# INTERNATIONAL STANDARD

ISO/CIE 11664-3

First edition 2019-06

### Colorimetry —

Part 3: **CIE tristimulus values** 

Colorimétrie — Partie 3: Composantes trichromatiques CIE

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ISO/CIE 11664-3:2019

https://standards.iteh.ai/catalog/standards/iso/ba08c638-9ae6-4e08-bc53-50edf2d7a9e6/iso-cie-11664-3-2019



## iTeh Standards (https://standards.iteh.ai) Document Preview

ISO/CIE 11664-3:2019

https://standards.iteh.ai/catalog/standards/iso/ba08c638-9ae6-4e08-bc53-50edf2d7a9e6/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

001	ntents	Page
Fore	word	iv
Intro	oduction	v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviations	2
5	Standard method 5.1 General 5.2 Calculation of tristimulus values 5.3 Normalizing constant for self-luminous light sources 5.4 Normalizing constant for reflecting or transmitting objects 5.5 CIE 1964 standard colorimetric system	3 4 4
6	Abridged methods 6.1 General 6.2 Abridged method for data at 5 nm intervals or less 6.3 Abridged method for 10 nm or 20 nm data for reflecting or transmitting objects 6.4 Abridged method for 10 nm or 20 nm data for self-luminous light sources	5 5 5
7	Supplementary treatment of input data 7.1 General 7.2 Extrapolation 7.3 Interpolation 7.4 Bandwidth	7 7 7
8	Chromaticity coordinates Ument Preview	8
9	Numerical procedures	8
10	Presentation of results ISO/CIE 11664-3:2019	8
stand	ards.iteh.ai/catalog/standards/iso/ba08c638-9ae6-4e08-bc53-50edf2d7a9e6/iso-cie-11664-	3-2019 <b>a</b>

#### 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 <a href="www.iso.org/directives">www.iso.org/directives</a>).

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 <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

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 <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

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 <a href="https://www.iso.org/members.html">www.iso.org/members.html</a>.

#### 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 Standards (https://standards.iteh.ai) Document Preview

ISO/CIE 11664-3:2019

https://standards.iteh.ai/catalog/standards/iso/ba08c638-9ae6-4e08-bc53-50edf2d7a9e6/iso-cie-11664-3-2019

## iTeh Standards (https://standards.iteh.ai) Document Preview

ISO/CIE 11664-3:2019

https://standards.iteh.ai/catalog/standards/iso/ba08c638-9ae6-4e08-bc53-50edf2d7a9e6/iso-cie-11664-3-2019