

ANSI/ASHRAE/ICC/USGBC/IES Addendum at to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

The Complete Technical Content of the International Green Construction Code®

Approved by ASHRAE and the American National Standards Institute on July 6, 2020; by the International Code Council on June 1, 2020; by the U.S. Green Building Council on June 3, 2020; and by the Illuminating Engineering Society on July 1, 2020.

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ISSN 1041-2336



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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

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FOREWORD

Addendum at organizes the interior and exterior lighting controls requirements into separate subsections of Section 7.4.6, "Lighting." The new structure consists of Sections 7.4.6.1, "Lighting Power Allowance," 7.4.6.2, "Interior Lighting Controls," and 7.4.6.3, "Exterior Lighting Controls." This addendum also requires subzone occupancy sensing control in large offices that is modeled after Section C405.2.1.3 of the 2018 IECC.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum at to Standard 189.1-2017

Add new definition to Section 3.2 as shown (I-P and SI units).

general lighting: see ANSI/ASHRAE/IES Standard 90.1.

Modify and renumber Sections 7.4.6.2 through 7.4.6.5 as shown (I-P and SI units).

7.4.6 Lighting. The lighting shall comply with ANSI/ASHRAE/IES Standard 90.1, Section 9, with the following modifications and additions.

[. . .]

7.4.6.2 Interior Lighting Controls. The interior lighting control requirements in this section are in addition to the control requirements in ANSI/ASHRAE/IES Standard 90.1, Section 9.4.1.1.

7.4.6.2.1 Occupancy Sensor Controls in Commercial and Industrial Storage Stacks with Multilevel Switching or Dimming. The lighting in commercial and industrial storage stack areas shall be controlled by an occupant sensor with multilevel switching or dimming system that reduces lighting power a minimum of 50% within 20 minutes of all occupants leaving the stack area.

Exception to 7.4.6.2.1: Storage stack areas illuminated by high-intensity discharge (HID) lighting with an LPD of 0.8 W/ft² (8.6 W/m²) or less.

~~7.4.6.3~~ **7.4.6.2.2 Automatic Controls for Egress and Security Lighting.** Lighting in any area within a building that is required to be continuously illuminated for reasons of building security or emergency egress shall not exceed 0.1 W/ft² (1 W/m²). Additional egress and security lighting shall be allowed, provided it is controlled by a *automatic* control device that turns off the additional lighting.

7.4.6.2.3 Occupancy Sensing Control in Large Office Spaces. *General lighting in office spaces greater than 250 ft² (23 m²) shall be controlled by occupancy sensing controls that comply with all of the following:*

- a. *The occupancy sensing controls shall be configured so that general lighting shall be controlled separately in control zones with floor areas not greater than 600 ft² (56 m²).*
- b. *Within 20 minutes of the control zone being unoccupied, the occupancy sensing controls shall turn off or uniformly reduce lighting power to no more than 20% of full power.*
- c. *Within 20 minutes of the entire office space being unoccupied, the occupancy sensing controls shall automatically turn off general lighting in all control zones in the space.*
- d. *General lighting in each control zone shall be allowed to automatically turn on to full power upon occupancy within the control zone. When occupancy is detected in any control zone in the space, the general lighting in other control zones that are unoccupied shall operate at no more than 20% of full power.*

7.4.6.3 Exterior Lighting Controls. This section supersedes ANSI/ASHRAE/IES Standard 90.1, Section 9.4.1.4, for all exterior sign lighting and lighting serving uncovered parking areas and open areas in outdoor sales lots.

~~7.4.6.4-7.4.6.3.1 Controls for Exterior Sign Lighting.~~ This section supersedes ANSI/ASHRAE/IES Standard 90.1, Section 9.4.1.4, for all exterior sign lighting. All exterior sign lighting, including internally illuminated signs and lighting on externally illuminated signs, shall comply with the requirements of Sections 7.4.6.4.1 or 7.4.6.4.2.

Exceptions to 7.4.6.3.1-7.4.6.4:

1. Sign lighting that is specifically required by a health or life safety statute, ordinance, or regulation.
2. Signs in tunnels.

~~7.4.6.4.1-7.4.6.3.1.1~~ All sign lighting that operates more than one hour per day during *daylight hours* shall include controls to automatically reduce the input power to a maximum of 35% of full power for a period from one hour after sunset to one hour before sunrise.

Exception to 7.4.6.3.1.1 7.4.6.4.1: Sign lighting using neon lamps with controls to automatically reduce the input power to a maximum of 70% of full power for a period from one hour after sunset to one hour before sunrise.

~~7.4.6.4.2-7.4.6.3.1.2~~ All other sign lighting shall include the following:

- a. Controls to automatically reduce the input power to a maximum of 50% of full power for a period from midnight or within one hour of the end of business operations, whichever is later, until 6:00 am or business opening, whichever is earlier.
- b. Controls to automatically turn off during *daylight hours*.

~~7.4.6.5-7.4.6.3.2 Parking and Outdoor Sales Lighting.~~ This section supersedes ANSI/ASHRAE/IES Standard 90.1, Section 9.4.1.4, for lighting serving uncovered parking areas and open areas in outdoor sales lots. Outdoor luminaires serving uncovered parking areas and open areas in outdoor sales lots shall be controlled by all of the following:

- a. Luminaires shall be controlled by a device that automatically turns off the luminaire during *daylight hours*.
- b. Luminaires shall be controlled by a timeclock or other control that automatically turns off the luminaire according to a timed schedule.
- c. For luminaires having a rated input wattage of more than 50 W and where the bottom of the luminaire is mounted 24 ft (7.3 m) or less above the ground, the luminaires shall be controlled by one or more devices that automatically reduce lighting power of each luminaire by a minimum of 50% when there is no activity detected in the controlled zone for a period no longer than 15 minutes. No more than 1500 input watts of lighting power shall be controlled together.

Exceptions to 7.4.6.3.2(c)-7.4.6.5 (e):

1. Lighting serving street frontage for vehicle sales lots.
2. Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security, or eye adaptation.

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ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

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The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

Standard 189.1 and the International Green Construction Code

Standard 189.1 serves as the complete technical content of the International Green Construction Code[®] (IgCC). The IgCC creates a regulatory framework for new and existing buildings, establishing minimum green requirements for buildings and complementing voluntary rating systems. For more information, visit www.iccsafe.org.

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