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Altri autori (Persone)	SchandaJanos
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	COLORIMETRY; CONTENTS; Preface; Contributors and Referees; Part I Historic retrospection; 1 Translation of CIE 1931 Resolutions on Colorimetry; Decision 1; Decision 2; Appendix to Decision 2; Decision 3; Decision 3a; Decision 4; Decision 5; 2 Professor Wright's Paper from the Golden Jubilee Book: The Historical and Experimental Background to the 1931 CIE System of Colorimetry; Color mixture and measurement in the Nineteenth Century; American contributions to photometry and colorimetry, 1900-24; The run-up to the 1931 observer: 1924-30; The drama of 1931; Postscript to 1931 Note added in proofReferences; Part II Colorimetric fundamentals; 3 CIE Colorimetry; Introduction; CIE standard colorimetric observers; The CIE 1931 standard colorimetric observer; Determination of the $r(\lambda)$, $g(\lambda)$, $b(\lambda)$ color-matching functions; Derivation of the CIE XYZ trichromatic system from the CIE RGB trichromatic system; Tristimulus values and chromaticity coordinates; CIE 1964 standard colorimetric observer; $k(10)$ in the tristimulus values of self-luminous objects for the 10° Observer; $k(10)$ in the tristimulus values of non-self-luminous objects

for the 10° Observer

Chromaticity coordinates for the 10° observer
Notes on the use of the CIE 1964 standard colorimetric observer; CIE illuminants and sources; CIE standard illuminant A and Planckian radiators; Daylight illuminants; CIE standard illuminant D65; CIE illuminants; CIE sources and simulators for colorimetry; Source A; Sources B and C; Source D65; Standards and recommendations for measuring reflecting/transmitting materials; Terms used in conjunction with transmission and reflection measurement; Phenomena; Quantities to describe reflection and transmission; Measuring geometries

The sample plane and influx geometry
Directional geometries; Quantities using different measuring geometries; Nonstandard geometries; Recommended geometry for transmission measurements; Standards of reflectance; Uniform chromaticity diagram and uniform color spaces; Uniform chromaticity diagram, CIE 1976 UCS diagram; CIE 1976 uniform color spaces; CIE 1976 (L*a*b*) color space, CIELAB color space; CIE 1976 (L*u*v*) color space, CIELUV color space; Descriptors of chromaticity; Dominant/complementary wavelength and purity; Correlated color temperature; Whiteness; Metamerism
Special metamerism index: change in illuminant
Special metamerism index: change in observer; Summary; Appendix A; Appendix B; References; 4 CIE Color Difference Metrics; Introduction; MacAdam's experiments on variable stimuli; Adams' and Nickerson's contribution to color difference evaluation; Constant stimuli experiments; CIE 1976 color difference formulas; Testing and improving CIELAB; Collection of new datasets; Development of CIEDE2000; Further developments; References; 5 Spectral Color Measurement; Introduction; General practice in spectral color measurements; Type of instruments
Use of spectroradiometers for light source color measurement

Sommario/riassunto

Colorimetry: Understanding the CIE System summarizes and explains the standards of CIE colorimetry in one comprehensive source. Presents the material in a tutorial form, for easy understanding by students and engineers dealing with colorimetry. Provides an overview of the area of CIE colorimetry, including colorimetric principles, the historical background of colorimetric measurements, uncertainty analysis, open problems of colorimetry and their possible solutions, etc. Includes several appendices, which provide a listing of CIE colorimetric tables as well as an annotated list
