

N1104.1

Lighting

CHANGE TYPE: Modification

CHANGE SUMMARY: The required percentage of permanent lighting fixtures having high-efficiency lamps has increased from 75% to 90%.

2018 CODE: N1104.1 (R404.1) Lighting equipment (Mandatory). Not less than 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficiency lamps or not less than 75-90 percent of the permanently installed lighting fixtures shall contain only high-efficiency lamps.

Exception: ~~Low-voltage lighting.~~

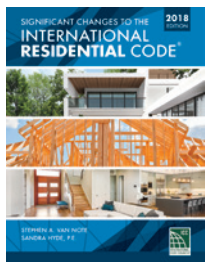
CHANGE SIGNIFICANCE: The definition for high-efficiency lamps and the requirement for a certain percentage of high-efficiency lamps in permanent lighting fixtures first appeared in the 2009 IRC. Lamps have traditionally been referred to as light bulbs. By definition, high-efficiency is determined by the lumens (light emitted) per watts (W) of power to produce the light. The acceptable ratio of lumens to watts depends on the wattage of the lamps. For example, a 60-watt or greater lamp must produce at least 60 lumens/W to be considered high efficacy. Examples of high-efficiency lamps are compact fluorescent lamps (CFLs), T-8 linear fluorescent lamps and LED lamps. Since the 2009 code, the lighting market has been rapidly moving toward high-efficiency lighting and phasing out incandescent lamps, which are not high efficacy. The 2009 IRC required at least 50% of the lamps in permanently installed lighting fixtures to be high-efficiency lamps. In the 2012 edition, that number was raised to 75%. In the 2018 code, the percentage of permanent lighting fixtures containing only high-efficiency lamps has increased to 90% to align with market trends and improve energy savings. Switching to an LED lamp, for example, can



High-efficiency lamps, such as LED lamps, are required in 90 percent of permanent lighting fixtures

reduce electricity consumption by more than 80% when compared to an incandescent bulb. The new requirement still allows 10% of fixtures to have lamps that are not high efficacy to accommodate decorative incandescent lighting.

The exception to allow low-voltage lighting that does not meet the high-efficacy definition has been removed from the code. With the changes in lighting technology, the exception is considered obsolete. Many types of high-efficacy lamps are available in the marketplace and are becoming more competitive in cost, particularly when the extended life of the bulb is considered. Consensus was that voltage should not be a determining factor in the requirements for high-efficacy lighting to conserve energy.



This excerpt is taken from *Significant Changes to the International Residential Code®*, 2018 Edition.

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