

1. Record Nr.	UNINA9910966653403321
Autore	Baker Nick V.
Titolo	Daylighting in Architecture : a European Reference Book / / Nick V. Baker, A. Fanchiotti, K. Steemers
Pubbl/distr/stampa	London : , : Routledge, , 2015
ISBN	1-134-07429-8 1-315-06722-6 1-134-07422-0
Edizione	[1st ed.]
Descrizione fisica	1 online resource (381 p.) : illustrations
Disciplina	729.28
Soggetti	Daylighting - Europe Daylighting Architecture, European
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Title Page; Copyright Page; Acknowledgments; Preface; Table of Contents; Introduction; Chapter 1 Daylighting Evolution And Analysis; The Pre-industrial Period; The Industrial Revolution; Daylighting in Art Galleries; Daylighting in UK Schools; The Analytical Approach; Design Tools; The Post-fluorescent Era; European Research and Development; Chapter 2 Light and Human Requirements; Design Constraints ; Design Response ; Visual Comfort Requirements ; Chapter 3 Daylight Data ; Review of Sky Models ; Luminous Efficacy of Daylight ; Results of Measurements ; Sky Type Probabilities Luminous Distribution Algorithms Chapter 4 Photometry of Materials; Surface Photometry Characterisation; Selection of Appropriate Materials; New Materials; Chapter 5 Daylighting Components; General Classification System; The Basic Component: The Window; Description and Performance; Applications: Schools and Offices; Experimental Analysis of Selected Components; Conduction Component: Atrium; Control Elements; Prismatic Systems; Holographic Optical Elements; Recommendations for Control Elements; General Checklist for Design; Chapter 6 Electric Lighting; Lamps; Control Gear; Luminaires Luminaire mounting systemsChapter 7 Control Systems; Controls for

Artificial Lighting Systems; Management Strategies; Examples; Chapter 8 Light Transfer Models ; Direct Illumination; Reflection and Transmission; Calculation Models; Chapter 9 Evaluation and Design Tools; Scale Models; Review of Simplified Design Tools; Review of Computer Codes; Comparison and Validation; Chapter 10 Integrated Energy Use Analysis; Example 1 : ESP; Example 2 : HEATLUX; Example 3 : The LT Method; Future Directions; Chapter 11 Case Study Analysis; The Architectural Design Process  
The Typological Grammar of ArchitectureCase Studies; Methodology and Criteria for Classification; The Morphological Box; Selection and Classification of Daylit Buildings ; Glossary; Appendices; Appendix A Sky Type Probability; Appendix B Daylight Availability; Appendix C Survey of Light Measuring Instruments; Appendix D Guide to Scale Models; Appendix E Survey of Control Systems; Appendix F Review of Design Tools; Appendix G Review of Computer Codes; Appendix H Survey of Artificial Skies; Index

---

## Sommario/riassunto

Typically one third of the energy used in many buildings may be consumed by electric lighting. Good daylighting design can reduce electricity consumption for lighting and improve standards of visual comfort, health and amenity for the occupants. As the only comprehensive text on the subject written in the last decade, the book will be welcomed by all architects and building services engineers interested in good daylighting design. The book is based on the work of 25 experts from all parts of Europe who have collected, evaluated and developed the material under the auspices of the European Commission's Solar Energy and Energy Conservation R&D Programmes.

---