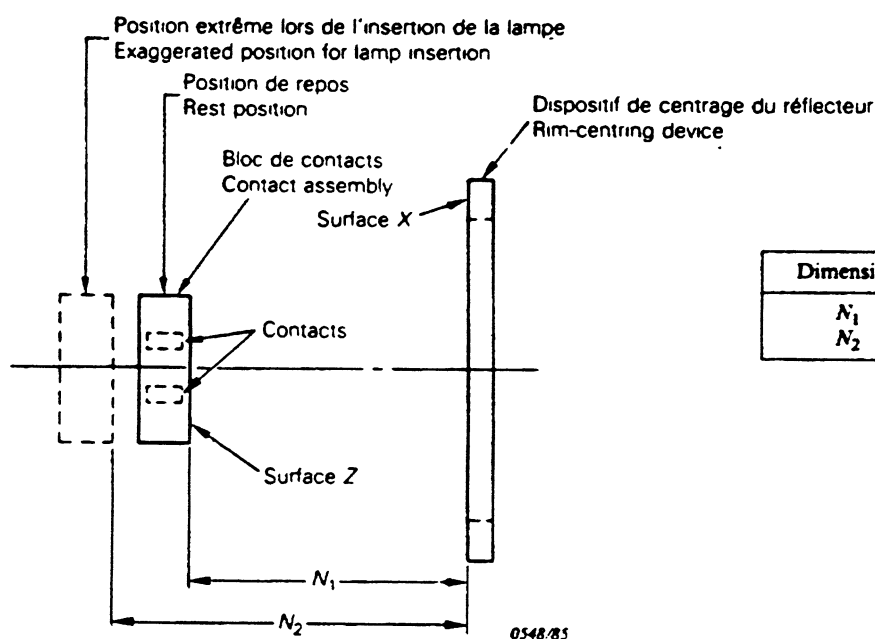
4 Double-ended flexible holding system

This double-ended system is a device that provides support at both the reflector and base ends of a lamp. A rim-centring device provides the primary support and location function at the reflector end. Auxiliary springs or similar elements may be required for additional holding force. At the base end a contact assembly provides both electrical connection and support functions. This system is designed for simple one-motion installation of a lamp, to locate the reflector rim against mechanical stops and the reference surface while the base pins simultaneously slide into the grooves in the contact assembly.

**DISPOSITIFS DE FIXATION POUR LES LAMPES
TUNGSTÈNE-HALOGÈNE DE 50,8 mm (2 pouces) À
RÉFLECTEUR INTÉGRÉ AVEC SOCLE GX5.3 OU
GY5.3 HOLDING SYSTEMS FOR 2 in INTEGRAL
MIRROR TUNGSTEN HALOGEN LAMPS WITH
BASES GX5.3 OR GY5.3**

Page 3

Dimensions en millimètres — Dimensions in millimetres



Dimension	Min.	Max.
N_1	—	36,33
N_2	37,82	—

Les dispositifs de fixation flexibles à deux extrémités nécessitent que le bloc de contacts puisse se déplacer légèrement dans le sens de l'axe de la lampe par rapport à la surface de référence du dispositif de centrage. Ce déplacement permet l'insertion de la lampe et l'adaptation aux écarts usuels de fabrication dans la longueur des lampes. Les dimensions N_1 et N_2 définissent les limites de ce déplacement.

The double-ended flexible holding system requires that the contact assembly be able to move slightly in the direction of the lamp axis with respect to the reference surface of the rim-centring device. This movement permits insertion of the lamp and accommodates normal manufacturing variations in lamp length. Dimensions N_1 and N_2 define the limits of this movement.

Le support du bloc de contacts peut être conçu pour fournir soit une force axiale supplémentaire, soit la force axiale totale nécessaire pour presser fermement le bord du réflecteur contre le dispositif de centrage du réflecteur. Des ressorts ou éléments analogues peuvent être employés pour contribuer à fournir cette force axiale. Les surfaces d'appui du bloc de contacts et du socle sont celles qui sont désignées «surface Z» pour chacun des éléments. Il est préférable que la surface Z du bloc de contacts ait un angle d'entrée sur le côté par lequel la surface Z du socle est introduite lors de l'insertion de la lampe.

The support for the contact assembly may be designed to provide either partial pressure or full longitudinal pressure to keep the reflector rim of the lamp pressed firmly against the rim-centring device. Springs or similar elements may be employed to assist in providing this longitudinal force. The bearing surfaces of the contact assembly and lamp base are those surfaces marked "surface Z" for each component. It is desirable that the surface Z of the holder contact assembly have a lead-in angle at the edge where the surface Z of the base would enter during lamp insertion.

Le bloc de contacts doit être situé à une hauteur convenable pour permettre l'insertion complète de la lampe jusqu'aux butées du dispositif de centrage du réflecteur, tout en assurant le contact avec les broches du socle. Le bloc de contacts, ou ses contacts, doivent pouvoir se déplacer légèrement dans un plan normal à l'axe de la lampe, pour pouvoir s'adapter à un certain défaut d'alignement des broches du socle par rapport au centre du dispositif de centrage du réflecteur.

Publication CEI 357
IEC Publication 357

357-IEC-1006-1

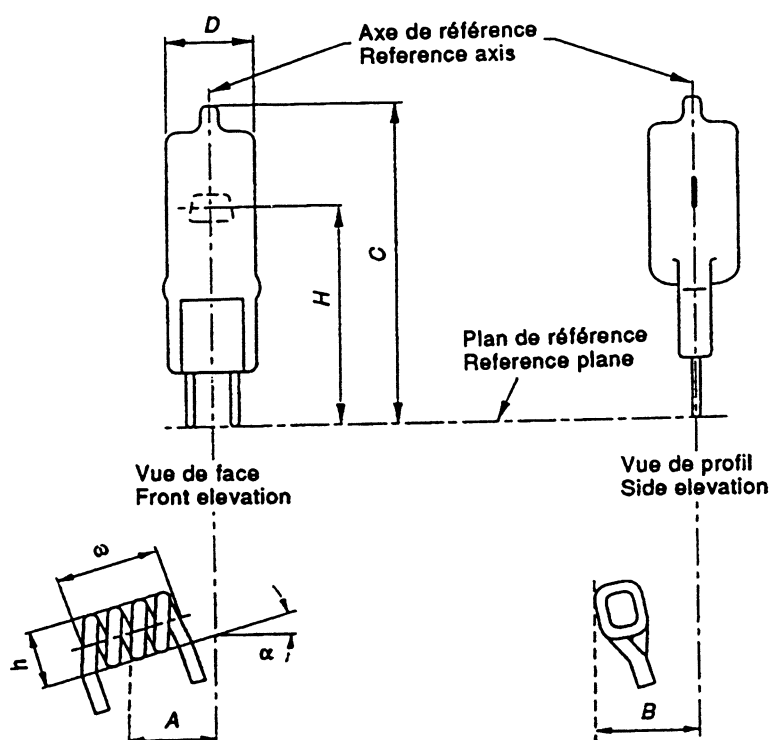
Date: 1985

	DISPOSITIFS DE FIXATION POUR LES LAMPES TUNGSTÈNE-HALOGÈNE DE 50,8 mm (2 pouces) À RÉFLECTEUR INTÉGRÉ AVEC SOCLE GX5.3 OU GY5.3 HOLDING SYSTEMS FOR 2 in INTEGRAL MIRROR TUNGSTEN HALOGEN LAMPS WITH BASES GX5.3 OR GY5.3	Page 4
	The contact assembly shall be positioned at the proper elevation to permit complete entry of a lamp onto the rim-centring device stops and to provide contact with the base pins. The contact assembly or its contacts shall be able to move slightly in a plane perpendicular to the lamp axis to accommodate some misalignment in the location of the lamp base pins with respect to the centre of the rim centring device. Le bloc de contacts peut être conçu de deux manières, en fonction de la tension nominale envisagée. Ces deux manières sont: a) les deux broches pénètrent simultanément dans deux rainures du bloc de contacts: b) les deux broches pénètrent dans la même rainure, les deux contacts étant situés en position convenable l'un au-dessus de l'autre. Ces constructions sont montrées en détail dans la norme de douilles (à l'étude). The holder contact assembly may be designed in two ways depending upon the intended voltage application. These methods are: a) The two pins simultaneously enter two corresponding slots in the contact assembly. b) The two base pins both enter the same slot and the two contacts are located one above the other at the appropriate points. Details of these designs are shown in the holder standard (under consideration). 5 Vérification par calibres La possibilité d'employer des calibres pour vérifier ces types de douilles est à l'étude. 5 Gauging The possible use of gauges for checking these types of holders is under consideration.	
Publication CEI 357 IEC Publication 357	357-IEC-1006-1	Date: 1985

PRINCIPE DE DIMENSIONNEMENT DES LAMPES DE PROJECTION TUNGSTÈNE-HALOGÈNE À UNE SEULE EXTRÉMITÉ, À FILAMENT PLAT ET MUNIES DE SOCLES G6.35 OU GY6.35

PRINCIPLE OF DIMENSIONING OF SINGLE-ENDED FLAT FILAMENT TUNGSTEN-HALOGEN PROJECTION LAMPS WITH G6.35 OR GY6.35 BASES

Page 1



Diagrammes schématiques de la lampe et du filament
Schematic diagrams of lamp and filament

Pour certaines lampes, la dimension H est mesurée depuis le sommet du filament.

Les dimensions sont indiquées dans les feuilles de caractéristiques des lampes correspondantes

For certain lamps, dimension H is given to the top of the filament.

Dimensions are shown on the appropriate lamp data sheets.

Référence Reference	Détail Detail
A	Axialité vue de face Axiality front elevation
B	Axialité vue de profil Axiality side elevation
α	Inclinaison vue de face Tilt front elevation

Référence Reference	Détail Detail
D	Diamètre de l'ampoule Bulb diameter
C	Longueur hors tout Overall length
H	Longueur du centre lumineux Light centre length
h	Longueur du filament Filament height
ω	Largeur du filament Filament width

	PRINCIPE DE DIMENSIONNEMENT DES LAMPES DOJECTION TUNGSTÈNE-HALOGÈNE À UNE SEULE EXTRÉMITÉ, À FILAMENT PLAT ET MUNIES DE SOCLES G6.35 OU GY6.35 PRINCIPLE OF DIMENSIONING OF SINGLE-ENDED FLAT FILAMENT TUNGSTEN HALOGEN PROJECTION LAMPS WITH G6.35 OR GY6.35 BASES	Page 2
PRESCRIPTIONS POUR LES FILAMENTS <i>Définitions</i> (voir page 1) L'axe de référence de la lampe est la droite définie par le point à mi-chemin entre les axes des broches à leur sortie du pincement et par le point à mi-chemin entre les axes des broches à leur extrémité. Le plan de référence de la lampe est le plan perpendiculaire à l'axe de référence de la lampe et en contact avec l'extrémité de la broche correspondant à la longueur hors tout de la lampe. Dans la vue de face, le contour du filament a généralement la forme d'un trapèze. La hauteur du filament (h) est la distance entre les côtés parallèles du trapèze. La largeur du filament (ω) est la distance entre les côtés non parallèles du trapèze mesurée sur la droite équidistante des côtés parallèles. La hauteur du centre lumineux (H) de la lampe est la distance entre le plan de référence et un plan parallèle qui passe par le centre du filament ou par son sommet. L'axialité du filament vue de face (A) est la distance entre l'axe de référence et le centre du filament ou son sommet. L'axialité du filament vue de profil (B) est la distance entre l'axe de référence et le point du filament le plus éloigné. L'inclinaison vue de face du filament (α) est l'angle entre les côtés parallèles du trapèze et le plan de référence. <i>Prescriptions</i> Les valeurs des dimensions du filament et sa position, indiquées dans la feuille de caractéristiques de la lampe correspondante, s'appliquent lorsque le filament est allumé sous la tension nominale. Ces valeurs doivent être vérifiées à l'aide du système indiqué en page 3, appelé "box system". (Les dimensions réelles du filament sont indiquées dans les figures. A l'exception de l'angle α, ces valeurs peuvent être multipliées par un facteur approprié.) L'image du filament doit être projetée sur les éléments fixes du "box system" en prenant soin que l'axe de référence et le plan de référence soient bien alignés. Dans la vue de face, les rectangles concentriques mobiles d'encombrement doivent être déplacés jusqu'à ce que l'image du filament se trouve placée symétriquement à l'intérieur de ces rectangles. Alors, les exigences suivantes s'appliquent: — l'image du filament ne doit pas être plus petite que le rectangle d'encombrement intérieur ni plus grande que le rectangle d'encombrement extérieur, à l'exception de la moitié inférieure de rectangle extérieur, où l'image peut dépasser les lignes verticales; — le point central M des rectangles d'encombrement (ou le sommet T, si la dimension H est mesurée depuis le sommet du filament) doit se trouver, pour vue de face, à l'intérieur du rectangle fixe; — l'inclinaison des rectangles d'encombrement ne doit pas être supérieure à l'inclinaison indiquée par les lignes fixes de la grille pour la vue de face. Dans la vue de profil, l'image du filament doit se trouver entre les lignes parallèles fixes pour la vue de profil. FILAMENT REQUIREMENTS <i>Définitions</i> (see page 1) The reference axis of the lamp is the line passing through the point mid-way between the axes of the pins at their emergence from the pinch seal and through the point mid-way between the axes of the pins at the extremity of the pins. The reference plane of the lamp is the plane in contact with the end of the pin that corresponds to the overall lamp length and perpendicular to the reference axis. In front elevation the line surrounding the filament in general forms a trapezium. The filament height (h) is the perpendicular distance between the parallel sides of the trapezium. The filament width (ω) is the distance between the intersections of the centre line of the parallel sides with the non-parallel sides of the trapezium. The light centre length (H) of the lamp is the perpendicular distance between the reference plane and a parallel plane passing through either the centre point or the top point of the filament in front elevation. The filament axiality in front elevation (A) is the perpendicular distance between the reference axis and either the centre point or the top point of the filament. The filament axiality in side elevation (B) is the perpendicular distance between the reference axis and the outermost part of the filament. The filament tilt in front elevation (α) is the angle between the parallel sides of the trapezium and the reference plane. <i>Requirements</i> The values for the filament dimensions and position, as given on the appropriate lamp data sheets, apply when the filament is energized at rated voltage. They shall be checked by using the box system given on page 3. (In these figures the actual filament dimensions are indicated. Except for angle α these values can be multiplied by an appropriate factor.) The image of the filament shall be projected on the fixed elements of the box system with proper alignment of the reference axis and plane.		
Publication CEI 357 IEC Publication 357	357-IEC-1007-2	Date: 1994

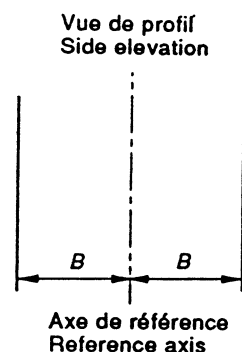
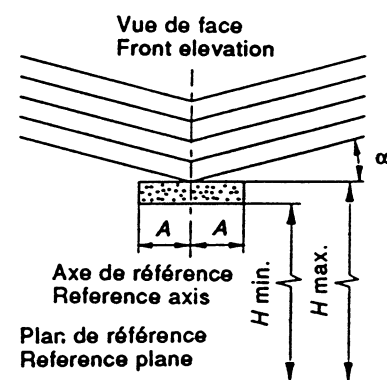
**PRINCIPE DE DIMENEMENT DES LAMPES
DE PROJECTION TUNGSTÈNE-HALOGÈNE À UNE
SEULE EXTRÉMITÉ, À FILAMENT PLAT ET
MUNIES DE SOCLES G6.35 OU GY6.35
PRINCIPLE OF DIMENSIONING OF SINGLE-ENDED
FLAT FILAMENT TUNGSTEN HALOGEN
PROJECTION LAMPS WITH G6.35 OR GY6.35 BASES**

Page 3

In front elevation the concentric movable outline boxes shall be moved until the filament image lies in a symmetrical way within these boxes. Then the following shall apply:

- the filament image shall be not smaller than the inner outline box and not bigger than the outer outline box, except for the lower half of the outer box where the image may transgress the vertical lines;
- the centre point M of the outline boxes (or top point T if dimension H is given to the top of the filament) shall be within the fixed box for front elevation;
- the tilt of the outline boxes shall be not more than the tilt given by the fixed grid lines for front elevation.

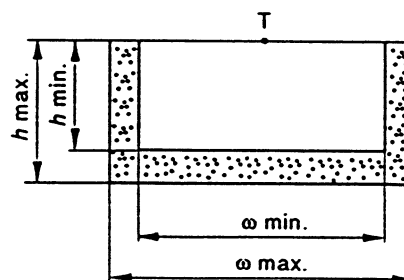
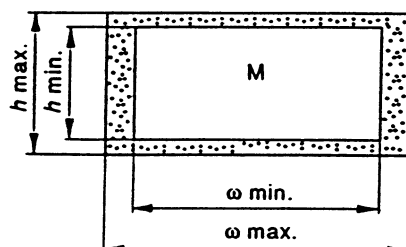
In side elevation the filament image shall lie between the fixed parallel lines for side elevation.



CEI-IEC 545/95

Eléments fixes du "box system" pour la vue de face et la vue de profil

Fixed box system elements for front and side elevation



CEI-IEC 546/95

Rectangles d'encombrement mobiles pour la vue de face

Movable outline boxes for front elevation

La dimension H est indiquée depuis le centre ou depuis le sommet du filament

Dimension H is given to the centre point or to the top point of the filament.

Publication CEI 357
IEC Publication 357

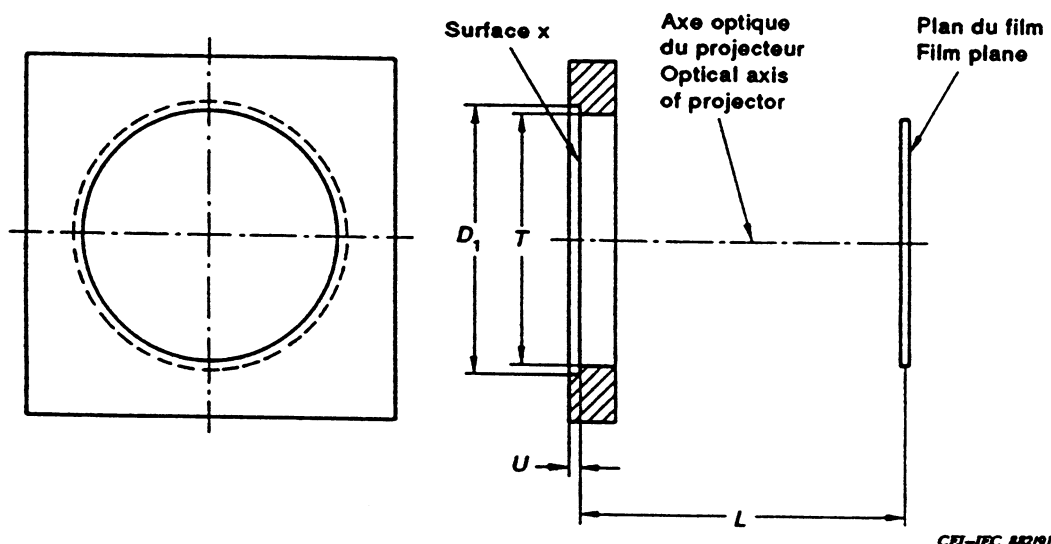
357-IEC-1007-2

Date: 1995

**PRINCIPE DE CENTRAGE
DES LAMPES TUNGSTÈNE-HALOGÈNE
À RÉFLECTEUR INCORPORÉ DE 42 mm
AVEC UN SOCLE GX5.3 OU GY5.3
CENTRING PRINCIPLE
FOR 42 mm INTEGRAL MIRROR
TUNGSTEN HALOGEN LAMPS
WITH BASE GX5.3 OR GY5.3**

Dimensions en millimètres — Dimensions in millimetres

Le plan n'est destiné qu'à indiquer les dimensions qui sont à contrôler
The drawing is intended only to indicate the dimensions to be controlled



Dispositif de centrage du bord du réflecteur de la lampe — Centring device for lamp reflector rim

Référence Reference	Min.	Nom.	Max.
D_1	42.27	—	42.32
T	—	—	39.75
U	1.40	—	
L	Note 1		1.65

NOTE 1 La côté L (distance de travail) est la distance de la surface d'appui (surface x) au plan du film. La valeur de L dépend de l'objectif utilisé et du contour du réflecteur de la lampe. Les valeurs spécifiques sont données dans les feuilles de caractéristiques des lampes.

Dimension L (working distance) is the distance from the seating surface (Surface x) to the film plane. This value of L is dependent upon the objective lens used and also on the contour of the lamp reflector. Specific values are given in the lamp data sheets.

NOTE 2 La forme du dispositif n'est pas limitée à celle qui est montrée. Les encastréments, ergots ou autres systèmes d'arrêt doivent être situés à l'emplacement spécifié.

Shape of device is not restricted to that shown. Recesses, studs or other stopping features shall be provided at the specified location.

NOTE 3 Le dispositif de centrage est destiné à l'utilisation avec un système de fixation de la lampe qui fournit une force axiale en vue d'assurer le contact entre la surface x du bord de la lampe et la surface x du dispositif. Celui-ci fournit à la lampe les fonctions principales de positionnement et de fixation.

The centring device is intended for use with a lamp holding system which provides an axial force to ensure contact of the rim surface x of the lamp with surface x of the device. This device provides the primary location and holding functions for the lamp.

Publication CEI 357

357-IEC-1008-1

Date: 1992

IEC Publication 357

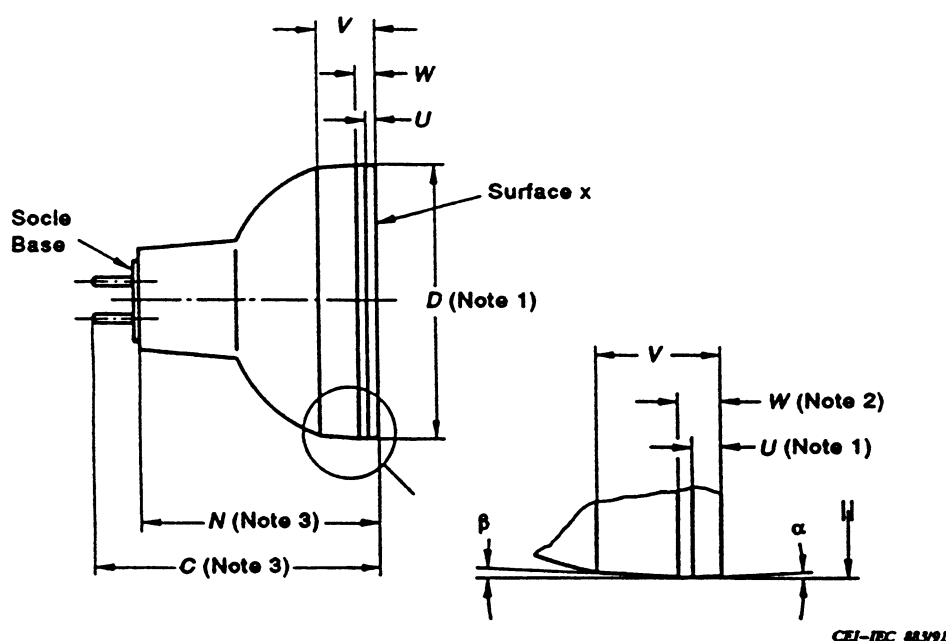
**DIMENSIONS EXTÉRIEURES DES LAMPES
AYANT UN RÉFLECTEUR INCORPORÉ
DE 42 mm ET UN SOCLE GX5.3 OU GY5.3
EXTERNAL DIMENSIONS
OF TUNGSTEN HALOGEN PROJECTION
LAMPS HAVING A 42 mm INTEGRAL
REFLECTOR AND A GX5.3 OR GY5.3 BASE**

Page 1

Dimensions en millimètres — Dimensions in millimetres

Le plan n'est destiné qu'à indiquer les dimensions importantes pour l'ajustement de la lampe dans la douille et le système de fixation

The drawing is intended only to indicate the dimensions which are important for the fit of the lamp in the lampholder



Socle: GX5.3 ou GY5.3 selon Publication 61 de la CEI — Base: GX5.3 or GY5.3 per IEC Publication 61.

Référence Reference	Min.	Nom.	Max.
D	41.71	—	42.22
C	—	—	44.45
N (Note 4)	36.83	—	37.72
U	—	1.52	—
V	—	9.27	—
W	—	3.20	—
α	—	1°	—
β	—	2°	—

NOTE 1 Le centre commun des angles α et β est situé à la distance U de la surface d'appui x . Le diamètre D est mesuré à la distance V de la surface x .

The common centre for angles α and β is located distance U from the seating surface x . Diameter D is measured at distance V from surface x .

NOTE 2 La dimension W définit la distance le long de laquelle sont à considérer les deux surfaces obliques. Dimension W defines the distance over which the two angled surfaces apply.

NOTE 3 Les dimensions C et N ne sont pas à utiliser pour le calcul de la longueur des broches du socle. Voir Publication 61-1 de la CEI, feuille 7004-73A et B.

Dimensions C and N are not to be used to calculate the base pin length. See IEC Publication 61-1, Sheet 7004-73 A and B.

Publication CEI 357

357-IEC-1009-1

Date: 1992

IEC Publication 357



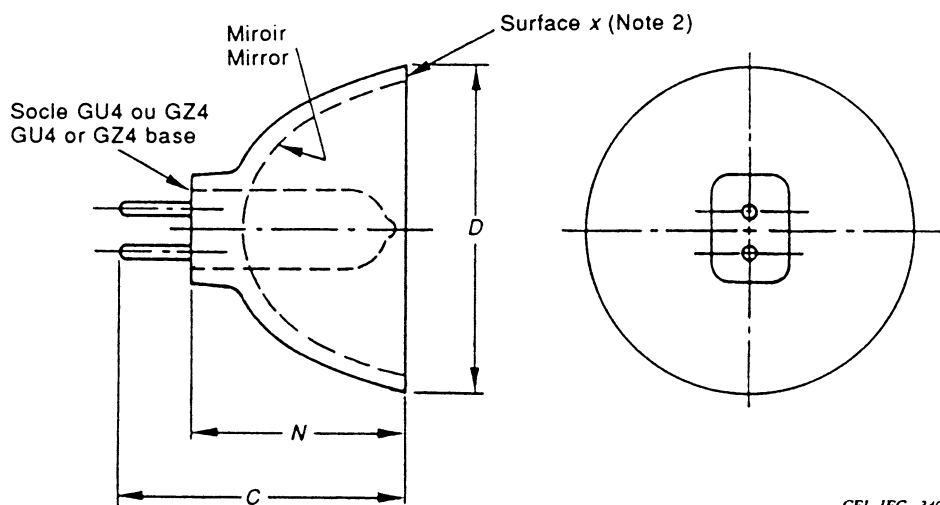
Documents

Document Sharing Hub

	DIMENSIONS EXTÉRIEURES DES LAMPES TUNGSTÈNE-HALOGÈNE DE PROJECTION AYANT UN RÉFLECTEUR INCORPORÉ DE 42 mm ET UN SOCLE GX5.3 OU GY5.3 EXTERNAL DIMENSIONS OF TUNGSTEN HALOGEN PROJECTION LAMPS HAVING A 42 mm INTEGRAL REFLECTOR AND A GX5.3 OR GY5.3 BASE	Page 2
<i>Notes (suite) — Notes (continued)</i> NOTE 4 Le contrôle de la côté <i>N</i> est nécessaire pour les applications dans les systèmes de fixation pour lampes à deux pincements. Control of dimension <i>N</i> is necessary for applications in double-ended holding systems. NOTE 5 La forme donnée au réflecteur et la surface du col ne sont pas destinées à spécifier ou à restreindre le contour de la surface extérieure de la lampe. Certaines restrictions sont imposées par la norme aux pincements et aux douilles. Voir Publication 61 de la CEI. The shape shown for the reflector and neck areas is not intended to specify or restrict the outer surface contour of the lamp. Certain restrictions are imposed by the standard for the bases and holders. See IEC Publication 61. NOTE 6 La surface x de la lampe doit adhérer fermement à la surface x du dispositif de centrage de la lampe, selon la feuille 1008-, pour obtenir un alignement convenable de l'axe optique. Surface x of the lamp must mate firmly with surface x of the lamp centring device, as per Sheet 1008-, to obtain proper optical axis alignment.		
Publication CEI 357 IEC Publication 357	357-IEC-1009-1	Date: 1992

**DIMENSIONS EXTÉRIEURES
DES LAMPES TUNGSTÈNE-HALOGÈNE
À RÉFLECTEUR INTÉGRÉ DE 35 mm
ET À SOCLE GZ4 OU GU4
EXTERNAL DIMENSIONS OF TUNGSTEN HALOGEN
LAMPS HAVING A 35 mm INTEGRAL MIRROR
AND EITHER A GZ4 OR GU4 BASE**

Dimensions en millimètres — Dimensions in millimetres



Dimension	Min.	Max.
<i>D</i> (Note 1)	34,3	35,3
<i>C</i>	—	40,0
<i>N</i>	25,0	30,0

NOTE 1 Le diamètre maximal autorisé comprend les bavures de moulage et d'ovalisation.
Allowable maximum diameter includes mould flash and out-of-roundness.

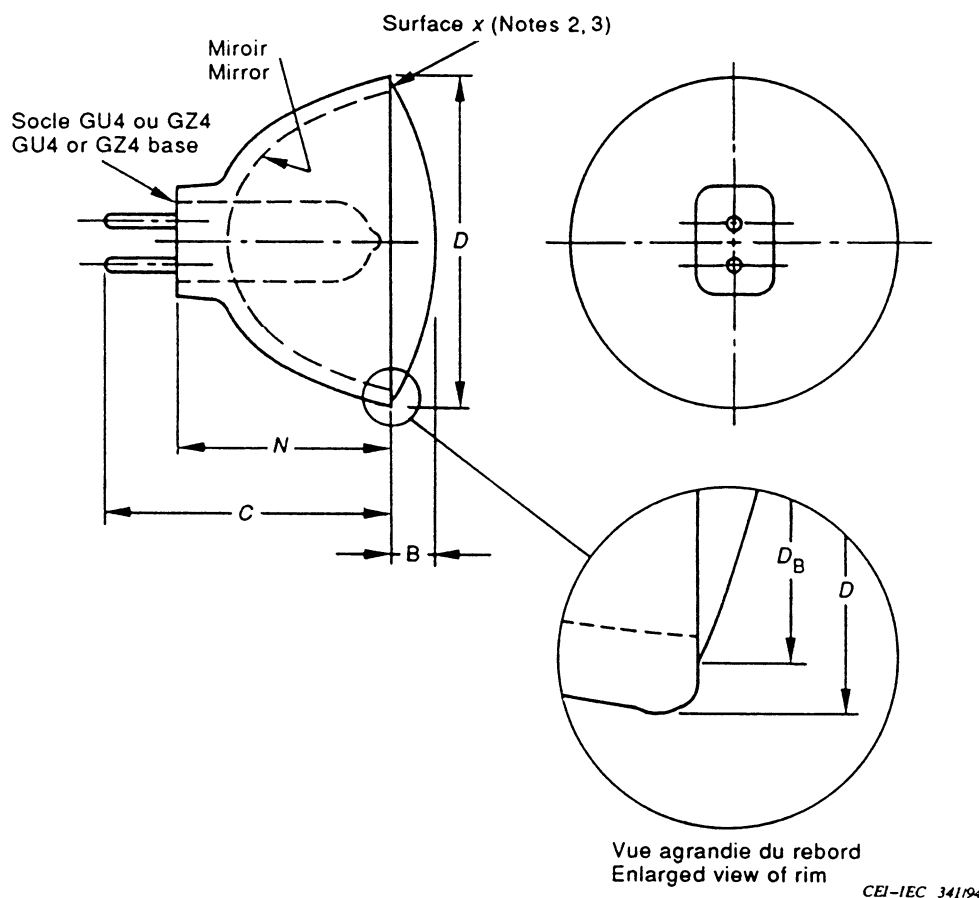
NOTE 2 La surface *x* peut être utilisée pour positionner la lampe; dans ce cas, elle doit s'emboîter fermement dans tout dispositif de centrage quelconque du rebord, afin d'obtenir un alignement optique adéquat. Dans le cas des lampes GZ4, le dispositif de centrage du rebord remplit une fonction essentielle de rétention de la lampe.

Surface *x* can be used to position the lamp and when so used should mate firmly with any rim-centring device to obtain proper optical alignment. A rim-centring device performs an essential lamp retention function for GZ4 based lamps.

**DIMENSIONS EXTÉRIEURES
DES LAMPES TUNGSTÈNE-HALOGÈNE
D'USAGE GÉNÉRAL DE DIAMÈTRE 35 mm
AVEC RÉFLECTEUR ET GLACE AVANT INTÉGRÉE
EXTERNAL DIMENSIONS OF TUNGSTEN
HALOGEN GENERAL PURPOSE LAMPS HAVING
A 35 mm INTEGRAL MIRROR AND FRONT COVER**

Dimensions en millimètres — Dimensions in millimetres

Le dessin a pour but d'indiquer les dimensions qui sont importantes pour le montage de la lampe et de son support.
The drawing is intended only to indicate the dimensions which are important for the fit of the lamp in the lampholder.



CEI-IEC 341/94

Dimension	Min.	Max.
D (Note 1)	34,30	35,30
C	—	40,00
B	—	5,00
D_B	—	33,5
N	25,0	30,0

NOTE 1 Le diamètre maximal autorisé comprend les bavures de moulage et d'ovalisation.
Allowable maximum diameter includes mould flash and out-of-roundness.

NOTE 2 La surface x peut être utilisée pour positionner la lampe; dans ce cas, elle doit s'emboîter fermement dans tout dispositif de centrage quelconque du rebord, afin d'obtenir un alignement optique adéquat. Dans le cas des lampes GZ4, le dispositif de centrage du rebord remplit une fonction essentielle de rétention de la lampe.

Sur l'alignement. A rim-centring device performs an essential lamp retention function for GZ4 based lamps.

NOTE 3 La surface x doit être définie par l'anneau formé par la différence entre les diamètres D et D_B .
Surface x is to be defined by the annulus formed by the difference between diameters D and D_B .

Publication CEI 357

357-IEC-1011-2

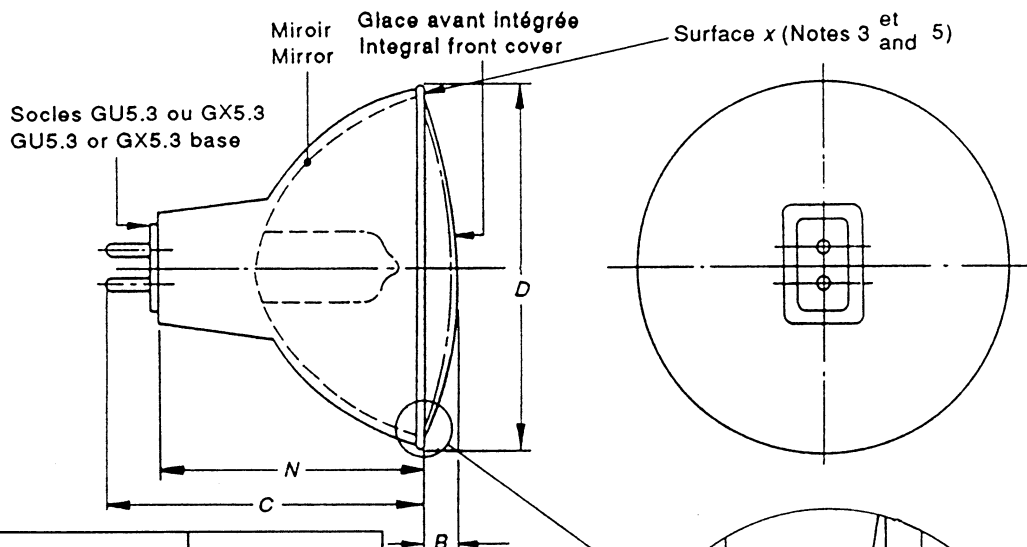
Date: 1994

IEC Publication 357

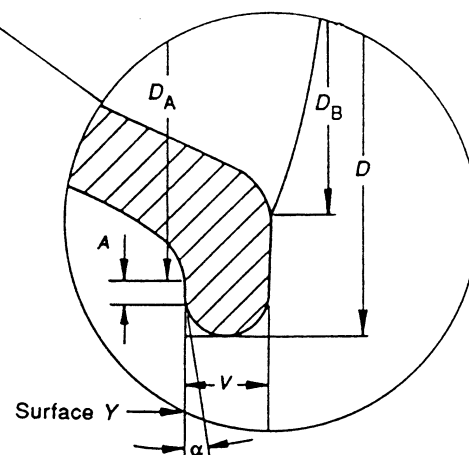
**DIMENSION EXTÉRIEURES DES LAMPES
TUNGSTÈNE-HALOGÈNE D'USAGE GÉNÉRAL
DE DIAMÈTRE 51 mm AVEC
RÉFLECTEUR ET GLACE AVANT INTÉGRÉE
EXTERNAL DIMENSIONS OF TUNGSTEN
HALOGEN GENERAL PURPOSE LAMPS
HAVING A 51 mm (2 in) INTEGRAL
MIRROR AND FRONT COVER**

Dimensions en millimètres — Dimensions in millimetres

Le dessin a pour but d'indiquer les dimensions importantes pour le montage de la lampe et de son support.
The drawing is intended only to indicate the dimensions which are important for the fit of the lamp in the lampholder.



Dimension	Min.	Max.
D (Note 1)	49,4	50,7
D_A (Note 2)	48	
D_B	—	48,0
C	—	46,0
B	—	4,5
V (Note 4)	1,8	2,4
A	0,3	—
α	—	17°
N	35,8	38,4



Vue agrandie du rebord
Enlarged view of rim

CEI-IEC 342/94

NOTE 1 Le diamètre maximal autorisé comprend les bavures de moulage et d'ovalisation.
Allowable maximum diameter includes mould flash and out-of-roundness.

NOTE 2 La dimension D_A correspond au diamètre intérieur de la surface Y qui a une largeur minimale de A et peut être inclinée jusqu'à un angle α .

The dimension D_A indicates the inner diameter of the surface Y which has a minimum width of A and can be inclined up to an angle of α .

NOTE 3 La surface x peut être utilisée pour positionner la lampe; dans ce cas, elle doit s'emboîter fermement dans tout dispositif de centrage quelconque du rebord, afin d'obtenir un alignement optique adéquat. Dans le cas des lampes GX5.3, le dispositif de centrage du rebord ramplit une fonction essentielle de rétention de la lampe.

Surface x can be used to position the lamp and when so used should mate firmly with any rim-centring device to obtain proper optical alignment. A rim-centring device performs an essential lamp retention function for GX5.3 based lamps.

NOTE 4 V est mesuré à D_A .

V is measured at D_A .

NOTE 5 La surface x doit être définie par l'anneau formé par la différence entre les diamètres D et D_B .

Surface x is to be defined by the annulus formed by the difference between diameters D and D_B .

Publication CEI 357

357-IEC-1012-2

Date: 1994

IEC Publication 357



Documents

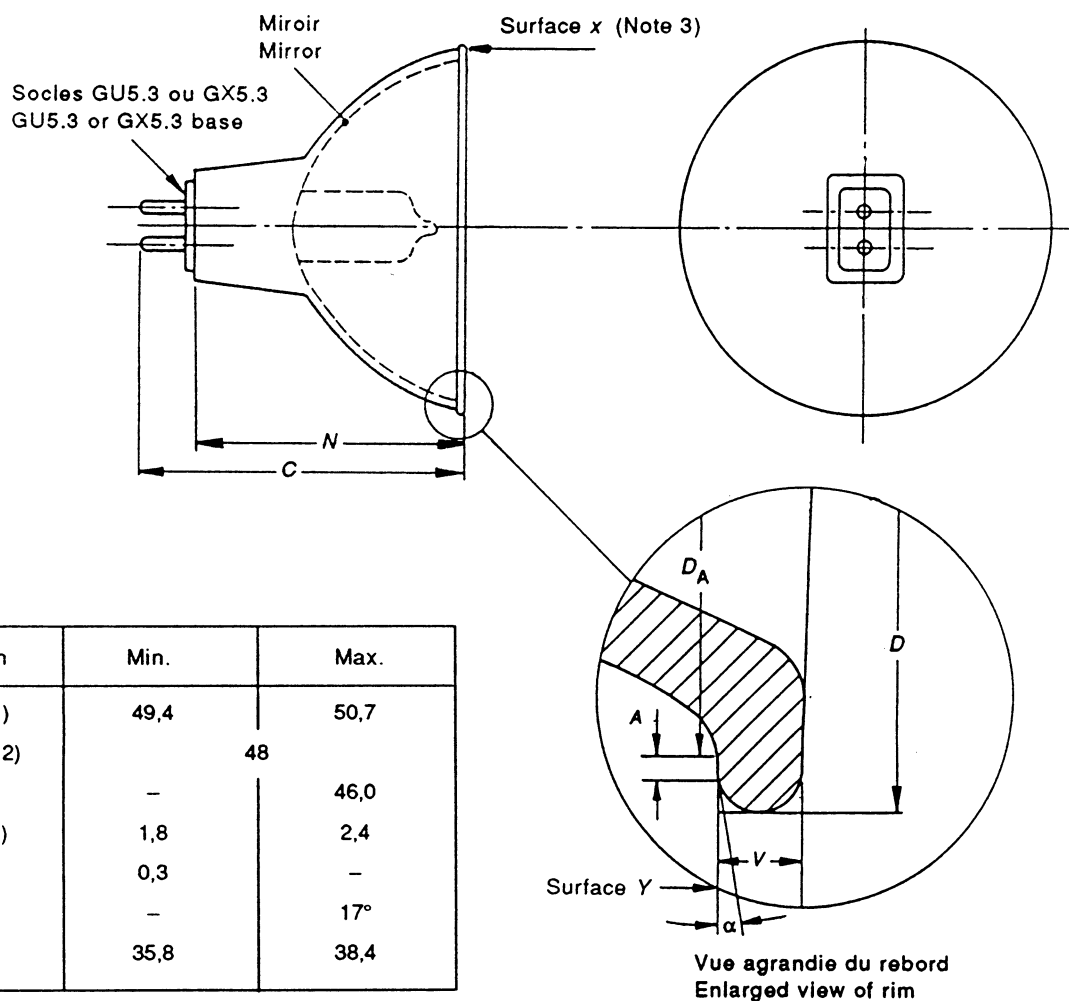
Document Sharing Hub

**DIMENSIONS EXTÉRIEURES DES
LAMPES TUNGSTÈNE-HALOGÈNE
D'USAGE GÉNÉRAL MÈTRE 51 mm
AVEC RÉFLECTEUR INTÉGRÉ**

**EXTERNAL DIMENSIONS OF TUNGSTEN
HALOGEN GENERAL PURPOSE LAMPS
HAVING A 51 mm (2 in) INTEGRAL MIRROR**

Dimensions en millimètres — Dimensions in millimetres

Le dessin a pour but d'indiquer les dimensions qui sont importantes pour le montage de la lampe et de son support.
The drawing is intended only to indicate the dimensions which are important for the fit of the lamp in the lampholder.



NOTE 1 Le diamètre maximal autorisé comprend les bavures de moulage et d'ovalisation.
Allowable maximum diameter includes mould flash and out-of-roundness.

NOTE 2 La dimension D_A correspond au diamètre intérieur de la surface Y qui a une largeur minimale de A et peut être inclinée jusqu'à un angle α .
The dimension D_A indicates the inner diameter of the surface Y which has a minimum width of A and can be inclined up to an angle of α .

NOTE 3 La surface x peut être utilisée pour positionner la lampe; dans ce cas, elle doit s'emboîter fermement dans tout dispositif de centrage quelconque du rebord, afin d'obtenir un alignement optique adéquat. Dans le cas des lampes GX5.3, le dispositif de centrage du rebord remplit une fonction essentielle de rétention de la lampe.

Surface x can be used to position the lamp and when so used should mate firmly with any rim-centring device to obtain proper optical alignment. A rim-centring device performs an essential lamp retention function for GX5.3 based lamps.

NOTE 4 V est mesuré à D_A .
 V is measured at D_A .

Publication CEI 357
IEC Publication 357

357-IEC-1013-2

Date: 1994

Documents



Document Sharing Hub

