



**BSR/ASHRAE/IES Addendum e
to ANSI/ASHRAE/IES Standard 90.2-2018**

Public Review Draft

Proposed Addendum e to Standard 90.2-2018, Energy-Efficient Design of Low-Rise Residential Buildings

**First Public Review (August 2022)
(Draft Shows Proposed Changes to Current Standard)**

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FOREWORD

This proposal expands and clarifies the requirements for lighting controls in common and public areas. The previous language referred users of the standard to 90.1 for common area lighting control requirements. This new language provides the lighting control requirements embedded as part of the standard. The new lighting control requirements are simpler yet more stringent than 90.1-2022, maintaining the energy-efficiency leadership status for standard 90.2. Lastly, projects can still follow the 90.1-2022 mandatory lighting control requirements as an alternative per the last exception in the proposal.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striking through~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum e to 90.2-2018

Modify the standard as follows (IP and SI Units)

7.5.4 Common and Public Areas

7.5.4.1 Public and Common Areas of Residential Buildings. In public and common spaces of residential buildings, the lighting shall meet the following requirements: ~~of ASHRAE/IES Standard 90.1, Table 9.6.1.~~

7.5.4.1.1 Lighting Controls.

- a. Local control. Each space shall have a manual control device that allows the occupant to reduce lighting power by a minimum of 50% and to turn the lighting off.
- b. Shutoff control. All lighting shall be automatically controlled to turn off when the space is either unoccupied or scheduled to be unoccupied.

Exception to 7.5.4.1.1 (b): Lighting load not exceeding 0.02 W/ft² (0.22 W/m²) of the space shall be permitted to operate at all times.

- c. Occupancy sensor control. Each space less than 300 ft² (28 m²) shall be controlled by an occupancy sensor.

- d. **Automatic partial-off control.** Stairwells and corridors shall be controlled by occupant sensors that reduce the lighting power by a minimum of 50% when no activity is detected for not longer than 15 minutes.
- e. **Daylight responsive control.** Luminaires that are completely or partially within a horizontal distance of 10 ft (3 m) from the edge of a window or skylight shall be controlled with continuous daylight dimming controls that have the capability to adjust lighting levels down to 10% or less of full output and the capability to turn the lighting off.

Exception to 7.5.4.1.1 (e):

- i. Spaces where the combined maximum rated lighting power completely or partially within in 10 ft (3 m) from windows or skylights is less than 75 W.
 - ii. Spaces where the top of any existing adjacent structure or natural object is at least twice as high above the windows as its horizontal distance away from the windows.
 - iii. Spaces where the total glazing area is less than 20 ft² (1.9 m²).
 - iv. Luminaires controlled by astronomical time switches that are programmed to turn off during daylight hours.
- f. **Parking garage control.** Lighting in parking garages shall be controlled by occupant sensors that reduce the power by a minimum of 50% when no activity is detected for not longer than 15 minutes. No device shall control more than 3600 ft² (334 m²). Luminaires with 20 ft (6.1 m) of a perimeter opening shall be controlled by daylight responsive controls that have the capability to adjust lighting levels down to 10% or less of full output and the capability to turn the lighting off.

Exception to 7.5.4.1.1(f): Parking garages serving an individual dwelling unit.

- g. **Parking lot and other exterior lighting control.**
 - i. Luminaires shall be automatically turned off during *daylight hours* or when daylight is present.
 - ii. Luminaires serving outdoor parking areas which are mounted 25 ft (7.6 m) or less above grade shall be controlled to reduce the power by at least 75% when no activity is detected for not longer than 15 minutes. No more than 1500 W of lighting power shall be controlled together.

Exception to 7.5.4.1.1. Spaces complying with the control requirements of ASHRAE/IES Standard 90.1, Table 9.5.2.1.