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LED light source characteristics -
Part 1: Data sheets

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LED light source characteristics - Part 1: Data sheets

FOREWORD

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IEC 63356-1 has been prepared by subcommittee 34A: Electric light sources, of IEC technical committee 34: Lighting. It is an International Standard.

This third edition cancels and replaces the second edition published in 2023. This edition constitutes a technical revision.

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

a) addition of datasheets for GJ6.6d-2-x capped LED lamps.

The text of this International Standard is based on the following documents:

Draft	Report on voting
34A/2444/CDV	34A/2461/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 63356 series, published under the general title *LED light source characteristics*, can be found on the IEC website.

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– reconfirmed,
– withdrawn, or
– revised.

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 considered in the design of LED light sources and related components.

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.

NOTE Compliance criteria relating to data sheet parameters in this document are covered by IEC 63554[1] or IEC 62031 for safety, and IEC 63555[2] 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 ± 5) °C, unless otherwise specified in the data sheet.

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 version.

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 version 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;

[1] Under preparation. Stage at the time of publication IEC CDV 63554:2025.

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

– double-capped LED lamp data sheets:
  - non-integrated 200-xxxx;
  - semi-integrated 210-xxxx;
  - integrated 220-xxxx;
– 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 A DC	Power range W	Cap
100-0001-1	round	50	0,25	5,0 to 12,5	GH36d-1
100-0002-1	round	50	0,35	7,0 to 17,5	GH36d-2
100-0003-1	round	50	0,5	10,0 to 25,0	GH36d-3
100-0004-1	round	50	0,7	14,0 to 35,0	GH36d-4
100-0005-1	round	50	0,9	18,0 to 45,0	GH36d-5
100-0006-1	round	50	1,1	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 A DC	Power range W	Cap
200-0001-1	linear	600	25,5	0,35	7,9 to 16,6	GX16t-5
200-0002-1	linear	600	32,5	0,35	7,9 to 16,6	GX16t-5
200-0003-1	linear	900	25,5	0,35	11,0 to 24,8	GX16t-5
200-0004-1	linear	900	32,5	0,35	11,0 to 24,8	GX16t-5
200-0005-1	linear	1 200	25,5	0,35	14,3 to 33,3	GX16t-5
200-0006-1	linear	1 200	32,5	0,35	14,3 to 33,3	GX16t-5
200-0007-1	linear	1 500	25,5	0,35	14,3 to 42,0	GX16t-5
200-0008-1	linear	1 500	32,5	0,35	14,3 to 42,0	GX16t-5
200-0009-1	linear	2 400	25,5	0,35	28,7 to 66,5	GX16t-5
200-0010-1	linear	2 400	32,5	0,35	28,7 to 66,5	GX16t-5
200-0011-1	linear	600		0,35	7,0 to 17,5	GR6d-1
200-0012-1	linear	900		0,50	10,0 to 25,0	GR6d-2
200-0013-1	linear	1200		0,70	14,0 to 35,0	GR6d-3
200-0014-1	linear	1 200		1,05	21,0 to 52,5	GR6d-4
200-0015-1	linear	1 500		1,05	21,0 to 52,5	GR6d-4
200-0016-1	linear	1 500		1,40	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	8,0 to 12,6	GJ6.6d-2-1
200-0022-1	linear	550	17,0	0,27	8,0 to 16,2	GJ6.6d-2-2
200-0023-1	linear	550	17,0	0,35	8,0 to 18,0	GJ6.6d-2-3
200-0024-1	linear	550	17,0	0,45	8,0 to 18,0	GJ6.6d-2-4
200-0025-1	linear	550	17,0	0,53	8,0 to 18,0	GJ6.6d-2-5
200-0026-1	linear	600	26,7	0,21	7,0 to 12,0	GJ6.6d-2-1
200-0027-1	linear	600	26,7	0,27	7,0 to 12,0	GJ6.6d-2-2
200-0028-1	linear	600	26,7	0,35	9,0 to 18,0	GJ6.6d-2-3
200-0029-1	linear	600	26,7	0,45	7,0 to 12,0	GJ6.6d-2-4
200-0030-1	linear	850	17,0	0,21	8,0 to 12,6	GJ6.6d-2-1
200-0031-1	linear	850	17,0	0,27	8,0 to 16,2	GJ6.6d-2-2
200-0032-1	linear	850	17,0	0,35	8,0 to 21,0	GJ6.6d-2-3
200-0033-1	linear	850	17,0	0,45	8,0 to 25,0	GJ6.6d-2-4
200-0034-1	linear	850	17,0	0,53	8,0 to 25,0	GJ6.6d-2-5
200-0035-1	linear	850	17,0	0,62	8,0 to 25,0	GJ6.6d-2-6
200-0036-1	linear	850	17,0	0,70	8,0 to 25,0	GJ6.6d-2-7
200-0037-1	linear	900	26,7	0,21	8,0 to 12,6	GJ6.6d-2-1
200-0038-1	linear	900	26,7	0,27	8,0 to 16,2	GJ6.6d-2-2
200-0039-1	linear	900	26,7	0,35	8,0 to 16,5	GJ6.6d-2-3
200-0040-1	linear	900	26,7	0,45	8,0 to 16,5	GJ6.6d-2-4

Sheet no. 63356-1-IEC-2xx-xxxx	Shape	Nominal length mm	Rated diameter mm	Rated current A DC	Power range W	Cap
200-0041-1	linear	900	26,7	0,53	8,0 to 16,5	GJ6.6d-2-5
200-0042-1	linear	1 150	17,0	0,21	12,0 to 12,6	GJ6.6d-2-1
200-0043-1	linear	1 150	17,0	0,27	12,0 to 16,2	GJ6.6d-2-2
200-0044-1	linear	1 150	17,0	0,35	12,0 to 21,0	GJ6.6d-2-3
200-0045-1	linear	1 150	17,0	0,45	12,0 to 27,0	GJ6.6d-2-4
200-0046-1	linear	1 150	17,0	0,53	12,0 to 31,8	GJ6.6d-2-5
200-0047-1	linear	1 150	17,0	0,62	12,0 to 36,0	GJ6.6d-2-6
200-0048-1	linear	1 150	17,0	0,70	12,0 to 36,0	GJ6.6d-2-7
200-0049-1	linear	1 150	17,0	1,06	12,0 to 36,0	GJ6.6d-2-8
200-0050-1	linear	1 200	26,7	0,21	8,0 to 12,6	GJ6.6d-2-1
200-0051-1	linear	1 200	26,7	0,27	8,0 to 16,2	GJ6.6d-2-2
200-0052-1	linear	1 200	26,7	0,35	8,0 to 21,0	GJ6.6d-2-3
200-0053-1	linear	1 200	26,7	0,45	8,0 to 25,0	GJ6.6d-2-4
200-0054-1	linear	1 200	26,7	0,53	8,0 to 25,0	GJ6.6d-2-5
200-0055-1	linear	1 200	26,7	0,62	8,0 to 25,0	GJ6.6d-2-6
200-0056-1	linear	1 200	26,7	0,70	18,0 to 35,0	GJ6.6d-2-7
200-0057-1	linear	2 400	26,7	1,06	30,0 to 35,0	GJ6.6d-2-8
200-0058[a]	Reserved					GJ6.6d-2-9
200-0059[a]	Reserved					GJ6.6d-2-10
200-0060[a]	Reserved					GJ6.6d-2-11
200-0061[a]	Reserved					GJ6.6d-2-12
200-0062[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	1 150	17,0	108 to 382	13,0 to 31,0	GJ6.6t
220-0006-1	linear	1 200	26,7	108 to 382	9,9 to 32,0	GJ6.6t
220-0007-1	linear	1 450	17,0	108 to 382	18,0 to 37,0	GJ6.6t
220-0008-1	linear	2 400	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	1 150	17,0	108 to 382	13,0 to 31,0	GJ6.6d-1
220-0014-1	linear	1 200	26,7	108 to 382	9,9 to 32,0	GJ6.6d-1
220-0015-1	linear	1 450	17,0	108 to 382	18,0 to 37,0	GJ6.6d-1
220-0016-1	linear	2 400	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 7, Table 8 and Table 9 provide a summary of data sheets for non-integrated, semi-integrated and integrated LED modules, respectively.

Table 7 – List of data sheets for non-integrated LED modules

Void

Table 8 – List of data sheets for semi-integrated LED modules

Void

Table 9 – List of data sheets for integrated LED modules

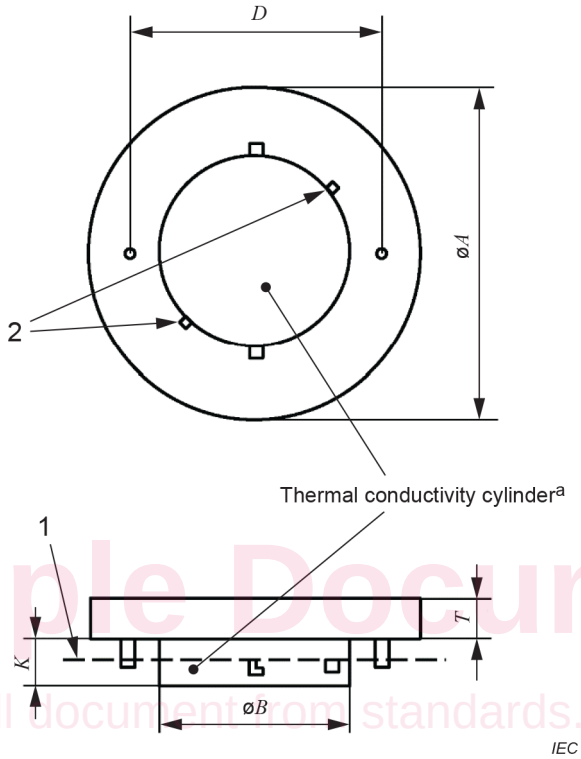
Void

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.



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								
A		***B***		***D***	***K***		***T***	
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								
A		***B***		***D***	***K***		***T***	
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 %	