



SLOVENSKI STANDARD SIST EN ISO/CIE 11664-3:2019

01-september-2019

Nadomešča:
SIST EN ISO 11664-3:2013

Kolorimetrija - 3. del: Barvne vrednosti CIE (ISO/CIE 11664-3:2019)

Colorimetry - Part 3: CIE tristimulus values (ISO/CIE 11664-3:2019)

Farbmetrik - Teil 3: CIE-Farbwerte (ISO/CIE 11664-3:2019)

Colorimétrie - Partie 3: Composantes trichromatiques CIE (ISO/CIE 11664-3:2019)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: **EN ISO/CIE 11664-3:2019**

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>

ICS:

17.180.20	Barve in merjenje svetlobe	Colours and measurement of light
-----------	----------------------------	----------------------------------

SIST EN ISO/CIE 11664-3:2019

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO/CIE 11664-3:2019

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO/CIE 11664-3

July 2019

ICS 17.180.20

Supersedes EN ISO 11664-3:2013

English Version

**Colorimetry - Part 3: CIE tristimulus values (ISO/CIE
11664-3:2019)**

Colorimétrie - Partie 3: Composantes trichromatiques
CIE (ISO/CIE 11664-3:2019)

Farbmétrie - Teil 3: CIE-Farbwerte (ISO/CIE 11664-
3:2019)

This European Standard was approved by CEN on 24 May 2019.

CEN 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 CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Turkey and United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO/CIE 11664-3:2019](https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019)
<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>

European foreword

This document (EN ISO/CIE 11664-3:2019) has been prepared by Technical Committee CEI "International Commission on Illumination" in collaboration with Technical Committee CEN/TC 139 "Paints and varnishes" 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 January 2020, and conflicting national standards shall be withdrawn at the latest by January 2020.

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 ISO 11664-3:2013.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Turkey and the United Kingdom.

iTeh STANDARD PREVIEW
Endorsement notice
 (standards.iteh.ai)

The text of ISO/CIE 11664-3:2019 has been approved by CEN as EN ISO/CIE 11664-3:2019 without any modification.

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO/CIE 11664-3:2019

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>

INTERNATIONAL STANDARD

ISO/CIE 11664-3

First edition
2019-06

Colorimetry — Part 3: CIE tristimulus values

Colorimétrie —

Partie 3: Composantes trichromatiques CIE

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO/CIE 11664-3:2019

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>



Reference number
ISO/CIE 11664-3:2019(E)

© ISO/CIE 2019

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO/CIE 11664-3:2019

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO/CIE 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Published in Switzerland

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

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and abbreviations	2
5 Standard method	3
5.1 General	3
5.2 Calculation of tristimulus values	3
5.3 Normalizing constant for self-luminous light sources	4
5.4 Normalizing constant for reflecting or transmitting objects	4
5.5 CIE 1964 standard colorimetric system	5
6 Abridged methods	5
6.1 General	5
6.2 Abridged method for data at 5 nm intervals or less	5
6.3 Abridged method for 10 nm or 20 nm data for reflecting or transmitting objects	5
6.4 Abridged method for 10 nm or 20 nm data for self-luminous light sources	6
7 Supplementary treatment of input data	6
7.1 General	6
7.2 Extrapolation	7
7.3 Interpolation	7
7.4 Bandwidth	7
8 Chromaticity coordinates	8
9 Numerical procedures	8
10 Presentation of results	8
Bibliography	9

ISO/CIE 11664-3:2019(E)

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by the International Commission on Illumination (CIE) in cooperation with Technical Committee ISO/TC 274, *Light and lighting*.

This first edition of ISO/CIE 11664-3 cancels and replaces ISO 11664-3:2012 | CIE S 014-3:2011, of which it constitutes a minor revision, incorporating minor editorial updates.

A list of all parts in the ISO 11664 and ISO/CIE 11664 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Colour stimuli with different spectral distributions can look alike. An important function of colorimetry is to determine which stimuli look alike to a given observer with a given set of colour-matching functions. This is done by calculating a set of three tristimulus values for each stimulus. Equality of tristimulus values indicates equality of colour appearance under equal irradiation and viewing conditions. This document is based on long-standing CIE recommendations (see CIE 15^[1]) for the calculation of tristimulus values.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO/CIE 11664-3:2019

<https://standards.iteh.ai/catalog/standards/sist/0804d7b5-730d-4c8e-b09a-84d4a52bc44c/sist-en-iso-cie-11664-3-2019>