

Ergonomics - Accessible design - Specification of age-related luminance contrast for coloured light (ISO 24502:2010)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 24502:2011 sisaldab Euroopa standardi EN ISO 24502:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.01.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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English Version

Ergonomics - Accessible design - Specification of age-related
luminance contrast for coloured light (ISO 24502:2010)

Ergonomie - Conception accessible - Spécification du
contraste de luminance lié à l'âge pour la lumière colorée
(ISO 24502:2010)

Ergonomie - Zugängliche Gestaltung - Leitlinien für die
Spezifikation des altersbezogenen Leuchtdichte-Kontrastes
für farbiges Licht (ISO 24502:2010)

This European Standard was approved by CEN on 14 December 2010.

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Foreword

This document (EN ISO 24502:2010) has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with Technical Committee CEN/TC 122 "Ergonomics" 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of an identical text or by endorsement, at the latest by June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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

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Endorsement notice

The text of ISO 24502:2010 has been approved by CEN as a EN ISO 24502:2010 without any modification.

Contents

Page

| | |
|--|----|
| Foreword | iv |
| Introduction..... | v |
| 1 Scope..... | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 2 |
| 4 Age-related luminance contrast..... | 3 |
| 5 Using age-related luminance contrast | 6 |
| Annex A (informative) An example of calculation and application of age-related luminance contrast..... | 7 |
| Bibliography..... | 10 |

Introduction

Although the proportion of older people is increasing in many countries, the care for better visibility of signs and displays is not sufficiently taken for those older people. This prevents older people from actively being involved in social activities, as well as from living their life safely and comfortably. This International Standard provides a method of calculating age-related luminance contrast that can be used for assessing and designing signs and displays in our visual environment, so that they are clearly visible to older people. This method calculates age-related luminance contrast for people aged from 10 to 79 years based on age-related photopic spectral luminous efficiency of the eye.

This International Standard adopts the principles of accessible design given in ISO/IEC Guide 71 and amplified in ISO/TR 22411.

Ergonomics — Accessible design — Specification of age-related luminance contrast for coloured light

1 Scope

This International Standard specifies the age-related luminance contrast of any two lights of different colour seen by a person at any age, by taking into account the age-related change of spectral luminous efficiency of the eye.

This International Standard provides a basic method of calculation that can be applied to the design of lighting, visual signs and displays. It applies to light, self-luminous or reflected, in visual signs and displays seen under moderately bright conditions called photopic vision and whose spectral radiance is known or measurable. It does not apply to light seen under darker conditions called mesopic or scotopic vision.

This International Standard specifies the luminance contrast for people aged from 10 to 79 years who have had no medical treatment or surgery on their eyes that may affect their spectral luminous efficiency.

This International Standard does not apply to visual signs and displays seen by people with colour defects whose spectral luminous efficiency is different from those with normal colour vision, nor those seen by people with low vision.

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.

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

ISO 3864-4:—²⁾, *Graphical symbols — Safety colours and safety signs — Part 4: Colorimetric and photometric properties of safety sign materials*

ISO 9241-302:2008, *Ergonomics of human-system interaction — Part 302: Terminology for electronic visual displays*

ISO 9241-303:2008, *Ergonomics of human-system interaction — Part 303: Requirements for electronic visual displays*

ISO 23539/CIE S 010, *Photometry — The CIE system of physical photometry*

CIE 15, *Colorimetry*

CIE 17.4-1987, *International lighting vocabulary*

1) To be published. (Revision of ISO 3864-1:2002)

2) To be published.