

First edition
2015-07-01

Information technology — Biometric sample quality —

Part 6: Iris image data

*Technologies de l'information — Qualité d'échantillon biométrique —
Partie 6: Image d'iris*

Reference number
ISO/IEC 29794-6:2015(E)





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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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 document 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 and IEC 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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/IEC JTC 1, *Information technology, SC 37, Biometrics*.

ISO/IEC 29794 consists of the following parts, under the general title *Information technology — Biometric sample quality*:

- *Part 1: Framework*
- *Part 4: Finger image data*
- *Part 5: Face image data* (Technical Report)
- *Part 6: Iris image data*

ISO/IEC 29794 will be prepared to accommodate new, additional parts that address other modalities specified by ISO/IEC 19794, with part numbers and titles aligning appropriately.

Introduction

The assessment of biometric sample quality through the calculation of quality metrics can be used to predict the resulting identification accuracy in the framework of a given biometric system. With proper use, quality metrics can enhance the functionality of a biometric system. For example they can provide feedback regarding the integrity of collected biometric data during the enrolment or identification process.

The purpose of this part of ISO/IEC 29794 is to define terms and quantitative methodologies relevant to characterizing the quality of iris images and to assess their potential for high confidence biometric match decisions.

ISO/IEC 19784-1 and ISO/IEC 19785-1 standards allocate a quality field and specify a quality score range applicable to iris images with a qualitative foundation. ISO/IEC 19794-6 includes an informative annex covering the subject of iris image capture and provides image quality guidelines. However, these International Standards do not contain specific content to guide the quantitative formation of iris image quality metrics or the interpretations of such metrics. This part of ISO/IEC 29794 establishes required ranges of covariate values where definitive empirical data exists to justify such ranges. In other cases, ranges of covariate values are specified as non-normative recommendations.

This part of ISO/IEC 29794 is structured as follows. The first five Clauses state Scope, Conformance, Normative references, Terms and definitions, and Acronyms. [Clause 6](#) specifies a set of quality metrics for assessing the quality of iris images. Some of the metrics are declared as normative, as their impacts on recognition rates have been quantified, while others are only informative, allowing their use as they may provide valuable information for further stages in the biometric system. Some of the metrics in [Clause 6](#) are applicable to the analysis of single images, while others are applicable to assessing the utility of a given pair of images for mutual comparison.

[Clause 7](#) is dedicated to provide guidance to acquisition device manufacturers by defining quality parameters that shall be considered for generating conformant iris images.

[Clause 8](#) establishes encoding of the iris image quality data record.