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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 48075.2020-2026

**Eyewear display - Part 20-20: Fundamental measurement
methods - Image quality
(English Translation)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 20-20 of GB/T 48075 "Eye-Wearing Displays". GB/T 48075 has already published the following parts.

--Part 20-10.Basic Test Methods for Optical Performance;

--Part 20-20.Basic Test Methods for Image Quality;

--Part 22-10.Optical performance of AR special test methods this document is equivalent to IEC 63145-20-20:2019 "Eye-worn displays - Part 20-20.Basic test methods - Image quality".

The following minimal editorial changes have been made to this document.

a) The full English name of "CCD" in 3.2 is corrected to "charge-coupled device" to ensure consistency of the abbreviation;

c) The informative reference to "ISO 19476" in 5.2.1.3 is corrected to "ISO/CIE 19476";

d) To avoid ambiguity, the phrase "the angular accuracy and translation accuracy should not be lower than" in sections 5.2.2.2 and 5.2.2.3 is corrected to "should not be lower than".

"greater than";

e) Add "%" to formula (6) to make it easier to understand and express the completeness.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of Electronic Display Devices (SAC/TC 547).

Introduction

To meet the needs of my country's manufacturing, inspection, and import/export trade of eye-wearing display products, a series of standards for eye-wearing displays have been formulated.

GB/T 48075 "Eye-Wearing Displays" is proposed to consist of the following parts.

--Part 1-2.Terminology. The purpose is to define eye-worn displays such as augmented reality, virtual reality, and mixed reality, and their image or video rendering...

A term related to dyeing.

--Part 20-10.Basic Test Methods for Optical Performance. The aim is to describe the standard measurement conditions and...

--Part 20-20.Basic Test Methods for Image Quality. The aim is to describe the standard

measurement conditions for image quality in eye-worn displays and...

Measurement methods.

--Part 21-20.Special Test Methods for VR Image Quality - Screen Door Effect. The aim is to describe standard measurement criteria for the screen door effect.

Components and testing methods.

--Part 22-10.Optical Performance of AR-Specific Test Methods. The aim is to describe the optical performance of (optical) see-through augmented reality eye-worn displays.

Standard measurement conditions and methods for the optical characteristics and imaging quality of displays.

--Part 22-20.AR-Specific Test Methods for Image Quality. The aim is to describe the standards for image quality in augmented reality eye-wear displays.

Preliminary measurement conditions and methods.

Eye-worn display

Part 20-20.Basic Testing Methods Image quality

1 Scope

This document describes the standard measurement conditions and methods for image quality of eye-worn displays.

This document applies to both non-see-through (virtual reality "VR" glasses) and see-through (augmented reality "AR" glasses) devices that use virtual optical maps.

Like an eye-worn monitor.

This document does not apply to contact lens-type eye-wear displays and direct retinal projection eye-wear displays.

Note: The definition of eye-worn displays can be found in IEC TR 63145-1-1:2018, and the definition of see-through displays can be found in ISO 9241-302:2008, 3.5.45.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

This document.

ISO 9241-302 Human-computer interaction ergonomics - Part 302: Terminology for electronic vision displays tem interaction-Part 302: Terminology for electronic visual displays) IEC 63145-20-10 Eyewear display - Part 20-10.Basic test methods for optical

performance Fundamental measurement methods-Optical properties) Note. GB/T 48075.2010-2026 Ocular Displays - Part 20-10.Basic Test Methods - Optical Performance (IEC 63145-20-10:2019, IDT)

3.1 Terms and Definitions

The terms and definitions defined in IEC 63145-20-10 and ISO 9241-302 apply to this document.

The URLs for the terminology databases maintained by ISO and IEC for standardization are as follows.

Note 1: Terms related to eye-worn displays will be defined in the specific project.

Note 2: For some terms related to eye-worn displays, see IEC TR 63145-1-1:2018.

3.2 Abbreviations

The following abbreviations apply to this document.

AR. Augmented Reality CCD. Charge-coupled device CPD. Cycles per degree DUT. Device under test