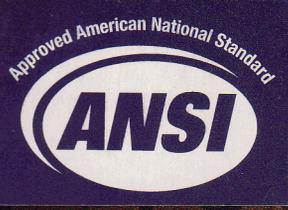
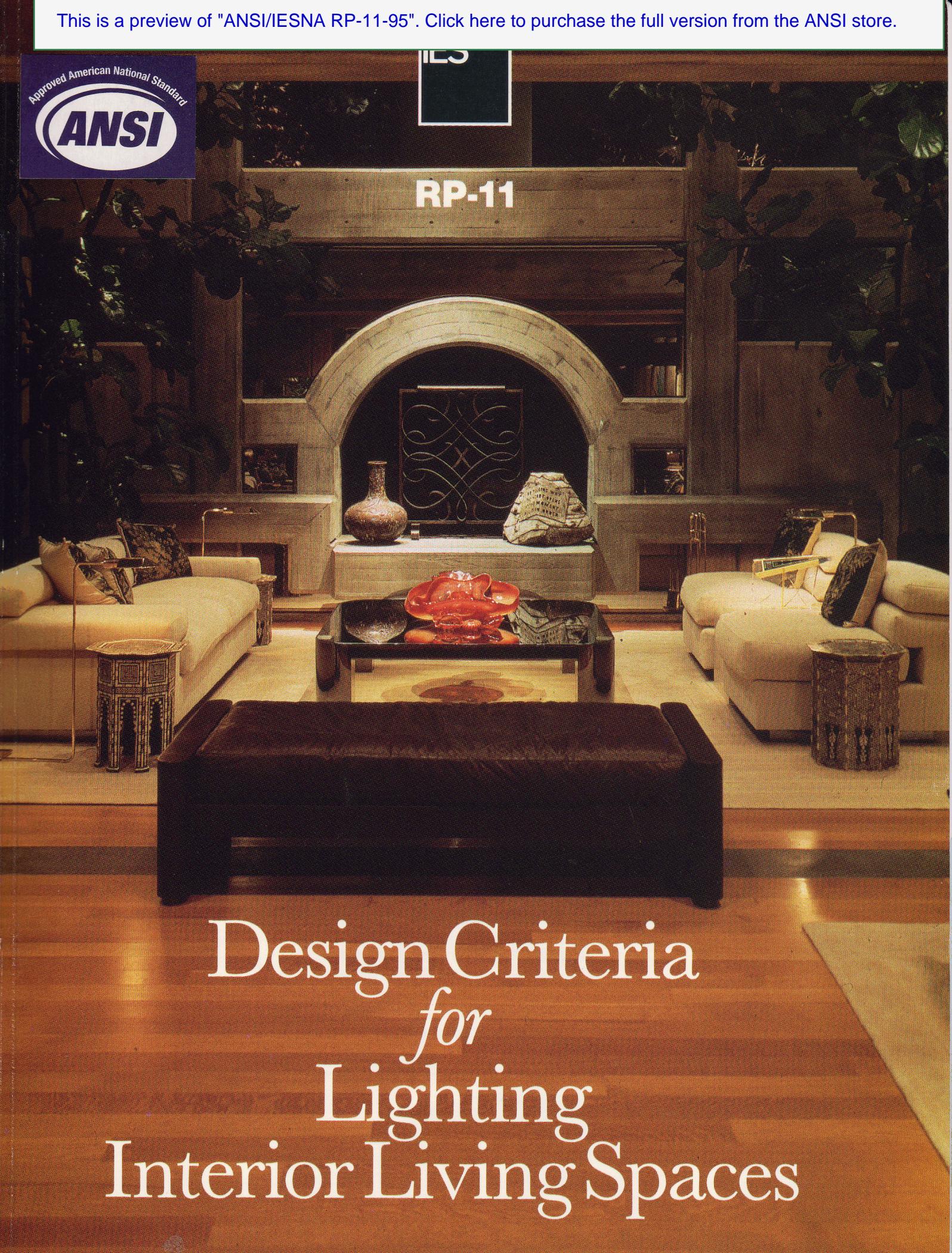


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RP-11



Design Criteria
for
Lighting
Interior Living Spaces

IESNA RP-11-1995

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DEDICATION

The IESNA Residence Lighting Committee
would like it noted that Sidney Feltman
contributed greatly to the development of this document.
The Committee therefore dedicates this recommended practice
to the late Sidney Feltman.

Design Criteria for Lighting Interior Living Spaces

Prepared by the IESNA Residence Lighting Committee

Publication of this Draft Standard for trial use and comment has been approved by the IESNA. Distribution of this draft standard for comment shall not continue beyond June, 1998. It is expected that following this date RP-11, revised as necessary, will be submitted to the American National Standards Institute for approval as an American National Standard. Suggestions for revisions should be directed to IESNA.

Contents

INTRODUCTION	1
1. FACTORS AFFECTING THE LIGHTING PLAN	1
General	1
Human Factors and Life Styles	1
Design Factors	1
2. LIGHTING CRITERIA	2
Quality of Light	2
Brightness Relationships	2
Seeing Zones	2
Reflectance	3
Veiling Reflections	3
Reflected Glare	4
Other Design Considerations	4
3. LIGHT AND COLOR	4
Incandescent Sources	5
Fluorescent Sources	5
High Intensity Discharge Sources	5
Object Color	5
Color Rendition	8
Surface Finish	8
Fading	8
Metamers	8
4. QUANTITY OF LIGHT	9
5. ANALYSIS OF COMMON VISUAL TASKS	10
Reading	11
Kitchen Counter	13
Kitchen Range or Cooktop	13
Kitchen Sink	14
Laundry	14
Ironing or Pressing	15
Grooming	15
Full Length Mirror	16
Dining Area	17
Multi-Purpose Table	18
Table Tennis	18
Hand Sewing	19
Machine Sewing	19
Workbench Hobbies	20
Easel Hobbies	21
Music Study at Piano or Organ	21
Visual Display Terminals (VDTs)	22
6. OTHER DESIGN CONSIDERATIONS	22
Art Created by Light	22
Design Effects	23
7. LIGHTING SYSTEM ELEMENTS	23
Electric Light Sources	23
Daylighting	29
Cold Cathode	37

8. LIGHTING EQUIPMENT FOR INTERIOR LIVING SPACES	38
General	38
Recessed Luminaires	39
Surface-Mounted Ceiling Luminaires	41
Track-Mounted Luminaires	43
Pendant Luminaires	44
Downlighting	45
Exposed Lamp	45
Linear Wall-Mounted Luminaires	45
Portable Luminaires	45
9. ARCHITECTURALLY INTEGRATED LIGHTING	48
10. LIGHTING CONTROLS	50
General	50
Quantity and Placement of Controls	50
Types of Controls	51
Carrier Current Control Systems	51
Dimming Controls	51
Occupancy/Motion Sensors	53
11. CODES AND STANDARDS	53
Code Restrictions on Location of Luminaires	53
Equipment Quality	54
12. GLOSSARY	55
ANNEX A FUNDAMENTAL FACTORS OF TASK AND VISIBILITY	59

Design Criteria for Lighting Interior Living Spaces

INTRODUCTION

This publication is a guide for designing and for teaching lighting. It covers residential living spaces and other interior spaces that are intended to give a residential atmosphere, including waiting rooms, reception areas, eating areas, executive suites, and lounges. This publication defines the lighting problem in detail and gives guidance for choosing from various solutions. The information provided allows freedom of imagination and encourages originality of design. It is intended to help the designer to create spaces that have a richness and variety of light, with adequate task lighting as well as suitable general illumination. The contribution of sparkle, shadow, and color rendition are considered in creating pleasing and flattering living environments. The guide also describes design objectives, criteria for the quantity and quality of illumination, lighting methods, types and use of typical equipment, and electrical energy considerations. Methods for lighting specific visual tasks, such as reading in a chair or at a desk, are presented on a task by task basis. Each task includes a description of the task detail, the task plane, range of recommended illuminance levels, lighting design considerations, and typical equipment locations.

1. FACTORS AFFECTING THE LIGHTING PLAN

1.1 General

Light is an element of design, and like other design elements—color, texture, line, shadow, and form—it can influence the emotional responses of the people occupying the space. The definition and character of a space is greatly dependent on the distribution and pattern of light and shadow. Luminaires also have design qualities and attributes that may be used to strengthen or minimize architectural line, form, pattern, and texture. Design solutions should not only provide the needed illumination, but should enhance the aesthetic qualities of the space. Lighting design concepts begin with an evaluation of people's needs, age, and life style.

1.2 Human Factors and Life Styles

The lighting design of a space should sustain and complement the life style of the people occupying that space. Life styles vary. Among the factors to be considered are: age, personal habits, income level, and practices. Age especially affects lighting levels; higher levels are required as people get older.

Hobbies and personal interests such as the use of electronic equipment, videos, computers, and exercise equipment result in the need for special lighting considerations. Further, many people live in structures where the electrical service and construction require lighting equipment to be portable and/or easily installed and controlled. A way of life, interests, and means may also change, resulting in changes in lighting needs. Lighting systems and controls can be designed for flexibility to meet these changes.

1.3 Design Factors

Certain information is required if the designer is to clearly identify the design problem and develop solutions to meet people's needs.

Considerations When Designing a Lighting System

Occupants:

- age
- number
- interests
- cultural orientation

Use of space:

- tasks to be performed
- life style
- effect to be achieved (serene, stimulating)

Architectural limitations on luminaires and placement:

- size of space (length, width, height)
- ceiling: (accessible from above?)
- type—
 - plaster
 - plasterboard
 - concrete
 - wood
- slope of ceiling
- structural beam/joist spacing/direction
- plenum depth
- insulation
- HVAC ducts/plumbing