SLOVENSKI STANDARD
SIST ISO 14807:2011

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Fotografija - Transmisijski in refleksijski denzitometri - Metoda za določanje zmogljivosti

Photography - Transmission and reflection densitometers - Method for determining performance

Photographie - Densitomètres à transmission et à réflexion - Méthode pour la déterminaiton de la performance

Ta slovenski standard je istoveten z: **ISO 14807:2001**

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INTERNATIONAL STANDARD

ISO 14807

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Photography — Transmission and reflection densitometers — Method for determining performance

Photographie — Densitomètres à transmission et à réflexion — Méthode pour la détermination de la performance

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 14807 was prepared by Technical Committee ISO/TC 42, *Photography*.

Introduction

Over the past few years, the subject of densitometer performance specifications has been discussed at length, with the observation made that the densitometer customer is met with a plethora of claims and specifications, in a variety of formats, pertaining to densitometer performance. Furthermore, various manufacturers have often used different terminology for describing what is speculated to be the same characteristic. With this in mind, this International Standard was developed and it identifies three characteristics of performance: ISO repeatability, ISO stability and ISO bias estimate. Standardized methods for evaluating these characteristics are presented herein. Any or all three of these characteristics can be evaluated and used to describe the performance of an individual densitometer and will be useful in comparisons of the performance of densitometers.

The first two of these characteristics, ISO repeatability and ISO stability, are evaluated in such a way that, by use of suitable periodic sampling of production, a densitometer manufacturer can report average or typical repeatability and stability as specifications for a particular class, type or model of densitometer. However, ISO bias estimate cannot necessarily be meaningfully averaged over such a class, type or model, since by determining a mean bias estimate, any instruments that are biased positively will be offset by any that are biased negatively. Because of this, bias estimate for a class, type or model of densitometer (if determined as a simple arithmetic mean of the bias estimates determined for individuals of that class, type or model) is of limited (if any) value and should not be reported. If determined as such an arithmetic mean, it may only be meaningful if that entire class, type or model is fraught with a systematic design defect. There is currently no agreement as to the most meaningful way to provide an ISO bias estimate for a class, type or model of densitometer.

The standardized methods for determination of ISO repeatability and ISO stability provide manufacturers with a uniform basis for stating densitometer performance characteristics as specifications, thereby providing the customer with the most useful information.

To clarify and provide mutual understanding, a list of definitions applicable to the performance characteristics has been provided.

Photography — Transmission and reflection densitometers — Method for determining performance

1 Scope

This International Standard defines a common set of reporting parameters and describes the methods to be used in the determination and presentation of individual densitometer performance and manufacturer-reported performance specifications. This International Standard applies to transmission and reflection densitometers typically manufactured for and used by the photographic, graphic arts and radiographic trades.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 5-1:1984, *Photography — Density measurements — Part 1: Terms, symbols and notations*

ISO 5-2:2001, *Photography — Density measurements — Part 2: Geometric conditions for transmission density*

ISO 5-3:1995, *Photography — Density measurements — Part 3: Spectral conditions*

ISO 5-4:1995, *Photography — Density measurements — Part 4: Geometric conditions for reflection density*

ISO 554:1976, *Standard atmospheres for conditioning and/or testing — Specifications*

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

NOTE There are a number of terms that are commonly used in connection with the subject of measurement, such as bias, repeatability, stability and traceability. One can avoid confusion by using such terms in a way that is consistent with other international documents. Definitions of many such terms are given in the *International Vocabulary of Basic and General Terms in Metrology*[2] [1)] , the title of which is commonly abbreviated, as VIM. The VIM was developed by ISO Technical Advisory Group 4 (TAG 4).

3.1
true value (of a quantity)
value consistent with the definition of a given particular quantity

NOTE 1 This is a value that would be obtained by a perfect measurement.

1) Throughout this International Standard, raised numbers in square brackets refer to informative documents listed in the bibliography.