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ANSI/IES/ALA RP-11-17

# Lighting for Interior and Exterior Residential Environments



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**Recommended Practice  
for Lighting for Interior and  
Exterior Residential Environments**

Publication of this Recommended Practice  
has been approved by the IES.  
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should be directed to the IES.

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## FOREWORD

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Since 1975 in the United States, there has been federal legislation causing regulation of the energy efficiency of lighting components. At first, lamps were regulated, but later legislation and regulations covered a wider array of lamps and included ballasts and luminaires. IES Standards, recommendations, and guidelines typically take the current legislative and regulatory requirements into account. However, due to timing between document development and printing, implementation dates of regulatory actions, and the life of printed materials, the content of IES documents may not always take into account the very latest lighting regulations that have occurred subsequent to the printing or issue date.

The IES always recommends checking with individuals, organizations, and companies knowledgeable in legislative and regulatory issues pertinent to a project prior to applying the principles and guidelines in this document.

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## INTRODUCTION

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This Recommended Practice is a guide for designing and for teaching lighting. It covers residential living spaces and other areas intended to impart a residential atmosphere. It describes design objectives, criteria for quantity and quality of illuminance, lighting methods, types and uses of equipment, energy use, and electrical code considerations. Various solutions that address residential lighting problems are also presented.

When the owner resident is known during the design phase, the residential living space can be made to embody the most detailed aspects of lighting design due to the end user's emotional, intellectual, and personal involvement with the project. An astute designer will be able to address client preferences and convey their personality, while providing a lighting solution suitable to all potential uses of the space. This type of project may take longer than anticipated whenever the client should connect with and approve of every detail.

A residence is both a person's own private space and a venue for entertaining relatives and friends. When the owner residents and their preferences are known ahead of time, proper lighting techniques are employed to address how they will use their home, accommodating everyday likes and dislikes and

fulfilling specific wishes to give the owners a better living environment. When the home or living space is designed without knowledge of who its eventual occupants will be, the lighting design can still employ design techniques and strategies to create a space that will be acceptable and appreciated by the majority of its occupants.

Residential design is less formulaic than other kinds of lighting design, and each residential project requires a fresh perspective from the lighting designer. Multipurpose as well as dedicated-use types of rooms are now being built in residential projects that provide, at the most personal level, a unique space of refuge, safety, and family activities. Descriptions of some of these room types that have become more commonplace are found in **Annexes A, B and C**.

The use of practical, high-quality lighting is an integral part of good residential lighting design. Certain information in this Recommended Practice document is marked as being of special importance for the lighting of tasks and spaces where users of the space may be elderly or have impaired vision. Also marked for the first time in an IES Recommended Practice document is information intended to make lighting equipment and solutions more resilient, so that lighting can continue to function as needed in the event of storms, earthquakes and other emergencies (see **Section 1.5**).

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## 1.0 FACTORS AFFECTING THE LIGHTING PLAN

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Lighting has a profound effect on people in a space, making it one of the most important elements in interior design. Without light there is no color or shape, no understanding or feeling in the living environment. Lighting creates moods in a space, provides light for tasks, enhances architectural elements, and focuses interest on interior details. Therefore, the first step in determining those aspects of the lighting design most important to the space is gathering information about and understanding the client. This is the initial, "programming" stage.

While input from the client or homeowner is essential, the lighting designer should also seek information from other professionals on the project, including the architect and the interior designer.

### 1.1 Programming

Information about the needs and wishes of the user or occupant (hereafter referred to as the