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Responsible committee: CPL/34/1 Electric Light Sources including Caps and Holders

Interested committees:

Title: BS EN IEC 63356-1 LED light source characteristics

Part 1: Data sheets

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Responsible Committee Secretary: **Committee Service Centre (BSI)**
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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



34A/2432/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:
IEC 63356-1 ED3

DATE OF CIRCULATION:
2024-12-06

CLOSING DATE FOR COMMENTS:
2025-02-07

SUPERSEDES DOCUMENTS:
34A/2431/RR

IEC SC 34A : ELECTRIC LIGHT SOURCES			
SECRETARIAT: United Kingdom		SECRETARY: Mr Petar Luzajic	
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 34,SC 34B,SC 34C,SC 34D		HORIZONTAL FUNCTION(S):	
ASPECTS CONCERNED:			

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE:

LED light source characteristics - Part 1: Data sheets

NOTE FROM TC/SC OFFICERS:

Edition 3 is proposed to add data sheets for the following LED light source types:

- GJ6.6d-2-x capped LED lamps

Please see Decision 2/2024 in 34A/2420/DL for the approval of this maintenance.

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Introductory letter reflecting the current situation

The IEC 60061 standards published a revision on 2022-05-27 that includes the specification of caps and holders for lamps with GJ6.6d-2 fit systems. A proposal for GJ6.6d-2-x fits with keys to promote interchangeability based on LED lamp current has been approved by SC 34B National Committees (see 34B/2193/CDV, 34B/2203A/RVC) and is in preparation for publication in IEC 60061-1 and IEC 60061-2. To accompany these new fit systems an updated proposal to revise the IEC 63356-1 datasheet standard was reviewed during the SC 34A/WG 4 *LED Light Sources* online meeting held 2024-02-26/27.

Commercial products that can use these fits are UL type C (external driver) tubular LED lamps. The proposed datasheets use the form factors (length and diameter) for traditional T8 and T5 fluorescent lamps. This assists luminaire manufacturers to utilize the standard lamp holder spacing specified for G13 (7005-50-4) and G5 (7005-51-4) fit systems.

Ranges for informative electrical parameters for the fits GJ6.6d-2-1 through GJ6.6d-2-8 were taken from a sampling of commercial TLED lamps and drivers available on the internet. The GJ6.6d-2 cap and holder should only be used for UL type C lamps in SELV circuits having ≤ 50 V AC or ≤ 120 V DC. Additional keys, GJ6.6d-2-9 through GJ6.6d-2-13, are reserved for future lamp datasheet proposals.

Also, based on the 2024-02-26 WG 4 discussion, the proposal will progress as a new edition of IEC 63356-1. The full manuscript for IEC 63356-1 ED3 below is intended for circulation as a CD. SC 34A approved opening a maintenance cycle in a plenary meeting on 2024-11-06 (see 34A/2420/DL, Decision 2/2024).

Respectfully submitted,

Mark Duffy

25-Nov-2024

INTRODUCTION

The IEC 63356 series (LED light source characteristics) is split into two parts:

- IEC 63356-1: Data sheets

The scope of IEC 63356-1 covers data sheets that are comprehensive specifications for unique LED light sources (LED lamp or LED module). These are full specifications for products including, where necessary, information on interchangeability aspects, for example mechanical, electrical, optical.

Each data sheet in IEC 63356-1 relates to an individual type of LED lamp or LED module.

- IEC 63356-2: Design parameters and values

The scope of IEC 63356-2 covers design parameters and values that are used in the design of an LED light source (LED lamp or LED module) or a related component. IEC 63356-2 does not provide full product specifications but includes important interface aspects (e.g. mechanical, electrical, optical) that should be taken account of in the design of LED light sources and related components.

LED LIGHT SOURCE CHARACTERISTICS

Part 1: Data sheets

1 Scope

This part of IEC 63356 specifies data sheets of LED lamps and LED modules with a series of parameters per data sheet for a specific LED light source that enables interchangeability between products from different LED light source manufacturers.

Compliance criteria relating to data sheet parameters in this document are covered by IEC 63554¹ for safety, or IEC 63555² for performance.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

4 Overview and common information

4.1 General

Dimensions are specified at a temperature of $(25 \pm 5) ^\circ\text{C}$, unless otherwise specified

4.2 Numbering System

Data sheets are numbered so that:

- the first part represents the number of the publication "63356-1", followed by the letters "IEC";
- the second three-digit number represents the data sheet group;
- the third four-digit number represents the data sheet number;
- the fourth single-digit number represents the data sheet edition.

NOTE In cases where a data sheet comprises more than one page, all pages of the specific data sheet are issued with the same updated edition number.

Data sheet numbers are grouped as follows:

- single-capped LED lamp data sheets:
 - non-integrated 100-xxxx;
 - semi-integrated 110-xxxx;
 - integrated 120-xxxx;
- double-capped LED lamp data sheets:
 - non-integrated 200-xxxx;
 - semi-integrated 210-xxxx;
 - integrated 220-xxxx;

¹ Under preparation. Stage at the time of publication IEC CDV 63554:2024.

² Under preparation. Stage at the time of publication IEC CDV 63555:2024.

– LED module data sheets:

- non-integrated 300-xxxx;
- semi-integrated 310-xxxx;
- integrated 320-xxxx.

EXAMPLE 63356-1-IEC-110-0001-1: Single-capped LED lamp, semi-integrated, number 0001, version 1.

4.3 List of data sheets

4.3.1 List of single-capped LED lamp data sheets

Table 1, Table 2 and Table 3 provide a summary of data sheets for non-integrated, semi-integrated and integrated single-capped LED lamps respectively.

Table 1 – List of data sheets for non-integrated single-capped LED lamps

Sheet no. 63356-1-IEC- 1xx-xxxx	Shape	Rated diameter mm	Rated current	Power range W	Cap
100-0001-1	round	50	0,25 A DC	5,0 to 12,5	GH36d-1
100-0002-1	round	50	0,35 A DC	7,0 to 17,5	GH36d-2
100-0003-1	round	50	0,5 A DC	10,0 to 25,0	GH36d-3
100-0004-1	round	50	0,7 A DC	14,0 to 35,0	GH36d-4
100-0005-1	round	50	0,9 A DC	18,0 to 45,0	GH36d-5
100-0006-1	round	50	1,1 A DC	22,0 to 55,0	GH36d-6

Table 2 – List of data sheets for semi-integrated single-capped LED lamps

Void

Table 3 – List of data sheets for integrated single-capped LED lamps

Void

4.3.2 List of double-capped LED lamp data sheets

Table 4, Table 5 and Table 6 provide a summary of data sheets for non-integrated, semi-integrated and integrated double-capped LED lamps respectively.

Table 4 – List of data sheets for non-integrated double-capped LED lamps

Sheet no. 63356-1-IEC- 2xx-xxxx	Shape	Nominal length mm	Rated diameter mm	Rated current	Power range W	Cap
200-0001-1	linear	600	25,5	0,35 A DC	7,9 to 16,6	GX16t-5
200-0002-1	linear	600	32,5	0,35 A DC	7,9 to 16,6	GX16t-5
200-0003-1	linear	900	25,5	0,35 A DC	11,0 to 24,8	GX16t-5
200-0004-1	linear	900	32,5	0,35 A DC	11,0 to 24,8	GX16t-5
200-0005-1	linear	1 200	25,5	0,35 A DC	14,3 to 33,3	GX16t-5
200-0006-1	linear	1 200	32,5	0,35 A DC	14,3 to 33,3	GX16t-5
200-0007-1	linear	1 500	25,5	0,35 A DC	14,3 to 42,0	GX16t-5
200-0008-1	linear	1 500	32,5	0,35 A DC	14,3 to 42,0	GX16t-5
200-0009-1	linear	2 400	25,5	0,35 A DC	28,7 to 66,5	GX16t-5
200-0010-1	linear	2 400	32,5	0,35 A DC	28,7 to 66,5	GX16t-5
200-0011-1	linear	600		0,35 A DC	7,0 to 17,5	GR6d-1
200-0012-1	linear	900		0,5 A DC	10,0 to 25,0	GR6d-2
200-0013-1	linear	1200		0,7 A DC	14,0 to 35,0	GR6d-3

Sheet no. 63356-1-IEC- 2xx-xxxx	Shape	Nominal length mm	Rated diameter mm	Rated current	Power range W	Cap
200-0014-1	linear	1 200		1,05 A DC	21,0 to 52,5	GR6d-4
200-0015-1	linear	1 500		1,05 A DC	21,0 to 52,5	GR6d-4
200-0016-1	linear	1 500		1,4 A DC	28,0 to 70,0	GR6d-5
200-0017 ^a	reserved					GR6d-6
200-0018 ^a	reserved					GR6d-7
200-0019 ^a	reserved					GR6d-8
200-0020 ^a	reserved					GR6d-9
200-0021-1	linear	550	17,0	0,21 A DC	8,0 – 18,0	GJ6.6d-2-1
200-0022-1	linear	550	17,0	0,27 A DC	8,0 – 18,0	GJ6.6d-2-2
200-0023-1	linear	550	17,0	0,35 A DC	8,0 – 18,0	GJ6.6d-2-3
200-0024-1	linear	550	17,0	0,45 A DC	8,0 – 18,0	GJ6.6d-2-4
200-0025-1	linear	550	17,0	0,53 A DC	8,0 – 18,0	GJ6.6d-2-5
200-0026-1	linear	600	26,7	0,21 A DC	7,0 – 12,0	GJ6.6d-2-1
200-0027-1	linear	600	26,7	0,27 A DC	7,0 – 12,0	GJ6.6d-2-2
200-0028-1	linear	600	26,7	0,35 A DC	9,0 – 18,0	GJ6.6d-2-3
200-0029-1	linear	600	26,7	0,45 A DC	7,0 – 12,0	GJ6.6d-2-4
200-0030-1	linear	850	17,0	0,21 A DC	8,0 – 25,0	GJ6.6d-2-1
200-0031-1	linear	850	17,0	0,27 A DC	8,0 – 25,0	GJ6.6d-2-2
200-0032-1	linear	850	17,0	0,35 A DC	8,0 – 25,0	GJ6.6d-2-3
200-0033-1	linear	850	17,0	0,45 A DC	8,0 – 25,0	GJ6.6d-2-4
200-0034-1	linear	850	17,0	0,53 A DC	8,0 – 25,0	GJ6.6d-2-5
200-0035-1	linear	850	17,0	0,62 A DC	8,0 – 25,0	GJ6.6d-2-6
200-0036-1	linear	850	17,0	0,70 A DC	8,0 – 25,0	GJ6.6d-2-7
200-0037-1	linear	900	26,7	0,21 A DC	8,0 – 16,5	GJ6.6d-2-1
200-0038-1	linear	900	26,7	0,27 A DC	8,0 – 16,5	GJ6.6d-2-2
200-0039-1	linear	900	26,7	0,35 A DC	8,0 – 16,5	GJ6.6d-2-3
200-0040-1	linear	900	26,7	0,45 A DC	8,0 – 16,5	GJ6.6d-2-4
200-0041-1	linear	900	26,7	0,53 A DC	8,0 – 16,5	GJ6.6d-2-5
200-0042-1	linear	1150	17,0	0,21 A DC	12,0 – 36,0	GJ6.6d-2-1
200-0043-1	linear	1150	17,0	0,27 A DC	12,0 – 36,0	GJ6.6d-2-2
200-0044-1	linear	1150	17,0	0,35 A DC	12,0 – 36,0	GJ6.6d-2-3
200-0045-1	linear	1150	17,0	0,45 A DC	12,0 – 36,0	GJ6.6d-2-4
200-0046-1	linear	1150	17,0	0,53 A DC	12,0 – 36,0	GJ6.6d-2-5
200-0047-1	linear	1150	17,0	0,62 A DC	12,0 – 36,0	GJ6.6d-2-6
200-0048-1	linear	1150	17,0	0,70 A DC	12,0 – 36,0	GJ6.6d-2-7
200-0049-1	linear	1150	17,0	1,06 A DC	12,0 – 36,0	GJ6.6d-2-8
200-0050-1	linear	1200	26,7	0,21 A DC	8,0 – 25,0	GJ6.6d-2-1
200-0051-1	linear	1200	26,7	0,27 A DC	8,0 – 25,0	GJ6.6d-2-2
200-0052-1	linear	1200	26,7	0,35 A DC	8,0 – 25,0	GJ6.6d-2-3
200-0053-1	linear	1200	26,7	0,45 A DC	8,0 – 25,0	GJ6.6d-2-4
200-0054-1	linear	1200	26,7	0,53 A DC	8,0 – 25,0	GJ6.6d-2-5
200-0055-1	linear	1200	26,7	0,62 A DC	8,0 – 25,0	GJ6.6d-2-6
200-0056-1	linear	1200	26,7	0,70 A DC	18,0 – 35,5	GJ6.6d-2-7
200-0057-1	linear	2400	26,7	1,06 A DC	30,0 – 35,0	GJ6.6d-2-8

Sheet no. 63356-1-IEC- 2xx-xxxx	Shape	Nominal length mm	Rated diameter mm	Rated current	Power range W	Cap
200-0058-1 ^a			reserved			GJ6.6d-2-9
200-0059-1 ^a			reserved			GJ6.6d-2-10
200-0060-1 ^a			reserved			GJ6.6d-2-11
200-0061-1 ^a			reserved			GJ6.6d-2-12
200-0062-1 ^a			reserved			GJ6.6d-2-13
^a No data sheet available.						

Table 5 – List of data sheets for semi-integrated double-capped LED lamps

Void

Table 6 – List of data sheets for integrated double-capped LED lamps

Sheet no. 63356-1-IEC- 2xx-xxxx	Shape	Nominal length mm	Maximum outline diameter mm	Rated voltage V AC	Power range W	Cap
220-0001-1	linear	550	17,0	108 to 382	7,0 to 13,0	GJ6.6t
220-0002-1	linear	600	26,7	108 to 382	8,0 to 17,0	GJ6.6t
220-0003-1	linear	850	17,0	108 to 382	10,0 to 16,0	GJ6.6t
220-0004-1	linear	900	26,7	108 to 382	11,5 to 25,0	GJ6.6t
220-0005-1	linear	1150	17,0	108 to 382	13,0 to 31,0	GJ6.6t
220-0006-1	linear	1200	26,7	108 to 382	9,9 to 32,0	GJ6.6t
220-0007-1	linear	1450	17,0	108 to 382	18,0 to 37,0	GJ6.6t
220-0008-1	linear	2400	26,7	108 to 382	30,0 to 65,0	GJ6.6t
220-0009-1	linear	550	17,0	108 to 382	7,0 to 13,0	GJ6.6d-1
220-0010-1	linear	600	26,7	108 to 382	8,0 to 17,0	GJ6.6d-1
220-0011-1	linear	850	17,0	108 to 382	10,0 to 16,0	GJ6.6d-1
220-0012-1	linear	900	26,7	108 to 382	11,5 to 25,0	GJ6.6d-1
220-0013-1	linear	1150	17,0	108 to 382	13,0 to 31,0	GJ6.6d-1
220-0014-1	linear	1200	26,7	108 to 382	9,9 to 32,0	GJ6.6d-1
220-0015-1	linear	1450	17,0	108 to 382	18,0 to 37,0	GJ6.6d-1
220-0016-1	linear	2400	26,7	108 to 382	30,0 to 65,0	GJ6.6d-1
220-0017 ^a	linear			100 to 127		GR6d-10
220-0018 ^a	linear			200 to 254		GR6d-11
220-0019 ^a	linear			250 to 288		GR6d-12
220-0020 ^a			reserved			GR6d-13
220-0021 ^a	linear			100 to 288		GR6d-14
220-0022 ^a			reserved			GR6d-15
^a No data sheet available.						

4.3.3 List of LED module data sheets

Table 2, Table 3 and Table 4 provide a summary of data sheets for non-integrated, semi-integrated and integrated LED modules respectively.

Table 2 – List of data sheets for non-integrated LED modules

Void

Table 3 – List of data sheets for semi-integrated LED modules

Void

Table 4 – List of data sheets for integrated LED modules

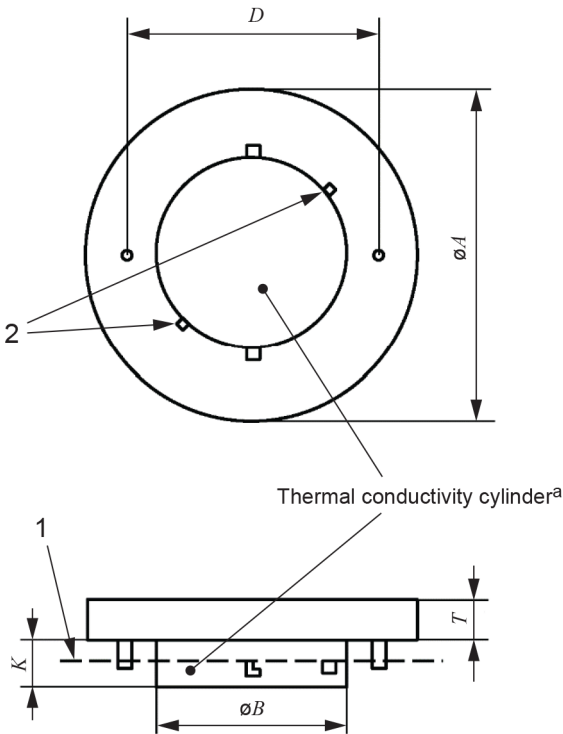
Void

5 Single-capped LED lamp data sheets

5.1 Single-capped LED lamps with GH36d caps

5.1.1 Diagrammatic information for location of lamp dimensions

Figure 1 shows the dimensions used in conjunction with the relevant data sheet for a GH36d LED lamp.



IEC

Key

- 1 reference plane
- 2 key positions

NOTE Details about key positions are given in IEC 60061-1, sheet 7004-186.

^a The GH36d capped LED lamp is designed to be applied to a heat sink and in combination with the appropriate key system to differentiate between input power combinations.

Figure 1 – Location of dimensions of single-capped lamps with a GH36d cap

5.1.2 Data sheets

Data sheet 63356-1-IEC-100-0001-1:

Nominal diameter mm	Rated DC lamp current A	Range of lamp power W	Cap
50	0,25	5,0 to 12,5	GH36d-1

Dimensions mm								
<i>A</i>		<i>B</i>		<i>D</i>	<i>K</i>		<i>T</i>	
Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
49,5	50,5	24,9	25,2	36,0	8,5	9,0	5,5	30,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,25		Min.	Max.
		20	50

Information for controlgear design		
Type of controlgear	Constant DC current output SELV or PELV	
DC output voltage range for the constant DC current	V	
	Min.	Max.
	20	50
Tolerance of the constant DC current	±10 %	

Data sheet 63356-1-IEC-100-0002-1:

Nominal diameter mm	Rated DC lamp current A	Range of lamp power W	Cap
50	0,35	7,0 to 17,5	GH36d-2

Dimensions mm								
<i>A</i>		<i>B</i>		<i>D</i>	<i>K</i>		<i>T</i>	
Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
49,5	50,5	24,9	25,2	36,0	8,5	9,0	5,5	30,0

Electrical characteristics		
DC test current A		DC lamp voltage V
0,35		Min.
		Max.
		20
		50

Information for controlgear design		
Type of controlgear	Constant DC current output SELV or PELV	
DC output voltage range for the constant DC current	V	
	Min.	Max.
	20	50
Tolerance of the constant DC current	±10 %	

Data sheet 63356-1-IEC-100-0003-1:

Nominal diameter mm	Rated DC lamp current A	Range of lamp power W	Cap
50	0,5	10,0 to 25,0	GH36d-3

Dimensions mm								
<i>A</i>		<i>B</i>		<i>D</i>	<i>K</i>		<i>T</i>	
Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
49,5	50,5	24,9	25,2	36,0	8,5	9,0	5,5	30,0

Electrical characteristics		
DC test current A		DC lamp voltage V
0,5		Min.
		Max.
		20
		50

Information for controlgear design	
Type of controlgear	Constant DC current output SELV or PELV
DC output voltage range for the constant DC current	V
	Min.
	Max.
	20
	50
Tolerance of the constant DC current	±10 %

Data sheet 63356-1-IEC-100-0004-1:

Nominal diameter mm	Rated DC lamp current A	Range of lamp power W	Cap
50	0,7	14,0 to 35,0	GH36d-4

Dimensions mm								
<i>A</i>		<i>B</i>		<i>D</i>	<i>K</i>		<i>T</i>	
Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
49,5	50,5	24,9	25,2	36,0	8,5	9,0	5,5	30,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,7		Min.	Max.
		20	50

Information for controlgear design		
Type of controlgear	Constant DC current output SELV or PELV	
DC output voltage range for the constant DC current	V	
	Min.	Max.
	20	50
Tolerance of the constant DC current	±10 %	

Data sheet 63356-1-IEC-100-0005-1:

Nominal diameter mm	Rated DC lamp current A	Range of lamp power W	Cap
50	0,9	18,0 to 45,0	GH36d-5

Dimensions mm								
<i>A</i>		<i>B</i>		<i>D</i>	<i>K</i>		<i>T</i>	
Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
49,5	50,5	24,9	25,2	36,0	8,5	9,0	5,5	30,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,9		Min.	Max.
		20	50

Information for controlgear design		
Type of controlgear	Constant DC current output SELV or PELV	
DC output voltage range for the constant DC current	V	
	Min.	Max.
	20	50
Tolerance of the constant DC current	±10 %	

Data sheet 63356-1-IEC-100-0006-1:

Nominal diameter mm	Rated DC lamp current A	Range of lamp power W	Cap
50	1,1	22,0 to 55,0	GH36d-6

Dimensions mm								
<i>A</i>		<i>B</i>		<i>D</i>	<i>K</i>		<i>T</i>	
Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
49,5	50,5	24,9	25,2	36,0	8,5	9,0	5,5	30,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
1,1		Min.	Max.
		20	50

Information for controlgear design		
Type of controlgear	Constant DC current output SELV or PELV	
DC output voltage range for the constant DC current	V	
	Min.	Max.
	20	50
Tolerance of the constant DC current	±10 %	

5.2 Other single-capped LED lamps

Void

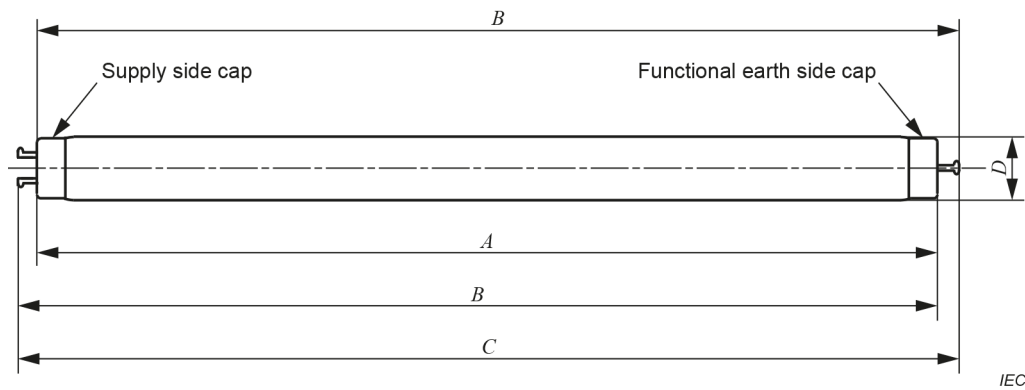
6 Double-capped LED lamp data sheets

6.1 Linear double-capped LED lamps with GX16t-5 caps

NOTE The data sheets in 6.1.2 are taken from IEC 62931:2017 without technical modifications.

6.1.1 Diagrammatic information for location of lamp dimensions

Figure 2 shows the dimensions used in conjunction with the relevant data sheet for the GX16t-5 LED lamp.

**Key**

- 1) For lamps with GX16t-5 caps and nominal length up to or equal to 1 200 mm

The values for dimensions A , B and C are derived from a basic value, designated X .

A = cap face to cap face

$$A_{\max} = X$$

B = cap face to end of opposite pins

$$B_{\max} = X + 7,1 \text{ mm}$$

$$B_{\min} = X + 4,7 \text{ mm}$$

C = overall length of the lamp between pin ends

$$C_{\max} = X + (2 \times 7,1) = X + 14,2 \text{ mm}$$

$$C_{\min} = \text{not specified}$$

- 2) For lamps with GX16t-5 caps and nominal length greater than 1 200 mm

The values for dimensions A , B and C are derived from a basic value, designated X .

A = cap face to cap face

B = cap face to end of opposite pins

$$B_{\max} = X + 7,4 \text{ mm}$$

$$B_{\min} = X + 4,4 \text{ mm}$$

C = overall length of the lamp between pin ends

$$C_{\max} = X + (2 \times 7,4) = X + 14,8 \text{ mm}$$

$$C_{\min} = \text{not specified}$$

NOTE Dimension D specifies the maximum dimension of the cross-section of the tube.

Figure 2 – Location of dimensions of linear double-capped lamps with GX16t-5 caps

6.1.2 Data sheets

Data sheet 63356-1-IEC-200-0001-1:

NOTE This data sheet is numbered 62931-IEC-600-1 (rated $D = 25,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
600	0,35	7,9 to 16,6	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
587,4	588,5	589,8	594,5	596,9	604,0	25,5	26,7

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		22,5	47,5

Information for controlgear design			
Type of controlgear		Constant DC current output	
DC output voltage range for the constant DC current		V	
		Max.	Min.
		47,5	22,5
Tolerance of the constant DC current		±10 %	

Data sheet 63356-1-IEC-200-0002-1:

NOTE This data sheet is numbered 62931-IEC-600-1 (rated $D = 32,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
600	0,35	7,9 to 16,6	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
587,4	588,5	589,8	594,5	596,9	604,0	32,5	34,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		22,5	47,5

Information for controlgear design		
Type of controlgear	Constant DC current output	
DC output voltage range for the constant DC current	V	
	Max.	Min.
	47,5	22,5
Tolerance of the constant DC current	±10 %	

Data sheet 63356-1-IEC-200-0003-1:

NOTE This data sheet is numbered 62931-IEC-900-1 (rated $D = 25,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
900	0,35	11,0 to 24,8	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
892,2	893,0	894,6	899,3	901,7	908,8	25,5	26,7

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		31,7	70,8

Information for controlgear design			
Type of controlgear		Constant DC current output	
DC output voltage range for the constant DC current		V	
		Max.	Min.
		70,8	31,7
Tolerance of the constant DC current		±10 %	

Data sheet 63356-1-IEC-200-0004-1:

NOTE This data sheet is numbered 62931-IEC-900-1 (rated $D = 32,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
900	0,35	11,0 to 24,8	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
892,2	893,0	894,6	899,3	901,7	908,8	32,5	34,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		31,7	70,8

Information for controlgear design		
Type of controlgear	Constant DC current output	
DC output voltage range for the constant DC current	V	
	Max.	Min.
	70,8	31,7
Tolerance of the constant DC current		±10 %

Data sheet 63356-1-IEC-200-0005-1:

NOTE This data sheet is numbered 62931-IEC-1200-1 (rated $D = 25,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
1 200	0,35	14,3 to 33,3	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
1 197,0	1 198,0	1 199,4	1 204,1	1 206,5	1 213,6	25,5	26,7

Electrical characteristics		
DC test current A		DC lamp voltage V
0,35		Min.
		Max.
		41
		95

Information for controlgear design		
Type of controlgear	Constant DC current output	
DC output voltage range for the constant DC current	V	
	Max.	Min.
	95	41
Tolerance of the constant DC current		±10 %

Data sheet 63356-1-IEC-200-0006-1:

NOTE This data sheet is numbered 62931-IEC-1200-1 (rated $D = 32,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
1 200	0,35	14,3 to 33,3	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
1 197,0	1 198,0	1 199,4	1 204,1	1 206,5	1 213,6	32,5	34,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		41	95

Information for controlgear design		
Type of controlgear	Constant DC current output	
DC output voltage range for the constant DC current	V	
	Max.	Min.
	95	41
Tolerance of the constant DC current		±10 %

Data sheet 63356-1-IEC-200-0007-1:

NOTE This data sheet is numbered 62931-IEC-1500-1 (rated $D = 25,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
1 500	0,35	14,3 to 42,0	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
1 497,6	1 498,5	1 500,0	1 504,7	1 507,1	1 514,2	25,5	26,7

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		41	120

Information for controlgear design		
Type of controlgear	Constant DC current output	
DC output voltage range for the constant DC current	V	
	Max.	Min.
	120	41
Tolerance of the constant DC current		±10 %

Data sheet 63356-1-IEC-200-0008-1:

NOTE This data sheet is numbered 62931-IEC-1500-1 (rated $D = 32,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
1 500	0,35	14,3 to 42,0	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
1 497,6	1 498,5	1 500,0	1 504,7	1 507,1	1 514,2	32,5	34,0

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		41	120

Information for controlgear design		
Type of controlgear	Constant DC current output	
DC output voltage range for the constant DC current	V	
	Max.	Min.
	120	41
Tolerance of the constant DC current	±10 %	

Data sheet 63356-1-IEC-200-0009-1:

NOTE This data sheet is numbered 62931-IEC-2400-1 (rated $D = 25,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
2 400	0,35	28,7 to 66,5	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
2 366,0	2 367,0	2 368,4	2 372,8	2 375,8	2 383,2	25,5	26,7

Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		82	190

Information for controlgear design			
Type of controlgear		Constant DC current output	
DC output voltage range for the constant DC current		V	
		Max.	Min.
		190	82
Tolerance of the constant DC current		±10 %	

Data sheet 63356-1-IEC-200-0010-1:

NOTE This data sheet is numbered 62931-IEC-2400-1 (rated $D = 32,5$ mm) in IEC 62931:2017.

Nominal length mm	Rated DC lamp current A	Range of lamp power W	Cap
2 400	0,35	28,7 to 66,5	GX16t-5

Dimensions mm							
<i>A</i>			<i>B</i>		<i>C</i>	<i>D</i>	
Min.	Rated	Max.	Min.	Max.	Max.	Rated	Max.
2 366,0	2 367,0	2 368,4	2 372,8	2 375,8	2 383,2	32,5	34,0

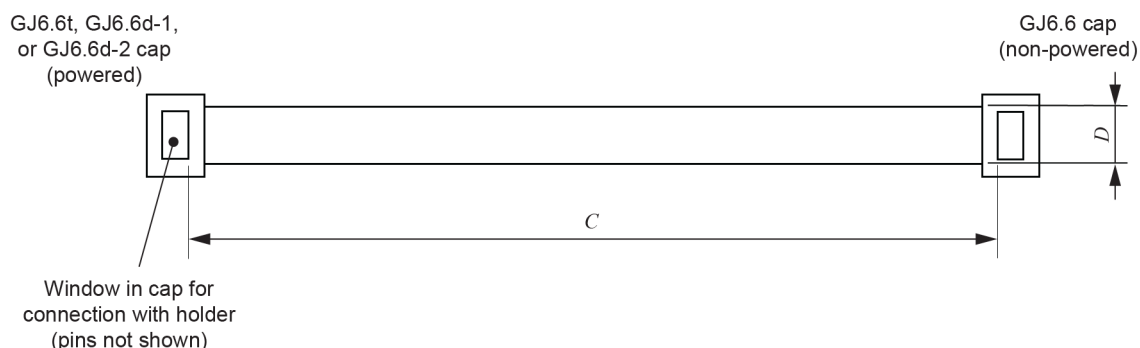
Electrical characteristics			
DC test current A		DC lamp voltage V	
0,35		Min.	Max.
		82	190

Information for controlgear design			
Type of controlgear		Constant DC current output	
DC output voltage range for the constant DC current		V	
		Max.	Min.
		190	82
Tolerance of the constant DC current		±10 %	

6.2 Linear double-capped LED lamp with GJ6.6 caps

6.2.1 Diagrammatic information for location of lamp dimensions

Figure 3 shows the dimensions used in conjunction with the relevant data sheet for a GJ6.6 LED lamp.



Dimension C is the inner distance between windows in GJ6.6 caps.

Dimension D is the maximum dimension of the cross-section of the LED tube.

NOTE 1 The LED tube can be of any shape.

NOTE 2 GJ6.6, GJ6.6t, GJ6.6d-1 and GJ6.6d-2 cap dimensions are specified in IEC 60061-1.

Figure 3 – Location of dimensions of linear double-capped lamps with GJ6.6 caps