SLOVENSKI STANDARD
oSIST prEN IEC 63403-2:2023

01-julij-2023

Ohišja svetlečih diod (LED) za vrtnarsko razsvetljavo - 2. del: Sortiranje

LED packages for horticultural lighting - Part 2: Binning

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Ta slovenski standard je istoveten z: **prEN IEC 63403-2:2023**

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ICS:

29.140.99	Drugi standardi v zvezi z žarnicami	Other standards related to lamps
65.060.70	Vrtnarska oprema	Horticultural equipment

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2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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34/1032/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 63403-2 ED1**	
DATE OF CIRCULATION: **2023-05-05**	CLOSING DATE FOR VOTING: **2023-07-28**
SUPERSEDES DOCUMENTS: **34/887/CD, 34/912B/CC**	

IEC TC 34 : LIGHTING	
SECRETARIAT: United Kingdom	SECRETARY: Mr Petar Luzajic
OF INTEREST TO THE FOLLOWING COMMITTEES: SC 47E	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY	
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Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	

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- any relevant patent rights of which they are aware and to provide supporting documentation,
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TITLE:

LED packages for horticultural lighting - Part 2: Binning

PROPOSED STABILITY DATE: 2026

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LED PACKAGES FOR HORTICULTURAL LIGHTING

Part 2: Binning

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IEC 63403-2 has been prepared by IEC technical committee 34: LIGHTING. It is an International Standard.

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

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

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at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at http://www.iec.ch/standardsdev/publications.

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

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

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LED PACKAGES FOR HORTICULTURAL LIGHTING

Part 2: Binning

1 Scope

This document specifies the binning method for LED packages for horticultural lighting.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 63403-1, *LED packages for horticultural lighting – Specification sheet*

ISO/CIE 11664-1, *Colorimetry – Part 1: CIE Standard Colorimetric Observers*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 63403-1 apply.

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

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

4 Measurement conditions

4.1 Temperature

Binning of the LED packages shall be conducted at a junction temperature of 85 °C by one of the following methods:

a) Binning according to the values measured at t_j = 85 °C;

b) Binning according to the values obtained by measurement at t_j = 25 °C followed by extrapolation to 85 °C.

4.2 Currents

For LED packages for horticultural lighting, the binning current shall be chosen from those listed in Table 1, based on the most common application for this LED package.

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Table 1 – Binning currents

Number	Binning current $I_{f,\ bin}$ mA
1	30
2	50
3	65
4	100
5	120
6	150
7	350
8	500
9	700
10	850
11	1 050
12	1 400
13	1 800

4.3 Pre-conditioning

Before starting the measurement procedure for binning, the junction temperature t_j of the LED package shall be stabilized at ± 5 °C.

5 Measurement

The measurement shall be performed according to the applicable CIE publications.

Note 1: The applicable CIE publications can be CIE 225:2017 for steady state measurement, or CIE 226:2017 for the high speed measurement (transient measurement). An international standard for the optical measurement methods of LED package and LED arrays is also under development by CIE.

Note 2: The chosen optical measurement method has an effect on the junction temperature during the measurement.

6 Binning

6.1 Binning by forward voltage

The size of the forward voltage bins shall be no greater than 100 mV.

6.2 Binning by photon flux

The quantity of the emitted optical radiation shall be binned based on the photon flux or radiant flux.

The photon flux shall be expressed in µmol/s.

Note: The photon flux expressed in photons/s is divided by Avogadro's number and multiplied by 10^6 to express the result in µmol/s.

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6.3 Binning by chromaticity

6.3.1 Narrow-band emitters

Narrow-band emitters shall be binned based on the centroid wavelength or dominant wavelength.

6.3.2 Achromatic emitters

Achromatic emitters shall be binned based on the chromaticity coordinates according to ISO/CIE 11664-1.

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Bibliography

CIE 225:2017 Optical Measurement of High-Power LEDs

CIE 226:2017 High-Speed Testing Methods for LEDs

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