

Chapter 11: Lighting

Interior Lighting

[505.1]

Fifty percent of all interior lighting luminaires (fixtures) are required to be high efficacy luminaires. To determine what a high efficacy luminaire is, you need to refer to the definition located in Chapter 2 of the *Washington State Energy Code* (WSEC). The efficiency of light bulbs is referred to as efficacy, which is the measure of light output (lumens) compared to the energy (watts) needed to power the bulb. A high efficacy luminaire is defined as a lighting fixture that does not contain a medium screw base socket and whose lamps or other light sources have a minimum efficiency of:

- 60 lumens per watt for lamps over 40 watts;
- 50 lumens per watt for lamps over 15 watts to 40 watts;
- 40 lumens per watt for lamps 15 watts or less.

[1521]

The WSEC allows two exceptions to this requirement. Lighting compliance can be met by using the *Prescriptive Lighting Option* in Section 1520 or the *Lighting Power Allowance* in Section 1530. The *Prescriptive Lighting Option* allows unlimited use of certain types of fluorescent lighting fixtures. This option is used predominantly in commercial buildings and although it is allowed to be used in residential, it probably will not be used often.

[1530
Table 15-1]

The *Lighting Power Allowance* allows a maximum of 1.0 watt per square foot of floor area of installed lighting. Keep in mind this applies to hard wired luminaires and not to plug-in lights such as table lamps. This means the average size house in Washington (2,200 sq.ft.) is allowed to have 2,200 watts of installed luminaires of any type.

Note: The Washington State Building Code Council provided an interpretation of this code section. They stated that screw in lamps can be substituted for luminaires if it is demonstrated that the application meets or exceeds the provisions of the WSEC. To view this interpretation go to:
<https://fortress.wa.gov/ga/apps/sbcc/Page.aspx?nid=71>

Exterior Lighting

[505.2] Luminaires permanently attached to residential buildings or other buildings on the same lot are required to be high efficacy luminaires as described previously.

The WSEC allows two exceptions to this requirement. Any type of outdoor luminaire may be installed if it is controlled by both a motion control and an integral photocontrol photosensor.

Also, permanently installed luminaires in or around swimming pools and water features are exempt.

Linear Fluorescent Fixtures

[505.3] Any fluorescent lighting fixtures must have T-8 or smaller lamps. T-10 or T-12 lamps are not allowed.