

Energy Code for the State of Colorado

The State of Colorado uses 2003 IECC as its State specific energy code.

Many municipalities and counties in Colorado have voluntarily adapted 2006 IECC for commercial applications. They currently include Adams County, Arapahoe County, Arvada, Aurora, Basalt, Boulder, Castle Rock, Collbran, Cortez, Craig, Dacono, DeBeque, Denver, Edgewater, Englewood, Fort Lupton, Fruita, Golden, Grand Junction, Greeley, Greenwood Village, Jefferson County, Lakewood, Larimer County, Longmont, Pallisade, Parker, Salida, Superior, Thornton, Timnath, Westminster, Wheat Ridge.

The following are highlights of the State-specific 2003 IECC Standard which pertain to lighting controls.

INTERIOR LIGHTING.

GENERAL. Each area enclosed by walls or floor-to-ceiling partitions shall have at least one manual control for the lighting servicing that area. The manual controls shall be located within the area or be remote switches that identify the lights served and their status.

Exceptions are areas that are continuously lighted or lighting in stairway or corridors.

LIGHT REDUCTION CONTROLS. Each area required to have manual controls must also allow the occupant to reduce the lighting in a reasonably uniform illumination pattern by at least 50%.

Lighting reduction can be accomplished by controlling all lamps or luminaires, by dual switching of alternate lamps or luminaires or alternate rows, by switching middle lamp luminaires independently of outer ones, or by switching each luminaire or lamp.

Areas that have 1 luminaire, or that are controlled by occupancy sensors do not have this requirement.

AUTOMATIC SHUTOFF CONTROLS. Buildings greater than 5000 ft² shall have automatic controls to shut off lighting. Automatic controls shall function either:

- (1) on a scheduled basis, using time of day, with an independent program schedule and with a holiday feature that can turn off lights for at least 24 hours. Areas controlled must not exceed 15,000 ft² and must be on the same floor.

- (2) on an unscheduled basis by occupant intervention.

Automatic controls must have an override switching device. The override switch must be readily accessible, be located so the operator can see the lights or the area controlled, be manually operated, allow lighting to remain on for no more than 2 hours after override is initiated, and control an area no larger than 5,000 ft².

TANDEM WIRING. Fluorescent luminaires with one or an odd number of lamps that are recess-mounted within 10' of each other or are pendant- or surface-mounted within 1' of each other shall be tandem wired.

GUESTROOMS. Guestrooms and suites within buildings shall have at least one master switch located near the entry that controls all lighting fixtures, except those located in bathrooms, within the area.

EXIT SIGNS. Internally illuminated exit signs shall not exceed 5W per side.

INTERIOR POWER ALLOWANCE. The total connected light power of a building interior must not exceed the interior power allowance.

The connected light power is the sum of the watts of all interior lighting equipment. For low-voltage lighting, the wattage is the specified wattage of the transformer supplying the system. For low-voltage track lighting, the wattage shall be the greater of the wattages specified for the luminaires or 30W/lineal ft.

The interior power allowance, in watts, can be calculated by 2 methods:

- (1) ENTIRE BUILDING METHOD: value for the building type times the conditioned floor area for the entire building.
- (2) BUILDING PORTION METHOD: the sum, for all building portions, of the conditioned floor area of each building portion times the value for that portion's use.

Values for calculating interior power allowances are listed on Table 805.5.2 of the 2003 IECC Standard.

EXTERIOR LIGHTING.

GENERAL. Automatic switching or photocell controls shall be provided for all exterior lighting not intended for 24-hour operation. Automatic time switches shall have a combination seven-day and seasonal program schedule adjustment, and a minimum 4-hour power backup.

EXTERIOR LIGHTING. When the power for exterior lighting is supplied through the energy service of the building, all exterior lighting, other than low-voltage landscape lighting, shall have a source efficacy of at least 45 lumens/W.

The above is a very brief guideline, as interpreted by Douglas Lighting Controls. Refer to the Energy Code of the applicable jurisdiction of Colorado for details applicable to your lighting control project.

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