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Nota di contenuto	Preface -- Chapter 1. Introduction -- 1.1 Where Do Diffractive Elements Fit in Optics? -- 1.2 A Quick Survey of Diffractive Optics -- 1.3 A Classic Optical Element: The Fresnel Lens -- 1.4 Light Treated as a PropagatingWave -- 1.5 A Physical Optics Element: The Blazed Grating -- 1.6 Fanout Gratings -- 1.7 Constructing the Profile: Optical Lithography -- 1.8 A Theme. Chapter 2. Scalar Diffraction Theory -- 2.1 Rayleigh-Sommerfeld Propagation -- 2.2 Fourier Analysis -- 2.3 Using Fourier Analysis -- 2.4 Diffraction Efficiency of Binary Optics -- 2.5 Extended Scalar Theory -- 2.6 Conclusion -- References. Chapter 3. Electromagnetic Analysis of Diffractive Optical Elements -- 3.1 Scalar Limitations -- 3.2 Plane-wave Spectrum Method -- 3.3 Electromagnetic Diffraction Models -- Effective Media Theory -- References. Chapter 4. Diffractive Lens Design -- 4.1 Basics of Lens Design -- 4.2 Diffractive Optics Lens Design -- 4.3 Efficiency of Multilevel Diffractive Lenses -- 4.4 Hybrid Lenses -- References. Chapter 5. Design of Diffraction Gratings -- 5.1 Introduction -- 5.2 Design Approaches -- 5.3 Design Variables -- 5.4 Direct Inversion -- 5.5 Iterative Design -- 5.6 Conclusion -- References. Chapter 6. Making a DOE -- 6.1 The Profile -- 6.2 Photolithography: A

Method for DOE Fabrication -- 6.3 From Equation to Component -- 6.4 Interplay between Fabrication and Optical Design -- 6.5 Facilities and Substrates -- 6.6 Fabrication of DOEs -- References.
Chapter 7. Photolithographic Fabrication of Diffractive Optical Elements -- 7.1 Photolithographic Processing -- 7.2 Binary Optics -- 7.3 Conclusion -- Reference.
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Sommario/riassunto

This book provides the reader with the broad range of materials that were discussed in a series of short courses presented at Georgia Tech on the design, fabrication, and testing of diffractive optical elements (DOEs). Although there are not long derivations or detailed methods for specific engineering calculations, the reader should be familiar and comfortable with basic computational techniques. This text is not a 'cookbook' for producing DOEs, but it should provide readers with sufficient information to assess whether this technology would benefit their work, and to understand the requirements for using the concepts and techniques presented by the authors.