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Interested committees:

Title: Draft BS ISO 18937-3 Imaging materials - Methods for measuring indoor light stability of photographic prints. Part 3: LED lamp exposure.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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Submission of Comments

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 18937-3

Imaging materials — Methods for measuring indoor light stability of photographic prints —

Part 3: LED lamp exposure

ICS: 37.040.20

ISO/TC 42

Secretariat: **ANSI**

Voting begins on:
2025-03-04

Voting terminates on:
2025-05-27

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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).

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).

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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 Technical Committee ISO/TC 42, *Photography*.

This new multi-part edition cancels and replaces ISO 18937:2020 (ed. 2).

A list of all parts in the ISO 18937 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.

It is the intention of the ISO 18937-3 project leadership to update the document every five years to reflect the changes in LED lighting for the covered use case groups, so other technologies may also be represented in future versions of this document.

Introduction

The 18937 series of test methods have been written for the determination of the indoor light stability of photographic prints. ISO 18937-3 is an addition to the series due to the increasing importance of LED lighting.

[Annex A](#) is a useful reference for the basic concept of the test. LED lamps are rapidly replacing incandescent and fluorescent lamps because of their high electrical efficiency, much longer lifetimes, and superior environmental and safety characteristics. This test method will be important to the end users of LED lamps for various use cases: home, office, and commercial applications; and museum, gallery, archive, and other cultural heritage applications. In addition, manufacturers of printers and printing materials will be able to use this method to test and to improve their print materials, equipment, and processes.

The type of light source specified for use in this part of ISO 18937 is an LED lamp with a relative spectral irradiance that conforms to one of the tables specified in [Clause 6](#) for the two groups of use cases. See illustrative [Annexes B](#) and [C](#) for descriptions and explanations of LED lighting technology, the ability of LED lights to render colours, and the metrics by which colour rendering are assessed.

Phosphor-converted blue LED lamps (as of 2024) represent the majority of LED lamps used in home, office, and commercial facilities. These lamps are relatively low in price, have high electrical efficiency, and many of them can provide high colour rendering with R_a of 90+. These LED lamps are available in a variety of correlated colour temperatures (CCT), and some of the lamps are tunable and may be set by the user to several CCT values. These choices of CCT may be influenced by the time of day, individual preferences, as well as cultural and geographic customs. For this use case group a CCT of 5 000 K, which corresponds to natural outdoor daylight in the early morning or late afternoon, is specified.

Museums, galleries, and archives often use LEDs of approximately 3 000 K CCT because their light is similar in appearance to that of the tungsten-halogen lamps that have been adopted for most display applications in recent years. Many of the lamps used in these applications have extremely high colour rendering, with R_a of 95+. For this use case group phosphor-converted blue LED lamps with a CCT of 3 000 K are specified. The LED lamps as specified in [Tables 1](#) and [3](#) of [Clause 6](#) have very little UV content.