

Scope: Lighting controls for interior and exterior applications and electrical consumption, alteration of ≥ 50% luminaire replacement

Exceptions: Commercial building dwelling units when ≥ 75% of lighting is high efficacy; continuously lit security and emergency areas; stairways or corridors for egress

<p>C405.2.1 Manual Lighting Control</p> <ul style="list-style-type: none"> Manual control located inside area served 	<p>Choose between switching or dimming manual controls</p>	<p>Primary Exceptions:</p> <ul style="list-style-type: none"> Control may be remote, provided lighting served is identified and it has a status indicator 	
<p>C405.2.1.2 Light Reduction Control</p> <ul style="list-style-type: none"> Occupants must be able to uniformly dim or switch off ≥ 50% of lighting 	<p>Choose between switching or dimming light reduction controls</p>	<p>Primary Exceptions:</p> <ul style="list-style-type: none"> Only one luminaire < 100W Spaces controlled by occupancy sensors Space lighting < 0.6W/ft² Daylight controlled zones The following space types: <ul style="list-style-type: none"> - Corridors - Restrooms - Storerooms - Equipment rooms - Public lobbies - Elect/mech rooms 	
<p>C405.2.2 Additional Lighting Control</p> <ul style="list-style-type: none"> Lighting auto off control requirements Daylight zone control requirements 	<p>Automatic off control shall follow occupancy sensor requirements or auto time switch control requirements</p>	<p>Primary Exceptions:</p> <ul style="list-style-type: none"> Sleeping units Patient care Where auto off would endanger safety or security 24/7 operations 	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">SENSOR REQUIREMENTS</p>	<p>C405.2.2.2 Occupancy Sensors</p> <ul style="list-style-type: none"> Lights auto off within 30 minutes of occupants leaving 	<p>Required for the Following Space Types:</p> <ul style="list-style-type: none"> - Class/lecture/training - Conference/meeting - Restrooms - Lunch and break rooms - Private offices - Storage rooms - Janitorial closets - Spaces ≤ 300ft² 	<p>Primary Exceptions:</p> <p>None</p>
	<p>C405.2.2.2 Manual On or Partial Auto On</p> <ul style="list-style-type: none"> Manual on or partial auto on ≤ 50% power 	<p>Choose between manual on or partial auto on control</p>	<p>Primary Exceptions:</p> <ul style="list-style-type: none"> Where full auto on is permitted, manual on or partial auto on is not required
	<p>C405.2.2.2 Full Auto On</p> <ul style="list-style-type: none"> Full auto on only permitted for select spaces 	<p>Lighting Full Auto On Only Permitted for:</p> <ul style="list-style-type: none"> - Public corridors - Stairways - Where manual on would endanger safety or security - Primary entrances - Lobbies - Restrooms 	<p>Primary Exceptions:</p> <p>None</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">TIME SWITCH REQUIREMENT</p>	<p>C405.2.2.1 Auto Time Switch Control</p> <ul style="list-style-type: none"> Readily accessible manual override switch Override for ≤ 2 hours Control area ≤ 5,000ft² 	<p>In Malls, Arcades, Auditoriums, Retail, Industrial Facilities, Arenas:</p> <ul style="list-style-type: none"> - Override > 2 hours with captive key switch - Control area ≤ 20,000ft² 	<p>Primary Exceptions:</p> <ul style="list-style-type: none"> Emergency egress lighting Where controlled by an occupancy sensor
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">DAYLIGHT REQUIREMENT</p>	<p>C405.2.2.3 Daylight Zone Control</p> <ul style="list-style-type: none"> Control independent of general area lighting Daylight zone shall not exceed 2,500ft² Manual switch or automatic control using stepped or continuous dimming Set-point and calibration settings readily accessible 	<p>When Controlled Automatically Choose:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Stepped Dimming</p> <p>↓</p> <p>Provide at least two control steps: one step between 50 - 70% and a second step ≤ 35% of rated lighting power</p> </div> <div style="text-align: center;"> <p>Continuous Dimming</p> <p>↓</p> <p>Provide continuous dimming control to < 35% of rated lighting power</p> </div> </div>	<p>Primary Exceptions:</p> <ul style="list-style-type: none"> Spaces with fewer than two lighting fixtures
<p>C405.2.3 Specific Application Control</p> <ul style="list-style-type: none"> Control independent from other lighting in the space 	<p>Required for the Following Lighting:</p> <ul style="list-style-type: none"> - Display and accent - Display cases - Food warming - Lighting for sale - Lighting for education - Plant growth - Supplemental task - Under shelf/cabinet 	<p>Primary Exceptions:</p> <p>None</p>	

Other Lighting Control Requirements

C405.2.3.3

Hotel/Motel and Guest Suites

A master control device is required at the main entry that controls all permanently installed luminaires and switched receptacles

C405.2.4

Exterior Lighting Controls

- Dusk-to-dawn exterior lighting is controlled by an astronomical time switch or photosensor
- Exterior lighting not dusk-to-dawn (early off exterior lighting) is controlled by either a combination of a photosensor and a time switch or an astronomical time switch

C406.1

Additional Efficiency Package

Comply with one of the following:

- More efficient HVAC performance
- Efficient lighting system:**
 - The total interior lighting power of the building shall be determined by using the reduced interior lighting power allowances in Table C406.3
- On-site renewable energy

C408.3

Lighting System Functional Testing

Lighting control system functional testing is required. The party performing functional testing must be listed on the construction documents. Code official may require an independent party to provide functional testing and certify installed lighting controls meet provisions of Section C405.

Functional testing shall be performed to the following procedures:

- Test occupancy sensors [C408.3.1.1]
- Test auto time switch [C408.3.1.2]
- Test daylight responsive [C408.3.1.3]