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Second edition
2021-03

Optics and photonics — Measurement of reflectance of plane surfaces and transmittance of plane parallel elements

Optique et photonique — Mesurage du facteur de réflexion des surfaces planes et du facteur de transmission des éléments à plan parallèle



Reference number
ISO 15368:2021(E)

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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 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 172, *Optics and photonics*, Subcommittee SC 1, *Fundamental standards*.

This second edition cancels and replaces the first edition ISO 15368:2001 which has been technically revised. The main changes compared to the previous edition are as follows:

- Throughout the document, descriptions of the use of Fourier transform spectrometer instruments have been expanded and added where appropriate to an equivalent level as those of monochromator instruments.
- Throughout the document, the term “light” has been replaced with “optical radiation” to reflect that this standard’s spectral range extends beyond the visible.

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.

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Introduction

Measurements of reflectance and transmittance using spectrophotometers are the most fundamental methods for the characterization of optical components. Since the spectrophotometric methods are basic and normal, they are extensively used and provide measurement data over a wide range of wavelengths.

This document describes the measurement of reflectance and transmittance using spectrophotometers, which provides data with high reproducibility and repeatability.