

# CECD1-2-22

IECC: C503.5, C503.5.1, C503.5.2 (New)

**Proponents:** Michael Jouaneh, representing IECC CE Electrical Power, Lighting, and Renewables Subcommittee (ieccccelectrical@iccsafe.org)

## 2024 International Energy Conservation Code [RE Project]

Delete and substitute as follows:

~~C503.5 Lighting systems.~~ New lighting systems that are part of the *alteration* shall comply with Sections C405.

~~**Exception:** Alterations that replace less than 10 percent of the luminaires in a space, provided that such *alterations* do not increase the installed interior lighting power.~~

C503.5 Lighting systems. Lighting systems that are part of the alteration shall comply with Sections C503.5.1 and C503.5.2.

~~C503.5.1 Lighting acceptance testing.~~ Where an *alteration* requires compliance with Section C405 or any of its subsections, lighting systems that serve the *alteration* shall comply with Section C408.3.

C503.5.1 Interior lighting and controls. Alterations to interior spaces, lighting, or controls shall comply with the following:

1. Where the area of interior spaces is altered, those spaces shall comply with the lighting power requirements of Section C405 and those spaces shall comply with the lighting control requirements of Sections C405 and C408.
2. Where the lighting within interior spaces is altered, those spaces shall comply with the lighting power requirements of C405 and those spaces shall comply with the lighting control requirements of C405 and C408.
3. Where the lighting controls within interior spaces are altered, those spaces shall comply with the lighting control requirements of Sections C405 and C408.

**Exception:** Compliance with Section C405.2.9 is not required for alterations.

Add new text as follows:

C503.5.2 Exterior lighting and controls. Alterations to exterior lighting and controls shall comply with the following:

1. Where the connected exterior lighting power is increased by more than 400 Watts, all exterior lighting, including lighting which is not proposed to be altered, shall comply with lighting power requirements of Section C405.5.
2. Where the combined power of added and replacement luminaires is more than 400 Watts, all lighting which is added or altered shall be controlled in accordance with Sections C405.2 and C408.

**Exception:** Individual luminaires less than 50 Watts which pass functional tests verifying that lights are automatically shut off where daylight is present.

3. Where exterior lighting controls are added or altered, those portions of the lighting control system which are added or altered shall comply with Sections C405.2 and C408.

**Reason:** This proposal provides a set of comprehensive provisions for the alteration of lighting systems which addresses several long-standing problems with the existing code language:

1. It is not clear whether existing light fixtures can be altered without a requirement that existing lighting controls also be altered to comply with the current code, and vice-versa. This proposal clearly specifies when alterations to one trigger mandatory compliance upgrades for the other.
2. It is not clear how compliance should be determined for exterior lighting alterations. For interior spaces compliance can always be determined on a room by room basis, but compliance for exterior lighting can only be determined for the entire site.
3. The existing exception does not acknowledge the type of alterations that people actually make to existing lighting systems, as they only address one-for-one replacement of light fixtures within a room. This proposal would create more meaningful exceptions for smaller projects.
4. Exceptions based on altered and new luminaire wattage are easier to calculate and enforce than calculating both existing wattage and altered wattage and calculating a fraction (especially for large outdoor lighting systems).

5. The newly added demand responsive lighting control requirements in Section C405.2.9 are intended for lighting systems installed on a building wide basis and not as an alteration.

**Cost Impact:** The code change proposal will neither increase nor decrease the cost of construction. This proposal improves the clarity and enforceability of the lighting alterations requirements.