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Lys og belysning – Lys ved arbejdspladser – Del 2: Udendørs arbejdspladser

Light and lighting – Lighting of work places – Part 2: Outdoor work places

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Light and lighting - Lighting of work places - Part 2: Outdoor work places

Lumière et éclairage - Éclairage des lieux de travail - Partie 2: Lieux de travail extérieurs

Licht und Beleuchtung - Beleuchtung von Arbeitsstätten - Teil 2: Arbeitsplätze im Freien

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European foreword

This document (EN 12464-2:2024) 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of an identical text or by endorsement, at the latest by May 2025, and conflicting national standards shall be withdrawn at the latest by May 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12464-2:2014.

EN 12464-2:2024 includes the following significant technical changes with respect to EN 12464-2:2014:

— A new Clause 4 is introduced to summarize “Symbols and abbreviations”.

— The recommendations given in the tables in Clause 6 are slightly revised, new applications are added where appropriate and take user needs more into account than in the past. Thus, the requirements for necessary illuminance according to Clause 6 are more differentiated including the relevance of context modifiers.

— Variability of light is given more accordance (5.1).

— A maximum for cell grid size is given (5.3.5).

— The graphical representation of the grid cell size as a function of calculation area dimension in Figure 1 (5.3.5) has been extended.

— The environmental zone E0 is introduced (5.5).

— Flicker and stroboscopic effect is updated (5.8).

— Sustainability is updated (5.10).

— A new informative Annex A is introduced to provide “Reflectances of some outdoor materials”.

— A new informative Annex B is introduced to provide additional information on the specific requirements for railway installations that are given in Table 22.

EN 12464, *Light and lighting — Lighting of work places* consists of the following parts:

— *Part 1: Indoor work places*

— *Part 2: Outdoor work places*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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Introduction

To enable people to perform outdoor visual tasks efficiently and accurately, especially during the night, adequate and appropriate lighting should be provided.

The degree of visibility and comfort required in a wide range of outdoor work places is governed by the type and duration of activity.

This document specifies requirements for lighting of tasks in most outdoor work places and their associated areas in terms of quantity and quality of illumination. In addition, recommendations are given for good lighting practice.

It is important that all clauses of the document are followed although the specific requirements are tabulated in the schedule of lighting requirements (see Clause 6).

All photometric quantities are based on photopic photometry.

The original standard EN 12464-2:2007 was already further developed in its first revision EN 12464-2:2014. It specifies the requirements for good lighting solutions rather than giving design guidelines. With the experience of applying the standard, next steps are taken in the development of this new edition and human and user needs are given broader acknowledgement. Technologically LED has taken over as the main light source from previous technologies. The revision of the standard is aligned to the parallel standard for indoor workplaces EN 12464-1:2021.

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Light and lighting – Lighting of work places –

Part 2:
Outdoor work places

1 Scope

This document specifies lighting requirements for humans in outdoor work places, which meet the needs for visual comfort and performance of people having normal, or corrected to normal ophthalmic (visual) capacity. Usual visual tasks and the avoidance of obtrusive light are considered.

This document specifies requirements for lighting solutions for most outdoor work places and their associated areas in terms of quantity and quality of illumination. In addition, recommendations are given for good lighting practice. This document does not specify lighting requirements with respect to the safety and health of people at work and has not been prepared in the field of application of Article 153 of Treaty on the Functioning of the European Union although the lighting requirements, as specified in this document, usually fulfil safety needs.

NOTE Lighting requirements with respect to the safety and health of workers at work can be contained in Directives based on Article 153 of Treaty on the Functioning of the European Union, in national legislation of member states implementing these directives or in other national legislation of member states.

This document neither provides specific solutions, nor restricts the designers' freedom from exploring new techniques nor restricts the use of innovative equipment. The illumination can be provided by daylight, electric lighting or a combination of both.

This document is not applicable for the lighting of indoor work places and underground mining or emergency lighting. For indoor work places, see EN 12464-1 and for emergency lighting, see EN 1838 and EN 13032-3.

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.

EN 12665, *Light and lighting — Basic terms and criteria for specifying lighting requirements*

EN 17037, *Daylight in buildings*

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

ISO/CIE TS 22012, *Light and lighting — Maintenance factor determination — Way of working*