ADDENDA

ANSI/ASHRAE/IES Addendum bd to
ANSI/ASHRAE/IES Standard 90.1-2022

Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings

Approved by the ASHRAE Standards Committee on April 14, 2025; by the American National Standards Institute on May 9, 2025; and by the Illuminating Engineering Society on May 8, 2025.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (https://www.ashrae.org/continuous-maintenance).

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FOREWORD

Addendum bd revises the interior lighting control requirements in various sections, mainly Section 9.4.1.1 and Tables 9.4.1.1-1 and 9.4.1.1-2 with the following:

- *Various editorial changes and revisions to correct errors, such as aligning the table with Section 9.4.1.1 specific to indoor lighting controls requirements*
- *Change in nomenclature to "occupancy sensor reduction control" and "occupancy sensor shutoff control" in Sections 9.4.1.1(g) and 9.4.1.1(h) to be more specific about application of controls that accomplish the action and to be more consistent with the use of "occupancy sensor" as a defined term*
- *Changes to various control requirements in Tables 9.4.1-1 and 9.4.1-2 to match typical design and application use, such as eliminating local controls and multilevel controls in spaces due to safety or where use is not common*
- *The addition of auto reduction control to space types to increase energy efficiency by reducing lighting energy use and reducing ventilation where ventilation rates are permitted to go to zero in occupied standby mode*
- *A new lighting control methodology for some health care facility spaces where lighting can be reduced during night hours to coincide with human lighting adaptation*
- *Control of lighting in office areas larger than 300 ft^2 (open offices) to be more clearly described in its own section*
- *Change of the occupancy sensor time delay from 20 minutes to 15 minutes in base prescriptive requirements utilizing occupancy sensor technologies to regulate lighting. This provides an additional 2% to 5% lighting energy savings for spaces required to use occupancy sensor control without any additional costs.*
- *Various changes to resolve efficiency loopholes and inconsistencies with design practice and lighting control common use*

The proposed measures prove to be cost effective utilizing the scaler ratio method for the life of the measures utilizing both electricity cost without consideration of carbon and considering the social cost of carbon.

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

Addendum bd to Standard 90.1-2022

Modify Section 6.5.3.9 as shown (I-P and SI).

[. . .]

6.5.3.9 Occupied-Standby Zone Controls. Zones serving only rooms that are required to ~~have automatic partial OFF or automatic full OFF lighting controls per~~ meet Section 9.4.1.1(g) or (h), where the ASHRAE Standard 62.1 occupancy category permits *ventilation* air to be reduced to zero when the *space* is in *occupied-standby* mode and when using the Ventilation Rate Procedure, shall meet the following within five minutes of all rooms in that zone entering *occupied-standby mode.*

[. . .]

Modify Section 9.1.1.3 as shown (I-P and SI).

[. . .]

9.1.1.3.1 Lighting Alterations for Interior Building Spaces. The *alteration* of a *lighting system* in an interior *space* shall meet one of the following requirements:

a. The *alteration* shall comply with Section 9.2 when the total wattage of all new and retrofitted *luminaires* is greater than 2000 W.
b. When the total wattage of all new and retrofitted *luminaires* is 2000 W or less, each altered *space* shall comply with the *LPA* determined by the *LPD* values in Tables 9.5.2.1-1 and 9.5.2.1-2 and Section 9.5.2.2, or the *alteration* shall result in a new wattage at least 50% below the original wattage of each

altered *lighting system*. Additionally, the new and retrofitted lighting shall comply with the control requirements of Sections 9.4.1.1(a), 9.4.1.1(h), 9.4.1.1(i), 9.4.1.2, and 9.4.1.3 as applicable to each altered *space* as shown in Tables 9.5.2.1-1 and 9.5.2.1-2 and Sections 9.4.1.4 and 9.5.2.2.

9.1.1.3.2 Lighting Alterations for Exterior Building Areas. The *alteration* of a *lighting system* for an exterior area shall use only the area-specific *LPD* values in Table 9.5.3-2 and shall not use the base *site* allowances to determine the *LPA*. Additionally, the exterior *alteration* shall meet one of the following:

a. The *alteration* shall comply with Section 9.2 when the total number of new and retrofitted *luminaires* is greater than 10 or where the combined length of new and retrofitted linear *luminaires* is greater than 20 linear feet.
b. Where the total number of new and retrofitted *luminaires* is not greater than 10, or where the combined length of new and retrofitted linear *luminaires* is not greater than 20 linear feet of linear luminaires, the total wattage of the alteration shall be no greater than the *LPA* determined by multiplying the area by the *LPD* values in Table 9.5.3-2, or the total new wattage shall be at least 50% below the total original wattage of that *lighting system.* Additionally, the new and retrofitted lighting shall comply with the control requirements of Section 9.4.1.45(~~a~~b).

[. . .]

Modify Table 9.2.2.2 as shown (I-P and SI).

Table 9.2.2.2 Exceptions to Exterior Lighting Power and Minimum Control Zones

Item #	Equipment/Application	Controlled Separately from General Lighting	Required Controls
1	Specialized signal, directional, and marker lighting associated with transportation	Yes	9.4.1.45(a)
2	Lighting integral to *equipment* or instrumentation and installed by its *manufacturer*	Yes	9.4.1.45(a)
3	Temporary lighting	Yes	9.4.1.45(a)
4	Searchlights	Yes	9.4.1.45(a)
5	Lighting for hazardous locations	Yes	9.4.1.45(a)
6	Lighting integral to public art [a]	Yes	9.4.1.45(a)
7	Lighting used to highlight features of public monuments, public art [a] displays, and registered *historic* landmark *structure* or *buildings*.	Yes	9.4.1.45(b)
8	Lighting for theatrical purposes, including performance, stage, film production, and video production	Yes	9.4.1.45(a)
9	Lighting for athletic playing areas for colleges and professional sports venues	Yes	9.4.1.45(a)
10	Lighting for athletic playing areas	Yes	9.4.1.45(a), (b), or (c)
11	Lighting for swimming *pools*	Yes	9.4.1.45(a)
12	Lighting for water features	Yes	9.4.1.45(b) or (c)
13	Theme elements in theme/amusement parks	Yes	9.4.1.45(c)
14	Lighting that is integral to signage and installed in the signage by the *manufacturer*	Yes	9.4.1.45(d)
15	Lighting for industrial production, material handling, transportation sites, and associated storage areas	Yes	9.4.1.45(b), (d), or (e)

a. ***Informative Note:*** "Public art" means art funded either with public or private funds but intended and accessible for the general public.

Modify Section 9.4.1 as shown.

[. . .]

9.4 Mandatory Provisions

9.4.1 Lighting Control. Lighting controls shall be installed to meet the provisions of Section 9.4.1.1, 9.4.1.2, 9.4.1.3, ~~and~~ 9.4.1.4, and 9.4.1.5.

9.4.1.1 Interior Lighting Controls. For each *space* in the *building*, all of the lighting control functions indicated in Tables 9.4.1.1-1 and 9.4.1.1-2, for the appropriate *space* type in the first column, and as described below, shall be implemented. All control functions indicated as "REQ" are mandatory and shall be implemented. If a *space* type has control functions indicated as "ADD1," then at least one of those functions shall be implemented. If a *space* type has control functions indicated as "ADD2," then at least one of those functions shall be implemented. For *space* types not listed, select a reasonably equivalent type.

If using the Space-by-Space Method, the *space* type used for determining control requirements shall be the same *space* type that is used for determining the *LPD* allowance.

[. . .]

c. Restricted to partial automatic ON: No more than 50% of the lighting power for the general lighting shall be allowed to be automatically turned on, and none of the remaining lighting shall be automatically turned on.

~~Offices greater than 300 ft^2, shall have the following requirements:~~

~~1. Control zones for general lighting shall be limited to 600 ft2.~~

~~2. Control zones for general lighting shall be permitted to automatically turn on, up to full power upon occupancy.~~

~~3. General lighting in other unoccupied control zones shall be permitted to automatically turn on to no more than 20% of full power.~~

[. . .]

g. Occupancy sensor~~Automatic~~ reduction control (occupancy sensor shutoff ~~full OFF~~ complies): The *general lighting* power in the *space* shall be *automatically* reduced by at least 50% within 15~~20~~ minutes of all occupants leaving the *space*.

~~In offices greater than 300 ft^2, control zones for *general lighting* shall~~

~~1. be limited to 600 ft^2 and~~

~~2. *automatically* reduce *general lighting* by at least 80% of full power within 20 minutes of all occupants leaving a control zone.~~

Exceptions to (g):

1. In health care facilities, spaces adjacent to patient care areas *general lighting* power shall be *automatically* reduced by at least 40% of full power during periods of night operation using an *automatic* time-of-day-operated *control device* at specific programmed times.
2. In transportation facility baggage/carousel areas and concourses with ceiling heights greater than 15 feet (4.6 m), *general lighting* power shall be *automatically* reduced by at least 50% of full power using either *occupancy sensor control* or an *automatic* time-of-day-operated *control device* at specific programmed times of space inactivity.

[. . .]

h. Occupancy sensor~~Automatic full OFF~~ shutoff control: All lighting in the *space*, including lighting connected to emergency circuits, shall be *automatically* shut off within 15~~20~~ minutes of all occupants leaving the *space*. An *occupancy sensor* ~~*control device*~~ meeting this requirement shall control no more than 5000 ft^2.

Exceptions to (h): The following lighting is not required to be *automatically* shut off:

1. Lighting required for 24/7 continuous operation.
2. Lighting in *spaces* where patient care is rendered.
3. *General lighting* and *task lighting* in *spaces* where *automatic* shut off would endanger the safety or security of the room or *building* occupants.
4. Lighting load not exceeding 0.02 W/ft^2 multiplied by the *gross lighted floor area* of the *building*

[. . .]

Add new Section 9.4.1.2.

9.4.1.2 Lighting Controls in Large Office Spaces. *General lighting* in office *spaces* greater than 300 ft^2 (28 m^2) shall have lighting controls that comply with all of the following:

a. Local controls shall be *manual* and shall provide ON and OFF *control* of all lighting in an area (1) no larger than 2500 ft^2 (230 m^2) if the *space* is no greater than 10,000 ft^2 (930 m^2) and (2) no larger than 10,000 ft^2 (930 m^2) otherwise. The *control device* installed to comply with this provision shall be *readily accessible* and located so that the occupants can see the controlled lighting when using the *control device*. The local *control devices* shall reduce lighting power with *continuous dimming* to 10% or less of full lighting power in addition to full ON and full OFF.

   Exception to (a): Remote location of this local *control device* or devices shall be permitted for reasons of safety or security when each remote *control device* has an indicator pilot light as part of or next to the *control device* and the *control device* is clearly *labeled* to identify the controlled lighting.

b. The *occupancy sensor* controls shall be configured so that *general lighting* is controlled separately in control zones with floor areas on average no greater than 600 ft^2 (56 m^2) and no single zone greater than 900 ft^2 (84 m^2).

c. Within 15 minutes of a control zone being unoccupied, the *occupancy sensor* controls shall turn off or uniformly reduce lighting power in the zone to no more than 20% of full power.

d. Within 15 minutes of the entire office *space* being unoccupied, the *occupancy sensor* controls shall *automatically* turn off *general lighting* in all control zones in the *space*.

   Exceptions to (d): The following lighting is not required to be *automatically* shut off:

   1. Lighting required for 24/7 continuous operation.
   2. Lighting in *spaces* where *automatic* shutoff would endanger the safety or security of the room or *building* occupants.
   3. Lighting load not exceeding 0.02 W/ft^2 multiplied by the *gross lighted floor area* of the *building*.

e. *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.

f. *General lighting* completely or partially within *daylight areas under skylights* and *daylight areas under roof monitors* shall be controlled by automatic daylight responsive controls for toplighting in accordance with Section 9.4.1.1(f). General lighting in *primary sidelighted areas* and *secondary sidelighted areas* shall be controlled by automatic daylight responsive controls for sidelighting in accordance with Section 9.4.1.1(e).

[. . .]

9.4.1.~~2~~3 Parking Garage Lighting Control.

[. . .]

Exceptions to 9.4.1.~~2~~3(d):

[. . .]

9.4.1.~~3~~4 Special Applications. Lighting controls noted in this section are the only required controls for this *equipment* and these applications. Lighting exempt from interior lighting power shall be controlled in accordance with Table 9.2.2.1. Lighting using additional interior lighting power applications shall be controlled in accordance with Section 9.5.2.2.

a. Lighting used for the following applications shall be equipped with a local control independent of the control of the *general lighting* in accordance with Section 9.4.1.1(a). In addition, such lighting shall be controlled in accordance with Section 9.4.1.1(h) or Section 9.4.1.1(i).
   1. Display or accent lighting
   2. Lighting in display cases
b. Guestrooms
   1. All lighting and switched receptacles in guestrooms and suites in hotels, motels, boarding houses, or similar *buildings* shall be *automatically* controlled such that the power to the lighting and switched receptacles in each *enclosed space* will be turned off within 15~~20~~ minutes after all occupants leave that *space*. Card key controls shall not be used to comply with this provision.
   2. Bathrooms shall have a separate *control device* installed to *automatically* turn off the bathroom lighting within 30 minutes after all occupants have left the bathroom.

   Exception to 9.4.1.~~3~~4(b)(2): Night lighting of up to 5 W per bathroom is exempt.

[. . .]

9.4.1.~~4~~5 Exterior Lighting Control.

[. . .]

Modify Table 9.4.2-2 as shown (I-P and SI).

Table 9.4.2-2 Individual Lighting Power Allowances for Building Exterior Applications

						Section 9.4.1.~~4~~5 Required Controls

[. . .]

Modify Section 9.4.3.2 as shown.

9.4.2 Dwelling Units. [. . .]

9.4.3.2 Interior Lighting Controls. Fifty percent (50%) of permanently installed interior luminaires shall be controlled with dimmers or shall automatically be shut off within 15~~20~~ minutes of all occupants leaving a space.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (I-P)

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.

The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type:
(1) All REQs shall be implemented.
(2) At least one ADD1 (when present) shall be implemented.
(3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Atrium									
<20 ft in height	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2
≥20 ft and ≤40 ft in height	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
>40 ft in height	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Audience Seating Area									
Auditorium	REQ	ADD1	ADD1	REQ	REQ			ADD2	ADD2
Gymnasium	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Motion picture theater	REQ	ADD1	ADD1	REQ				ADD2	ADD2
Performing arts theater	REQ	ADD1	ADD1	REQ				ADD2	ADD2
Sports arena	REQ	ADD1	ADD1	REQ		REQ		ADD2	ADD2
All other audience seating areas	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Banking Activity Area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Classroom/Lecture Hall/Training Room									
Shop classroom	REQ	ADD1	ADD1		REQ	REQ			REQ
All other classrooms/lecture halls/training rooms	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Computer Room/Data Center IT Equipment Room	REQ	ADD1	ADD1	~~REQ~~	REQ	REQ		~~ADD2~~ REQ	~~ADD2~~
Conference/Meeting/Multipurpose Rooms	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Control/Editing Room or Booth	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Copy/Print Room	REQ	ADD1	ADD1		REQ	REQ		REQ	
Corridor	~~REQ~~				REQ	REQ	REQ	ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (I-P) *(Continued)*

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Courtroom	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Dining Areas									
Bar/lounge or leisure dining	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Cafeteria or fast-food dining	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Family dining	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
All other dining areas	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Electrical/Mechanical Room	REQ								
Emergency Vehicle Garage	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Equipment Room	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Food Preparation Area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Guest Room	See Section 9.4.1.~~3~~4(b).								
Laboratory									
In or as a classroom	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2
All other laboratories	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Laundry/Washing Area	REQ	ADD1	ADD1	~~REQ~~	REQ	REQ		REQ	
Loading Dock, Interior	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Lobby									
Elevator	REQ				REQ	REQ		ADD2	ADD2
Hotel	REQ				REQ	REQ		ADD2	ADD2
Motion picture theater	REQ				REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (I-P) *(Continued)*

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Performing arts theater	REQ				REQ	REQ		ADD2	ADD2
All other lobbies	REQ				REQ	REQ	REQ	ADD2	ADD2
Locker Room	~~REQ~~	~~ADD1~~	~~ADD1~~	~~REQ~~	REQ	REQ		REQ	
Lounge/Breakroom									
Mother's/wellness room	REQ	ADD1	ADD1	REQ				REQ	
All other lounges/breakrooms	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Office									
Office ≤150 ft^2	REQ	ADD1	ADD1	REQ				REQ	
Office >150 and ≤300 ft^2	REQ	ADD1	ADD1	REQ				REQ	
Offices >300 ft^2	~~REQ~~	~~ADD1~~	~~ADD1~~	~~REQ~~	~~REQ~~	~~REQ~~	~~REQ~~	~~REQ~~	
					See Section 9.4.1.2.				
Parking Garage									
Daylight transition zone					See Section 9.4.1.~~2~~3.				
All other parking and drive areas					See Section 9.4.1.~~2~~3.				
Pharmacy Area	REQ	ADD1	ADD1	~~REQ~~				ADD2	ADD2
Restroom								REQ	
Sales Area (For accent lighting, see Section 9.5.2.2[b].)	REQ	ADD1	ADD1	REQ		REQ		ADD2	ADD2
Seating Area, General	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Security Screening Area									
Airport/bus/ship/train/transportation screening	REQ				REQ	REQ		ADD2	ADD2
Airport/bus/ship/train/transportation screening queue	REQ				REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (I-P) *(Continued)*

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	**Local Control**	**Manual ON**	**Partial Auto ON**	**Multilevel Lighting Control**	**Daylight Response Sidelight**	**Daylight Response Toplight**	**~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)**	**Occupancy Sensor Shutoff ~~Auto Full OFF~~**	**Scheduled Shutoff**
	9.4.1.1(a)	**9.4.1.1(b)**	**9.4.1.1(c)**	**9.4.1.1(d)**	**9.4.1.1(e)** [b]	**9.4.1.1(f)** [b]	**9.4.1.1(g)**	**9.4.1.1(h)**	**9.4.1.1(i)**
General security screening	REQ				REQ	REQ		ADD2	ADD2
Stairway	The *space* containing the stairway shall determine the *LPD* and control requirements for the stairway.								
Stairwell					REQ	REQ	REQ	ADD2	ADD2
Storage Room									
<50 ft^2	REQ	REQ						REQ	
≥50 ft^2	REQ	REQ			REQ	REQ		REQ	
Vehicular Maintenance Area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Workshop (including workshop classrooms)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building-specific spaces)~~ (I-P)

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.

The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type:
(1) All REQs shall be implemented.
(2) At least one ADD1 (when present) shall be implemented.
(3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	Local Control	Manual ON	Partial Auto ON	Multilevel Lighting Control	Daylight Response Sidelight	Daylight Response Toplight	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)	Occupancy Sensor Shutoff ~~Auto Full OFF~~	Scheduled Shutoff
	9.4.1.1(a)	9.4.1.1(b)	9.4.1.1(c)	9.4.1.1(d)	9.4.1.1(e)[b]	9.4.1.1(f)[b]	9.4.1.1(g)	9.4.1.1(h)	9.4.1.1(i)
Casino—Gaming Area									
Betting/sportsbook/keno/bingo area				REQ				ADD2	ADD2
High-limit game area				REQ				ADD2	ADD2
Slot machine/digital gaming area				REQ				ADD2	ADD2
Table games area				REQ				ADD2	ADD2
Convention Center—Exhibit Space	REQ	ADD1	ADD1	REQ	REQ	REQ			REQ
Correctional Facilities									
Audience seating area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Classroom/lecture hall/training room	REQ	ADD1	ADD1	REQ	REQ	REQ			
Confinement cells	REQ								REQ
Dining area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Dormitory—Living Quarters	REQ								
Facility for the Visually Impaired[c]									
Chapel (used primarily by residents)	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Corridor (used primarily by residents)	REQ				REQ	REQ	REQ	ADD2	ADD2
Dining (used primarily by residents)	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Lobby	REQ				REQ	REQ	REQ	ADD2	ADD2
Recreation room/common living room (used primarily by residents)	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building specific spaces)~~ (I-P) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Restroom (used primarily by residents)					~~REQ~~	~~REQ~~		REQ	
Fire Station—Sleeping Quarters	REQ								
Gymnasium/Fitness Center									
Exercise area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Playing area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Health Care Facility									
Control room (MRI/CT/radiology/PET)	REQ	REQ		REQ				REQ	
Exam/treatment room	REQ			REQ	REQ	REQ		ADD2	ADD2
~~Hospital c~~Corridor—public or staff	~~REQ~~				REQ	REQ	~~ADD2~~ REQ	ADD2	ADD2
Corridor—adjacent to patient care spaces					REQ	REQ	REQ[d]	ADD2	ADD2
Imaging room	REQ			REQ				ADD2	ADD2
Lounge	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Medical supply room	REQ	ADD1	ADD1					REQ	
Nursery	REQ			REQ	REQ	REQ	REQ[d]	ADD2	ADD2
Nurse's station	REQ			REQ	REQ	REQ	REQ[d]	ADD2	ADD2
Operating room	REQ			REQ					
Patient room	REQ			REQ					
Physical therapy room	REQ			REQ	REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building-specific spaces)~~ (I-P) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.

The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type:
(1) All REQs shall be implemented.
(2) At least one ADD1 (when present) shall be implemented.
(3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Recovery room	REQ			REQ			REQ[d]	ADD2	ADD2
Telemedicine	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Library									
Reading area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Stacks	REQ	ADD1	ADD1				REQ	ADD2	ADD2
Manufacturing Facility									
Detailed manufacturing area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Extra-high bay area (>50 ft *floor*-to-ceiling height)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
High bay area (25 to 50 ft *floor*-to-ceiling height)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Low bay area (<25 ft *floor*-to-ceiling height)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Museum									
General exhibition area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Restoration area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Performing Arts Theater—Dressing Room	REQ	ADD1	ADD1	REQ				REQ	
Post Office—Sorting Area	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2
Religious Facility									
Audience seating area	REQ			REQ	REQ	REQ		ADD2	ADD2
Fellowship hall	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building specific spaces)~~ (I-P) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

	Local Control	Manual ON	Partial Auto ON	Multilevel Lighting Control	Daylight Response Sidelight	Daylight Response Toplight	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)	Occupancy Sensor Shutoff ~~Auto Full OFF~~	Scheduled Shutoff
Building-Specific Space Types[a]	**9.4.1.1(a)**	**9.4.1.1(b)**	**9.4.1.1(c)**	**9.4.1.1(d)**	**9.4.1.1(e)**[b]	**9.4.1.1(f)**[b]	**9.4.1.1(g)**	**9.4.1.1(h)**	**9.4.1.1(i)**
Worship/pulpit/choir area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Retail Facilities									
Dressing/fitting room								ADD2	ADD2
Hair care	REQ	ADD1	ADD1					ADD2	ADD2
Mall concourse	REQ	ADD1	ADD1	REQ		REQ		ADD2	ADD2
Massage	REQ	ADD1	ADD1	REQ				ADD2	ADD2
Nail care	REQ	ADD1	ADD1					ADD2	ADD2
Sports Arena—Playing Area (Class of play as defined by ANSI/IES RP-6)									
Class I facility	REQ	REQ			REQ	REQ			REQ
Class II facility	REQ	REQ			REQ	REQ			REQ
Class III facility	REQ	REQ			REQ	REQ			REQ
Class IV facility	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Natatorium (Class of play as defined by IES RP-6)									
Class I facility	REQ	REQ			REQ	REQ			REQ
Class II facility	REQ	REQ			REQ	REQ			REQ
Class III facility	REQ	REQ			REQ	REQ			REQ
Class IV facility	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Transportation Facility									
Airport hanger	REQ	REQ			REQ	REQ			REQ

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building specific spaces)~~ (I-P) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.

The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type:
(1) All REQs shall be implemented.
(2) At least one ADD1 (when present) shall be implemented.
(3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Baggage/carousel area					REQ	REQ		ADD2	ADD2
Concourse					REQ	REQ	REQ[c]	ADD2	ADD2
Passenger loading area	REQ	ADD1	ADD1		REQ	REQ	REQ[c]	ADD2	ADD2
Ticket counter	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Warehouse—Storage Area									
Medium-to-bulky, palletized items	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2
Smaller items, picking areas	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. *Automatic* daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (SI)

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Atrium									
<6.1 m in height	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2
≥6.1 m and ≤12.2 m in height	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
>12.2 m in height	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Audience Seating Area									
Auditorium	REQ	ADD1	ADD1	REQ	REQ			ADD2	ADD2
Gymnasium	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Motion picture theater	REQ	ADD1	ADD1	REQ				ADD2	ADD2
Performing arts theater	REQ	ADD1	ADD1	REQ				ADD2	ADD2
Sports arena	REQ	ADD1	ADD1	REQ		REQ		ADD2	ADD2
All other audience seating areas	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Banking Activity Area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Classroom/Lecture Hall/Training Room									
Shop classroom	REQ	ADD1	ADD1		REQ	REQ			REQ
All other classrooms/lecture halls/training rooms	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Computer Room/Data Center IT Equipment Room	REQ	ADD1	ADD1	~~REQ~~	REQ	REQ		~~ADD2~~ REQ	~~ADD2~~
Conference/Meeting/Multipurpose Rooms	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Control/Editing Room or Booth	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Copy/Print Room	REQ	ADD1	ADD1		REQ	REQ		REQ	
Corridor	~~REQ~~				REQ	REQ	REQ	ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (SI) *(Continued)*

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Courtroom	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Dining Areas									
Bar/lounge or leisure dining	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Cafeteria or fast-food dining	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Family dining	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
All other dining areas	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Electrical/Mechanical Room	REQ								
Emergency Vehicle Garage	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Equipment Room	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Food Preparation Area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Guest Room	See Section 9.4.1.~~3~~4(b).								
Laboratory									
In or as a classroom	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2
All other laboratories	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Laundry/Washing Area	REQ	ADD1	ADD1	~~REQ~~	REQ	REQ		REQ	
Loading Dock, Interior	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Lobby									
Elevator	REQ				REQ	REQ		ADD2	ADD2
Hotel	REQ				REQ	REQ		ADD2	ADD2
Motion picture theater	REQ				REQ	REQ		ADD2	ADD2
Performing arts theater	REQ				REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (SI) *(Continued)*

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	**Local Control** **9.4.1.1(a)**	**Manual ON** **9.4.1.1(b)**	**Partial Auto ON** **9.4.1.1(c)**	**Multilevel Lighting Control** **9.4.1.1(d)**	**Daylight Response Sidelight** **9.4.1.1(e)**[b]	**Daylight Response Toplight** **9.4.1.1(f)**[b]	**~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)** **9.4.1.1(g)**	**Occupancy Sensor Shutoff ~~Auto Full OFF~~** **9.4.1.1(h)**	**Scheduled Shutoff** **9.4.1.1(i)**
All other lobbies	REQ				REQ	REQ	REQ	ADD2	ADD2
Locker Room	~~REQ~~	~~ADD1~~	~~ADD1~~	~~REQ~~	REQ	REQ		REQ	
Lounge/Breakroom									
Mother's/wellness room	REQ	ADD1	ADD1	REQ				REQ	
All other lounges/breakrooms	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Office									
Office ≤13.9 m^2	REQ	ADD1	ADD1	REQ				REQ	
Office >13.9 and ≤27.9 m^2	REQ	ADD1	ADD1	REQ				REQ	
Offices >27.9 m^2	~~REQ~~	~~ADD1~~	~~ADD1~~	~~REQ~~	~~REQ~~	~~REQ~~	~~REQ~~	~~REQ~~	
					See Section 9.4.1.2.				
Parking Garage									
Daylight transition zone					See Section 9.4.1.~~2~~3.				
All other parking and drive areas					See Section 9.4.1.~~2~~3.				
Pharmacy Area	REQ	ADD1	ADD1	~~REQ~~				ADD2	ADD2
Restroom								REQ	
Sales Area (For accent lighting, see Section 9.5.2.2[b].)	REQ	ADD1	ADD1	REQ		REQ		ADD2	ADD2
Seating Area, General	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Security Screening Area									
Airport/bus/ship/train/transportation screening	REQ				REQ	REQ		ADD2	ADD2
Airport/bus/ship/train/transportation screening queue	REQ				REQ	REQ		ADD2	ADD2
General security screening	REQ				REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-1 Minimum Interior Lighting Control Requirements for Common Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(common spaces)~~ (SI) *(Continued)*

Informative Note: This table covers common *space* types typically found in multiple *building* types. Table 9.4.1.1-2 covers *building*-specific *space* types typically found in a single *building* type.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Common Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Stairway									
Stairwell					REQ	REQ	REQ	ADD2	ADD2
Storage Room									
<4.6 m^2	REQ	REQ						REQ	
≥4.6 m^2	REQ	REQ			REQ	REQ		REQ	
Vehicular Maintenance Area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Workshop (including workshop classrooms)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2

a. Where both a common *space* type and a *building*-specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-2 for *building*-specific *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building-specific spaces)~~ (SI)

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	Local Control	Manual ON	Partial Auto ON	Multilevel Lighting Control	Daylight Response Sidelight	Daylight Response Toplight	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)	Occupancy Sensor Shutoff ~~Auto Full OFF~~	Scheduled Shutoff
	9.4.1.1(a)	9.4.1.1(b)	9.4.1.1(c)	9.4.1.1(d)	9.4.1.1(e)[b]	9.4.1.1(f)[b]	9.4.1.1(g)	9.4.1.1(h)	9.4.1.1(i)
Casino—Gaming Area									
Betting/sportsbook/keno/bingo area				REQ				ADD2	ADD2
High-limit game area				REQ				ADD2	ADD2
Slot machine/digital gaming area				REQ				ADD2	ADD2
Table games area				REQ				ADD2	ADD2
Convention Center—Exhibit Space	REQ	ADD1	ADD1	REQ	REQ	REQ			REQ
Correctional Facilities									
Audience seating area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Classroom/lecture hall/training room	REQ	ADD1	ADD1	REQ	REQ	REQ			
Confinement cells	REQ								REQ
Dining area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Dormitory—Living Quarters	REQ								
Facility for the Visually Impaired[c]									
Chapel (used primarily by residents)	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Corridor (used primarily by residents)	REQ				REQ	REQ	REQ	ADD2	ADD2
Dining (used primarily by residents)	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Lobby	REQ				REQ	REQ	REQ	ADD2	ADD2

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building specific spaces)~~ (SI) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.

The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type:
(1) All REQs shall be implemented.
(2) At least one ADD1 (when present) shall be implemented.
(3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	Local Control 9.4.1.1(a)	Manual ON 9.4.1.1(b)	Partial Auto ON 9.4.1.1(c)	Multilevel Lighting Control 9.4.1.1(d)	Daylight Response Sidelight 9.4.1.1(e)[b]	Daylight Response Toplight 9.4.1.1(f)[b]	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies) 9.4.1.1(g)	Occupancy Sensor Shutoff ~~Auto Full OFF~~ 9.4.1.1(h)	Scheduled Shutoff 9.4.1.1(i)
Recreation room/common living room (used primarily by residents)	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Restroom (used primarily by residents)					REQ	REQ		REQ	
Fire Station—Sleeping Quarters	REQ								
Gymnasium/Fitness Center									
Exercise area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Playing area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Health Care Facility									
Control room (MRI/CT/radiology/PET)	REQ	REQ		REQ				REQ	
Exam/treatment room	REQ			REQ	REQ	REQ		ADD2	ADD2
~~Hospital c~~Corridor—public or staff	~~REQ~~				REQ	REQ	~~ADD2~~ REQ	ADD2	ADD2
Corridor—adjacent to patient care spaces					REQ	REQ	REQ[d]	ADD2	ADD2
Imaging room	REQ			REQ				ADD2	ADD2
Lounge	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Medical supply room	REQ	ADD1	ADD1					REQ	
Nursery	REQ			REQ	REQ	REQ	REQ[d]	ADD2	ADD2
Nurse's station	REQ			REQ	REQ	REQ	REQ[d]	ADD2	ADD2
Operating room	REQ			REQ					

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building specific spaces)~~ (SI) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	**Local Control** **9.4.1.1(a)**	**Manual ON** **9.4.1.1(b)**	**Partial Auto ON** **9.4.1.1(c)**	**Multilevel Lighting Control** **9.4.1.1(d)**	**Daylight Response Sidelight** **9.4.1.1(e)[b]**	**Daylight Response Toplight** **9.4.1.1(f)[b]**	**~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)** **9.4.1.1(g)**	**Occupancy Sensor Shutoff ~~Auto Full OFF~~** **9.4.1.1(h)**	**Scheduled Shutoff** **9.4.1.1(i)**
Patient room	REQ			REQ					
Physical therapy room	REQ			REQ	REQ	REQ		ADD2	ADD2
Recovery room	REQ			REQ			REQ[d]	ADD2	ADD2
Telemedicine	REQ	ADD1	ADD1	REQ	REQ	REQ		REQ	
Library									
Reading area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Stacks	REQ	ADD1	ADD1				REQ	ADD2	ADD2
Manufacturing Facility									
Detailed manufacturing area	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Extra-high bay area (>15.2 m *floor*-to-ceiling height)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
High bay area (7.6 to 15.2 m *floor*-to-ceiling height)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Low bay area (<7.6 m *floor*-to-ceiling height)	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Museum									
General exhibition area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Restoration area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Performing Arts Theater—Dressing Room	REQ	ADD1	ADD1	REQ				REQ	
Post Office—Sorting Area	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building specific spaces)~~ (SI) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.

The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type:
(1) All REQs shall be implemented.
(2) At least one ADD1 (when present) shall be implemented.
(3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	Local Control	Manual ON	Partial Auto ON	Multilevel Lighting Control	Daylight Response Sidelight	Daylight Response Toplight	~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)	Occupancy Sensor Shutoff ~~Auto Full OFF~~	Scheduled Shutoff
	9.4.1.1(a)	9.4.1.1(b)	9.4.1.1(c)	9.4.1.1(d)	9.4.1.1(e)[b]	9.4.1.1(f)[b]	9.4.1.1(g)	9.4.1.1(h)	9.4.1.1(i)
Religious Facility									
Audience seating area	REQ			REQ	REQ	REQ		ADD2	ADD2
Fellowship hall	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Worship/pulpit/choir area	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
Retail Facilities									
Dressing/fitting room								ADD2	ADD2
Hair care	REQ	ADD1	ADD1					ADD2	ADD2
Nail care	REQ	ADD1	ADD1					ADD2	ADD2
Mall concourse	REQ	ADD1	ADD1	REQ		REQ		ADD2	ADD2
Massage	REQ	ADD1	ADD1	REQ				ADD2	ADD2
Sports Arena—Playing Area (Class of play as defined by ANSI/IES RP-6)									
Class I facility	REQ	REQ			REQ	REQ			REQ
Class II facility	REQ	REQ			REQ	REQ			REQ
Class III facility	REQ	REQ			REQ	REQ			REQ
Class IV facility	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Natatorium (Class of play as defined by IES RP-6)									
Class I facility	REQ	REQ			REQ	REQ			REQ

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.4.1.1-2 Minimum Interior Lighting Control Requirements for Building-Specific Space Types Using Either Section 9.5.1 Building Area Method or Section 9.5.2 Space-by-Space Method ~~(building specific spaces)~~ (SI) *(Continued)*

Informative Note: This table covers *building*-specific *space* types typically found in a single *building* type. Table 9.4.1.1-1 covers common *space* types typically found in multiple *building* types.	The control functions below shall be implemented in accordance with the descriptions found within Section 9.4.1.1. For each *space* type: (1) All REQs shall be implemented. (2) At least one ADD1 (when present) shall be implemented. (3) At least one ADD2 (when present) shall be implemented.

Building-Specific Space Types[a]	**Local Control** 9.4.1.1(a)	**Manual ON** 9.4.1.1(b)	**Partial Auto ON** 9.4.1.1(c)	**Multilevel Lighting Control** 9.4.1.1(d)	**Daylight Response Sidelight** 9.4.1.1(e)[b]	**Daylight Response Toplight** 9.4.1.1(f)[b]	**~~Auto~~ Occupancy Sensor Reduction (~~Full OFF~~ shutoff complies)** 9.4.1.1(g)	**Occupancy Sensor Shutoff ~~Auto Full OFF~~** 9.4.1.1(h)	**Scheduled Shutoff** 9.4.1.1(i)
Class II facility	REQ	REQ			REQ	REQ			REQ
Class III facility	REQ	REQ			REQ	REQ			REQ
Class IV facility	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Transportation Facility									
Airport hanger	REQ	REQ			REQ	REQ			REQ
Baggage/carousel area					REQ	REQ		ADD2	ADD2
Concourse					REQ	REQ	REQ[d]	ADD2	ADD2
Passenger loading area	REQ	ADD1	ADD1		REQ	REQ	REQ[d]	ADD2	ADD2
Ticket counter	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
Warehouse—Storage Area									
Medium-to-bulky, palletized items	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2
Smaller items, picking areas	REQ	ADD1	ADD1		REQ	REQ	REQ	ADD2	ADD2

a. Where both a common *space* type and a *building* specific *space* type are listed, the *building* specific *space* type shall apply (see Table 9.4.1.1-1 for common *space* types).
b. Automatic daylight responsive controls are mandatory only if the *space* meets the requirements of the specified sections.
c. A facility for the visually impaired is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and that is or will be licensed by local/state authorities for senior long-term care, adult daycare, senior support, and/or people with special visual needs.
d. See 9.4.1.1(g), Exception #1.
e. See 9.4.1.1(g), Exception #2.

Table 9.5.2.2 Additional Lighting Power (I-P and SI)

Section	Description	Additional Lighting Power	Required Controls
9.5.2.2(a)	Decorative	[. . .]	Section 9.4.1.1(h) or 9.4.1.1(j)
9.5.2.2(b)	Retail sales [a]	[. . .]	Section 9.4.1.1(j)
9.5.2.2(c)	Video conferencing	[. . .]	See Tables 9.4.1-1 and 9.4.1-2 *space* types for required controls.
9.5.2.2(d)	Interior exit stairway	[. . .]	Section 9.4.1.1(g) and either 9.4.1.1(h) or 9.4.1.1(i)

Notes:
Retail Area 1 = the floor area for all products not listed in Retail Areas 2, 3, or 4
Retail Area 2 = the floor area used for the sale of vehicles, sporting goods, and small electronics
Retail Area 3 = the floor area used for the sale of furniture, clothing, cosmetics, and artwork
Retail Area 4 = the floor area used for the sale of jewelry, crystal, and china
a. Other merchandise categories are permitted to be included in Retail Areas 2 through 4, provided that documentation of the need for additional lighting power based on visual inspection, contrast, or other critical display is approved by the *authority having jurisdiction*.

Table H-1 Standard 90.1 Items to Verify (I-P and SI)

Subsection	Subsection Title	Standard 90.1 Items to Verify for Proper Operation or Inclusion	Status
[. . .]			
9.4.1.~~2~~3	Parking Garage Lighting Control	Proper operation of parking lot lighting controls, including *occupancy sensor*, time switch, and daylighting control.	
9.4.1.~~3~~4	Special Applications	Proper operation of lighting controls, including separate control of display, accent, display case, hotel guest room, nonvisual, and demonstration lighting.	
9.4.1.~~4~~5	Exterior Lighting Control	Proper operation of exterior lighting controls, including parking area proximity sensors, time switch, and photocell or astronomical time control.	
9.9.1	Verification and Testing	Required functional testing is completed for occupant sensors, *automatic* time switches, and daylight responsive control. Include control items in Sections 9.4.1.1 through 9.4.1.~~4~~5.	
[. . .]			

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

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.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

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.

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