ANSI/IES RP-43-22

Illuminating
ENGINEERING SOCIETY

RECOMMENDED PRACTICE:
LIGHTING EXTERIOR APPLICATIONS

AN AMERICAN NATIONAL STANDARD

Approved American National Standard
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IES Lighting for Outdoor Public Spaces Committee

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Preface

This preface is not part of ANSI/IES RP-43-22. It is provided for informational purposes only.

This Recommended Practice (RP) does not provide general lighting information that is included in other IES documents. If the reader does not already have this information, it may be obtained as needed from the following IES Standards:

The Lighting Science Series:

- *ANSI/IES LS-1-21, Lighting Science: Nomenclature and Definitions for Illuminating Engineering*
- *ANSI/IES LS-2-20, Lighting Science: Concepts and Language of Lighting*
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- *ANSI/IES LS-5-21, Lighting Science: Color*
- *ANSI/IES LS-6-20, Lighting Science: Calculation of Light and Its Effects*
- *ANSI/IES LS-7-20, Lighting Science: Vision – Eye and Brain*
- *ANSI/IES LS-8-20: Lighting Science: Vision – Perceptions and Performance*

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- *ANSI/IES LP-1-20, Lighting Practice: Designing Quality Lighting for People and Buildings*
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- *ANSI/IES LP-6-20, Lighting Practice: Lighting Control Systems – Properties, Selection, and Specification*
- *ANSI/IES LP-7-20, Lighting Practice: The Lighting Design and Construction Process*
- *ANSI/IES LP-8-20, Lighting Practice: The Commissioning Process Applied to Lighting and Control Systems*
- *ANSI/IES LP-9-20, Lighting Practice: Upgrading Lighting Systems in Commercial and Industrial Facilities*
- *ANSI/IES LP-10-20, Lighting Practice: Sustainable Lighting- An Introduction to the Environmental Impacts of Lighting*
- *ANSI/IES LP-11-20, Lighting Practice: Environmental Considerations for Outdoor Lighting*
- *ANSI/IES LP-12-21, Lighting Practice: IoT Connected Lighting*
- *ANSI/IES LP-13-21, Lighting Practice: Introduction to Resilient Lighting Systems*

1.0 Introduction and Scope

1.1 Introduction

Lighting for the outdoor environment is different from lighting for an interior space. The natural cycle for light is to arrive from the sun and sky during the day and from the stars and moon at night, with gradual changes between dark and light. However, electric lighting is different from the natural cycle in numerous ways.

While recognizing the many benefits of electric lighting for visual tasks, safety, reassurance, and security, it is important to also recognize that the nighttime "ceiling" is typically relatively dark, resulting in high contrast with any light or lighted surface. This is significant because the eye works differently at low light levels than at high light levels. Once eyes have adapted to low light levels, they are very sensitive to bright light and will lose their low-level adaptation almost immediately. While total dark adaptation takes up to 30 minutes to complete, light adaptation happens very quickly, usually in less than a minute. This has implications for both pedestrian safety and comfort.

Nighttime tasks, such as playing sports or driving automobiles, have very specific lighting requirements so that people can perform these tasks safely and accurately. Nighttime lighting designed specifically for pedestrians (i.e., people walking outdoors) is often very different. People experience different emotions related to the nighttime environment. The quality of the lighting affects how people feel while viewing dramatic scenery, enjoying an evening of quiet relaxation, or