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Nota di contenuto	Title Page; Copyright Page; FOREWORD TO DOVER EDITION; Table of Contents; CHAPTER I - REFLECTION AND REFRACTION OF LIGHT; Ray-projector; Laws of Reflection.; Angular Magnification by a Mirror.; Image in a Plane Mirror is same distance behind Mirror as Object is in Front.; Reflection by two Mirrors Inclined at a Finite Angle.; Mirrors at 90 degrees.; Mirrors at 45 degrees.; Reversals caused by Reflecting Systems.; Binocular Prism.; Roof-Edge principle.; Reflection by Roof Mirrors combined with one or more Plane Mirrors.; Number of Images in two Inclined Plane Mirrors. Corner Cube or Tetrahedron.Concave and Convex Mirrors.; Laws of Refraction.; Critical Angle and Total Internal Reflection.; Refraction through a Prism.; Action of a Lens.; Lens Aberrations.; Telescopes.; Erecting Prism.; Ray-Tracing Methods.; B.K. Ray-plotter.; The Instrument in Use.; General Rule for Use of the Instrument.; Trigonometrical Ray-tracing.; CHAPTER II - FOCAL LENGTH MEASUREMENTS; Description of Optical Bench; Optical Bench Experiments.; Measurement of the Radius of Curvature of a Concave Mirror or Concave Lens Surface. Radius of Curvature of a Convex Mirror or a Convex Lens Surface.The Solving of " Thin " Lens and Spherical Mirror Problems.; Focal Length of

a Convex Lens (Thin).; Focal Length of " Thin " Concave Lenses.; Lens Systems-Two " Thin" Lenses in Contact.; Two " Thin " Lenses Separated by a Known Distance.; Focal Length Measurement by Newton's Method.; "Thick" Lenses and Lens Systems.; Focal Length-Magnification Method.; Negative Thick Lens.; Faco-Collimator.; Nodal Slide Method.; CHAPTER III - THE EYE; Emmetropia and Ametropia.; Near and Far Points.; The Correction of Ametropia.
Working Model of the Human Eye.Resolving Power.; CHAPTER IV - THE TELESCOPE; Model Telescopes.; Astronomical Telescope.; Magnifying Power.; Magnification-Direct Determination.; Determination of the Magnifying Power from the Diameters of the Entrance- and Exit-pupils.; Measurement of Field of View.; Galilean Telescope.; Huygenian Eyepiece.; Ramsden Eyepiece.; Four-Lens Terrestrial Eyepiece.; Reflecting Telescope.; Measurements on Manufactured Telescopes.; Magnification-Direct Observation.; Magnification-Entrance- and Exit-Pupil Method.; Exit-pupil.; Angular Field of View.
Types of Telescope Objectives and Eyepieces.Definition Tests.; Squaring-on Test.; Stray-Light Tests.; Test for Strain.; Resolving Power.; Necessary Power of Eyepiece.; Binocular Telescopic Instruments.; Angular Accommodation.; Apparatus for Adjusting Binocular Telescopes.; Rotation of Image.; Wide Field of View Sighting Telescopes.; Variable-Power Telescopes.; CHAPTER V - THE MICROSCOPE; Visual Acuity.; Magnification.; Hand Magnifier or Simple Microscope.; Compound Microscope.; Optical Bench Model of Microscope.; Measurements. (Primary and Total Magnifications).
Correct Setting-up of the Microscope for General Use.

Sommario/riassunto

This book illustrates basic practical applications of optical principle. Working models of telescopes, microscopes, photographic lenses, and optical projection systems are diagrammed and explained in full, as are the basic experiments for determining accuracy, power, angular field of view, amount of aberration, and all other necessary facts about the instrument. Throughout the book, only elementary mathematics is used, for the benefit of the student and the beginner in the field of optics.The author, an assistant professor at the Imperial College of Science and Technology in London, shows ho