

Valgus ja valgustus. Põhioskussõnad ja valgustusnõuete valiku alused

Light and lighting - Basic terms and criteria for specifying lighting requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12665:2011 sisaldab Euroopa standardi EN 12665:2011 ingliskeelset teksti.

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English Version

Light and lighting - Basic terms and criteria for specifying lighting requirements

Lumière et éclairage - Termes de base et critères pour la spécification des exigences en éclairage

Licht und Beleuchtung - Grundlegende Begriffe und Kriterien für die Festlegung von Anforderungen an die Beleuchtung

This European Standard was approved by CEN on 11 May 2011.

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Foreword

This document (EN 12665:2011) has been prepared by Technical Committee CEN/TC 169 "Light and lighting", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

This document has been prepared under a mandate given to CEN/CENELEC/ETSI by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2008/57/EC.

For relationship with EU Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

This document supersedes EN 12665:2002.

The main technical changes in this revision are:

- inclusion of terms previously absent collated from EN 1837, EN 1838, EN 12193, EN 12464-1, EN 12464-2, EN 13032-1, EN 13032-2 and EN 15193.

The significant change between EN 12665:2002 and EN 12665:2011 is within the scope of the document. EN 12665:2002 defined basic terms for use in lighting applications, and specialist terms with limited applications were defined in individual standards. In practice this resulted in cases of similar terminology being used to define different concepts, and conversely different terms being used to describe similar concepts. Therefore EN 12665:2011 defines basic terms and definitions for use in all lighting applications. Furthermore some references have been updated.

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Introduction

This European Standard specifies a basic framework to be used for the specification of lighting requirements.

Where a term is contained in CIE Publication 17.4:1987 International Lighting Vocabulary (IEC 60050, International Electrotechnical Vocabulary, Chapter 845 Lighting), the term given in this standard is identical. For some terms additional explanation is given in informative Annex A. An index of terms is given in informative Annex B.

The lighting requirements for a space are determined by the need to provide:

- adequate illumination for safety and movement;
- conditions which will facilitate visual performance and colour perception;
- acceptable visual comfort for the occupants in the space.

The relative importance of these factors will vary for different applications. The lighting requirements for visual comfort and satisfaction of the occupants, will often exceed the requirements for visual performance alone. For example, the visual task may simply require the discrimination of black symbols on a white background; the colour rendering of the lighting is irrelevant to this task but it is important in making the appearance of the room and occupants acceptable. Variations of the lighting in space and time may also be important for visual satisfaction and can help to meet the interpersonal differences found within groups of people.

Considerations should also be given to the energy used by lighting and to maintenance.

The parameters which need to be specified to ensure good visual conditions and an efficient lighting installation are common to many applications. These are dealt with in Clause 4.

1 Scope

This European Standard defines basic terms and definitions for use in all lighting applications. This European Standard also sets out a framework for the specification of lighting requirements, giving details of aspects which have to be considered when setting those requirements.

2 Normative references

The following referenced documents are indispensable for the application 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.

CIE 17.4:1987, *International lighting vocabulary — Chapter 845: Lighting*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 Eye and vision

3.1.1 adaptation

process by which the state of the visual system is modified by previous and present exposure to stimuli that can have various luminances, spectral distributions and angular subtenses

NOTE 1 The terms light adaptation and dark adaptation are also used, the former when the luminances of the stimuli are of at least several candelas per square metre, and the latter when the luminances are of less than some hundredths of a candela per square metre.

NOTE 2 Adaptation to specific spatial frequencies, orientations, sizes, etc. are recognized as being included in this definition.

[IEC 60050-845:1987/CIE 17.4:1987; 845-02-07]

3.1.2 accommodation

adjustment of the dioptric power of the crystalline lens by which the image of an object, at a given distance, is focused on the retina

[IEC 60050-845:1987/CIE 17.4:1987; 845-02-44]

3.1.3 visual acuity

1. qualitatively: capacity for seeing distinctly fine details that have very small angular separation
2. quantitatively: any of a number of measures of spatial discrimination such as the reciprocal of the value of the angular separation in minutes of arc of two neighbouring objects (points or lines or other specified stimuli) which the observer can just perceive to be separate

[IEC 60050-845:1987/CIE 17.4:1987; 845-02-43]

3.1.4 brightness

luminosity (obsolete)

attribute of a visual sensation according to which an area appears to emit more or less light

[IEC 60050-845:1987/CIE 17.4:1987; 845-02-28]