INTERNATIONAL STANDARD

ISO/CIE 8995-3

First edition
2018-03

Lighting of work places —

Part 3: Lighting requirements for safety and security of outdoor work places

Éclairage des lieux de travail —

Partie 3: Exigences requises de l'éclairage des lieux de travail extérieurs en matière de sûreté et de sécurité

Reference number
ISO/CIE 8995-3:2018(E)

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

CIE Central Bureau
Babenbergerstraße 9/9A
A-1010 Vienna, Austria
Phone: +43 1 714 3187
Fax: +41 22 749 09 47
Email: ciecb@cie.co.at
Website: www.cie.co.at

Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by CIE and Technical Committee ISO/TC 274, *Light and lighting*.

This first edition cancels and replaces ISO 8995-3:2006/CIE S 016:2005, of which it constitutes a minor revision. (ISO 8995-3:2006/CIE S 016:2005 was prepared by CIE Division 5.)

A list of all parts in the ISO 8995 series can be found on the ISO website.

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Introduction

To enable people to perform visual tasks efficiently and accurately, especially during the night, adequate and appropriate lighting has to 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.

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Lighting of work places —

Part 3: Lighting requirements for safety and security of outdoor work places

1 Scope

This document specifies the lighting requirements which will contribute to the visual needs for safety and security within outdoor work places.

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.

CIE S 015, *Lighting of outdoor work places*

CIE S 017, *ILV: International Lighting Vocabulary*

CIE 112, *Glare evaluation system for use within outdoor sports- and area lighting*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in CIE S 017 and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
maintained average illuminance
$\bar{E}_{\mathrm{m}}$
value below which the average illuminance on the specified surface is not allowed to fall

Note 1 to entry: It is the average illuminance at the time maintenance should be carried out.

[SOURCE: CIE S 017/E:2011, Term 17-750]

3.2
illuminance uniformity
U_{o}
ratio of minimum illuminance to average illuminance on a surface

[SOURCE: CIE S 017/E:2011, Term 17-552]

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3.3
glare rating limit
$R_{G,L}$
maximum allowed value given by the CIE Glare Rating system

[SOURCE: CIE S 017/E:2011, Term 17-494]

3.4
colour rendering index
R
measure of the degree to which the psychophysical colour of an object illuminated by the test illuminant conforms to that of the same object illuminated by the reference illuminant, suitable allowance having been made for the state of chromatic adaptation

[SOURCE: CIE S 017/E:2011, Term 17-222]

3.5
CIE 1974 general colour rendering index
R_a
mean of the CIE 1974 special colour rendering indices for a specified set of eight test colour samples

[SOURCE: CIE S 017/E:2011, Term 17-154]

4 Lighting requirements for safety and security

NOTE In the following Table 1:

— Column 2 gives the maintained average illuminance, $\bar{E}_m$ on the reference surface for the area, task or activity given in column 1.

— Column 3 gives the minimum illuminance uniformity, U_o, on the reference surface for the area, task or activity given in column 1.

— Column 4 gives the Glare Rating limit, $R_{G,L}$, where applicable to the situations listed in column 1.

— Column 5 gives the minimum CIE 1974 general colour rendering index, R_a, for the situation listed in column 1.

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