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Sommario/riassunto	The role of optical instruments is very important and affects all areas of human activity, from scientific analysis (such as spectrometry) to recreation and leisure pursuits like photography and television. Optical components are often an essential part of the instrument, but are not always visible. It is therefore useful and important to understand how they work. In this book the reader will find both a review of the most important components currently used, the theoretical foundation for their application, and an example of evolution. To do this, we first supply the basic knowledge in optics necessary for the understanding of the instruments: geometrical optics, photometry, colorimetry, image

analysis and processing, as well as a short description of the sources used: lamps, lasers and semiconductor sources. Optical systems such as zoom lens under different illuminations are discussed. As a first example of application, the evolution of microscopy, up to the most recent technological progress, are given.