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JJF

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

JJF 1492-2014

**Calibration Specification for Reflection Densitometers
(English Translation)**

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Introduction

JJF 1071-2010 "National Calibration Specifications writing rules", JJF 1001-2011 "common terminology and measurement Definitions ", JJF 1059.1-2012" Evaluation and Expression of Uncertainty in Measurement "constitute a common norm-setting Basic series specifications.

This specification with reference to GB/T 11501-2008 "photographic density measurements - Part 3. Spectral conditions" (ISO 5-3.

1995, IDT), GB/T 12823.4-2008 "photographic density measurements - Part 4. Geometric reflection density strip Member "(ISO 5-4:1995, IDT), GB/T 23649-2009" printing technology for printing process control reflection Density meter optics, geometry and metrology requirements "(ISO 14981:2000, IDT) write.

GB/T 11501-2008 defined spectral reflection density conditions, GB/T 12823.4-2008 defines anti Shoot density geometry, GB/T 23649-2009 standard specifies the color coordinates color reflecting plate. This specification is in Three standard for calibration

developed on the basis of specifications, the main technical changes are as follows.

- Instruments and apparatus described principle schematics (see 4);
- The technical specifications and standards traceable way (see 6.2);
- Specific method reflective densitometer calibration (see 7);
- The format of the instrument calibration and calibration certificate of the original records (see Appendix A and Appendix B);
- Calibration uncertainty assessment paradigm (see Appendix C).

The specification for the first time to develop.

Reflective densitometer calibration specification

1 Scope

The specification for a reflection type optical densitometer visual reflection density and color reflection density calibration.

2. References

JJF 1032-2005 optical radiation measurement terminology and definitions GB/T 11501-2008/ISO 5-3:1995 Photography Density measurements - Part 3. Spectral conditions (ISO 5-3.

1995, IDT)

GB/T 12823.4-2008/ISO 5-4:1995 Photography Density measurement - Part 4. reflection density Geometry (ISO 5-4:1995, IDT) GB/T 23649-2009/ISO 14981:2000 Graphic technology Process control printing reflection densitometer Optics, geometry and metrology requirements (ISO 14981:2000, IDT) for dated references, only the dated edition applies to this specification; undated reference documents Member, the latest edition (including any amendments) applies to this specification.

3 terminology and units of measurement 3.1 reflection factor (R) reflectancefactor Incident radiation in the spectral composition, polarization state under specified conditions and geometry, measured at a specified circular reflector Cone defined by the direction of the reflected radiation flux (or luminous flux) with identical irradiation (or illumination) under ideal conditions diffusely Than the projectile reflection of flux in the same direction, see equation (1).

Phie

Phij

Where.

Phie --- reflected radiation or luminous flux, lm;

Φ_{ij} --- ideal diffuse reflector in the same direction flux, lm.

3.2 reflection density (DR) reflectancefactor (optical) density Reflection factor of 10 to take the reciprocal logarithm, namely $DR = \lg R = -\lg (\Phi_{ie}/\Phi_{ij})$ where.

The DR --- reflection density, in units of 1;

--- R & It reflection factor, unit 1.

3.3 visual density Spectral responsivity and CIEV (λ) transmission and reflection detectors consistent density measured [JJF 1032-2005, General terms 4.87]. It uses DR (SA.V) to represent [GB/T 11501-2008/ISO 5-3.19958.1].