BS EN 62722-2-1:2016

BSI Standards Publication

Luminaire performance

Part 2-1: Particular requirements for LED luminaires (IEC 62722-2-1:2014, modified)

bsi.

National foreword

This British Standard is the UK implementation of EN 62722-2-1:2016. It is derived from IEC 62722-2-1:2014. It supersedes DD IEC/PAS 62722-2-1:2011 which is withdrawn.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags 〚C〉 〈C〛.

The UK participation in its preparation was entrusted by Technical Committee CPL/34, Lamps and Related Equipment, to Subcommittee CPL/34/4, Luminaires.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2016

ISBN 978 0 580 74719 9
ICS 29.140.40

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2016.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62722-2-1

April 2016

ICS 29.140.40

English Version

Luminaire performance - Part 2-1: Particular requirements for LED luminaires (IEC 62722-2-1:2014 , modified)

Performance des luminaires - Partie 2-1: Exigences particulières relatives aux luminaires à LED (IEC 62722-2-1:2014 , modifiée)

Arbeitsweise von Leuchten - Teil 2-1: Besondere Anforderungen an LED-Leuchten (IEC 62722-2-1:2014 , modifiziert)

This European Standard was approved by CENELEC on 2015-11-09. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62722-2-1:2016 E

European foreword

The text of document 34D/1147/FDIS, future edition 1 of IEC 62722-2-1, prepared by SC 34D "Luminaires" of IEC/TC 34 "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62722-2-1:2016.

A draft amendment, which covers common modifications to IEC 62722-2-1:2014 (34D/1147/FDIS), was prepared by CLC/TC 34Z "Luminaires and associated equipment" and approved by CENELEC.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-10-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-04-29

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62722-2-1:2014 are prefixed “Z”.

Endorsement notice

The text of the International Standard IEC 62722-2-1:2014 was approved by CENELEC as a European Standard with agreed common modifications.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60598-1	-	Luminaires - Part 1: General requirements and tests	EN 60598-1	-
IEC 60598-2-3	-	Luminaires - Part 2-3: Particular requirements - Luminaires for road and street lighting	EN 60598-2-3	-
IEC 60598-2-5	-	Luminaires - Part 2-5: Particular requirements - Floodlights	EN 60598-2-5	-
IEC 62031	-	LED modules for general lighting - Safety specifications	EN 62031	-
IEC 62504	-	General lighting - Light emitting diode (LED) products and related equipment - Terms and definitions	EN 62504	-
IEC 62717	-	LED modules for general lighting - Performance requirements	EN 62717 [1)]	-
IEC 62722-1	-	Luminaire performance - Part 1: General requirements	EN 62722-1	-

1) At draft stage.

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

LUMINAIRE PERFORMANCE –

Part 2-1: Particular requirements for LED luminaires

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62722-2-1 has been prepared by subcommittee 34D: Luminaires, of IEC technical committee 34: Lamps and related equipment.

This first edition of IEC 62722-2-1 cancels and replaces IEC PAS 62722-2-1. published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the Publicly Available Specification.

a) The testing time is aligned with IEC 62717 and the option of 2 000 h is removed. Products containing modules not in compliance with IEC 62717 are now tested to 6 000 h.
b) Testing sample sizes have been modified to give valid statistical data.
c) The temperature reduction of 10 °C for street lanterns and floodlights has been removed.
d) Life definitions have been updated and aligned with IEC 62717.

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

FDIS	Report on voting
34D/1147/FDIS	34D/1155/RVD

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

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

A list of all the parts in the IEC 62722 series, published under the general title *Luminaire performance* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

INTRODUCTION

This standard is the conversion of IEC PAS 62722-2-1 into a full IEC performance standard for LED luminaires for general lighting applications. It acknowledges the need for relevant tests for luminaires using this new source of electrical light. The publication is seen in close context with simultaneously developed and edited publication of performance standards for luminaires in general and for LED modules. This standard does not consider luminaires designed for LED lamps, which are covered in IEC 62722-1. Changes in the LED luminaires standard will have impact on the LED module standards and vice versa, due to the behaviour of LED. Therefore, in the development of the present standard, mutual consultancy of experts of both products has taken place.

The provisions in the standard represent the technical knowledge of experts from the fields of the semiconductor (LED chip) industry and of those of the traditional electrical light sources and luminaires.

LUMINAIRE PERFORMANCE –

Part 2-1: Particular requirements for LED luminaires

1 Scope

This part of IEC 62722 specifies the performance requirements for LED luminaires, together with the test methods and conditions, required to show compliance with this standard. It applies to LED luminaires for general lighting purposes.

The following types of LED luminaires are distinguished.

– Type A – Luminaires using LED modules where compliance with IEC 62717[1] has been proven.
– Type B – Luminaires using LED modules where compliance with IEC 62717[1] has not been proven.
– Type C – Luminaires using a LED lamp and covered in IEC 62722-1.

The requirements of this standard only relate to type testing.

This standard does not cover Type C luminaires.

This standard does not cover LED luminaires that intentionally produce coloured light, neither does it cover luminaires using OLEDs (organic LEDs).

These performance requirements are additional to the requirements in IEC 62722-1, Clauses 1 to 9, except where in this Part 2-1 alternative methods of measurement or limits are specified.

As this standard has been simultaneously developed and edited with the standard for LED modules, where appropriate the compliance of the LED modules to the provisions of IEC 62717 may be transferred to the whole luminaire.

Life time of LED luminaires is in most cases much longer than the practical test times. Consequently, verification of manufacturer's life time claims cannot be made in a sufficiently confident way. For that reason the acceptance or rejection of a manufacturer's life time claim, past 25 % of rated life (with a maximum of 6 000 h), is out of the scope of this standard.

Instead of life time validation, this standard has opted for lumen maintenance categories at a defined finite test time. Therefore, the category number does not imply a prediction of achievable life time. The categories are lumen-depreciation character categories showing behaviour in agreement with manufacturer's information which is provided before the test is started.

In order to validate a life time claim, an extrapolation of test data is needed. A general method of projecting measurement data beyond limited test time is under consideration.

For explanation of recommended life time metrics see IEC 62717, Annex C.

---

[1] To be published.