

Quick Reference Guide for Residential Lighting

This quick reference guide is designed for use by building inspectors during field verification of residential lighting, following the 2013 Building Energy Efficiency Standards (Title 24, Part 6). These requirements apply to all lighting permanently installed in single family new construction, additions, and alterations.

Summary of Table 150.0-A ¹	
High-Efficacy	Low-Efficacy
<ul style="list-style-type: none"> Luminaires using LED light sources exclusively that have been certified to the California Energy Commission GU-24 sockets rated for CFLs or LED lamps Pin-based linear fluorescent or CFLs with electronic ballasts Pulse-start metal halide lamps Induction lamps High-pressure sodium lamps 	<ul style="list-style-type: none"> Luminaires using LED light sources not certified to the California Energy Commission High-efficacy lamps, including screw-base CFLs and LED lamps, installed in low-efficacy luminaires Line-voltage or low-voltage sockets compatible with any kind of incandescent lamps Track lighting Mercury vapor lamps

Mandatory Residential Lighting Requirements		
2013 Standards	General: Applies to all Residential Lighting	
§150.0(k)1A	All luminaires are classified as either low-efficacy or high-efficacy.	
§150.0(k)2A	High-efficacy luminaires must be switched separately from low-efficacy luminaires.	
§150.0(k)2B	Exhaust fans must be switched separately from lighting.	
§150.0(k)2C	Readily accessible controls must enable lighting to be manually turned on and off.	
2013 Standards	Fixture Location	Associated Requirement
§150.0(k)3A	Kitchens	At least 50% of total installed lighting wattage must be high-efficacy.
§150.0(k)5	Bathrooms	At least one high-efficacy luminaire must be installed in each bathroom, <i>AND</i> all other bathroom lighting must be high-efficacy <i>OR</i> controlled by vacancy sensors.
§150.0(k)6	Garages (attached or detached), Laundry and Utility Rooms	Installed lighting must be high-efficacy, <i>AND</i> controlled by vacancy sensors.
§150.0(k)7	All Other Rooms	Installed lighting must be high-efficacy, <i>OR</i> controlled by dimmers or vacancy sensors.
§150.0(k)8	Recessed Lighting in Ceilings	Labelled for zero clearance insulation contact (IC), <i>AND</i> labelled for airtightness (AT), <i>AND</i> gasketed or caulked for airtightness between the luminaire housing and ceiling.
§150.0(k)9A	Outdoor Lighting on Single-family Residential Buildings	High-efficacy, <i>OR</i> controlled by a motion sensor, <i>AND</i> one of the following: <ul style="list-style-type: none"> A photocontrol An astronomical time switch An energy management system

¹ California Lighting Technology Center: www.cltc.ucdavis.edu/publication/high-efficacy-residential-lighting-guide

Residential Lighting Exceptions and Special Conditions

2013 Standards	Fixture Location	Associated Exceptions and Special Conditions
§150.0(k)3B	Kitchens	<p>Lighting inside cabinets is NOT included in the 50% high-efficacy wattage threshold.</p> <p>Lighting in areas adjacent to the kitchen, including dining and nook areas, are considered kitchen lighting if they are not separately switched from kitchen lighting.</p> <p>If all kitchen lighting is also controlled by dimmers or vacancy sensors, then some lighting wattage is exempt from the 50% high-efficacy requirements:</p> <ul style="list-style-type: none"> • Up to 50W for homes ≤ 2,500 ft² • Up to 100 W for homes > 2,500 ft²
§150.0(k)7	Other Rooms	Closets less than 70 square feet have no lighting requirements.

Acronyms and Glossary

Acronyms	Definition
CFL	Compact Fluorescent Lamp
Glossary	Definition
Astronomical Time Switch Control	A device that automatically turns outdoor lighting on and off based on the time of day, accounting for geographic location and calendar date
Efficacy	Amount of light (in lumens) produced by a lamp or lighting system per watt (W) of power used
GU-24	A type of lamp holder / socket configuration with at least two projecting electrical contacts
LED	Solid state light emitting diode
Lumen	Unit of light emitted by a light source
Luminaire	Complete lighting fixture consisting of lamp(s) and the parts that distribute the light, position and protect the lamp(s), and connect the lamp(s) to the power supply
Motion sensor	A device that automatically turns outdoor lights on in response to occupancy, and off in response to vacancy
Photo control	A device that automatically turns lights on and off, or adjusts lighting levels in response to available daylight