



Residential Certificate of Lighting Fixtures

City of Dundee – Building Division
620 SW 5th Street ▪ P.O. Box 220 ▪ Dundee, OR 97115
503-538-3922 www.dundeeecity.org

Please select the type of construction

- New Construction.** All conditioned spaces within residential buildings must comply with Table N1101.1(1)
 - Select one numbered and one lettered measure from Table N1101.1(2) on page 2.

Additions. Additions to existing buildings or structures may be made without making the entire building or structure comply if the new additions comply with the requirements of this chapter. (N1101.3)

- Large Additions.** Additions that are equal to or more than 40 percent of the existing building heated floor area or 600 square feet (55 m²) in area, whichever is less. (N1101.3.1)
 - Select one numbered and one lettered measure from Table N1101.(2) on page 2

- Small Additions.** Additions that are less than 40 percent of the existing building heated floor area or less than 600 square feet in area, whichever is less. (N1101.3.2)
 - Select one measure from Table N1101.1(2) on page 2 or comply with Table N1101.3

- Exception.** Additions that are less than 15 percent of existing building heated floor area or 200 square feet (18.58 m²) is area, whichever is less, are not required to comply with Table N1101.1(2) or Table N1101.3.

Selected item number: _____ **Selected item letter:** _____

- Depending on which additional measures you have selected, there may be sub-options to specify. Check the appropriate box if provided.

Date: _____

Building Permit Number: _____

Owner's Name: _____

Job Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Applicant's Signature: _____

Printed Name: _____

TABLE N1101.3 – Small Addition Additional Measures (select one)

- 1 – Increase the ceiling insulation of the existing portion of the home as specified in Table N1101.2.
- 2 – Replace all existing single-pane wood or aluminum windows to be U-value as specified in Table N1101.2.
- 3 – Insulate the floor system as specified in Table N1101.2 and install 50 percent of permanently installed lighting fixtures as CFL or linear fluorescent or minimum efficacy of 40 lumens per watt as specified in Section N1107.2.
- 4 – Test the entire dwelling with blower door and exhibit no more than 7.0 air changes per hour at 50 Pascals.
- 5 – Seal and performance test the duct system.
- 6 – Replace existing 78 percent AFUE or less gas furnace with a 92 percent AFUE or greater system.
- 7 – Replace existing electric radiant space heaters with a ductless mini-split system with a minimum HSPF of 8.5.
- 8 – Replace existing electric forced air furnace with an air source heat pump with a minimum HSPF of 8.5.
- 9 – Replace existing water heater for a natural gas/propane water heater with a minimum EF of 0.67.
- 10 – Install a solar water heating system with a minimum of 40 square feet of gross collector area.

TABLE N1101.1(2) Additional Measures

- 1 – High-Efficiency Walls and Windows**
Exterior walls-U-0.047/R-19+5 (insulation sheathing)/SIPS, and one of the following options:
 - Windows – Max 15 percent of conditioned area, or
 - Windows – U-0.30
- 2 – High-Efficiency Envelope**
Exterior walls – U-0.058/R-21 Intermediate framing, and
Vaulted ceilings – U-0.033/R-30A^{d,e}, and
Flat ceilings – U-0.25/R-49, and
Framed Floors – U-0.025/R-38, and
Windows – U-0.30; and
 - Doors – All doors U-0.20, or
 - Additional 15 percent of permanently installed lighting fixtures as high-efficacy lamps or
 - Conservation measure D and E
- 3 – High-Efficiency Ceiling, Window and Duct Sealing (cannot be used with conservation measure E)**
Vaulted ceilings – U-0.033/R-30A^{d,e}, and
Flat ceiling – U-0.025/R-49, and
Windows – U-0.30, and performance tested duct systems^b
- 4 – High-Efficiency Thermal Envelope UA**
Proposed UA is 15 percent lower than the Code UA when calculated in Table N1104.1(1)
- 5 – Building Tightness Testing, Ventilation and Duct Sealing**
A mechanical exhaust, supply, or combination system providing whole-building ventilation rates specified in Table N1101.1(3), or
ASHRAE 62.2, and
The dwelling must be tested with a blower door and found to exhibit no more than
 - 6.0 air changes per hour^f, or
 - 5.0 air changes per hour^f when used with conservation measure E, and performance tested duct systems^b
- 6 – Duct Tested HVAC Systems Within Conditioned Space: (cannot be used with conservation measure B or C)**
All ducts and air handler are contained within building envelopeⁱ

- A – High-Efficiency HVAC System**
 - Gas-fired furnace or boiler with minimum AFUE of 90 percent a, or
 - Air-source heat pump with minimum HSPF of 8.5 or
 - Closed-loop ground source heat pump with minimum COP of 3.0
- B – Ducted HVAC Systems Within Conditioned Space**
All ducts and air handler are contained within building envelopeⁱ
- C – Ductless Heat Pump**
Replace electric resistance heating in at least the primary zone of dwelling with at least one ductless mini-split heat pump having a minimum HSPF of 8.5. Unit must not have integrated backup resistance heat, and the unit (or units, if more than one is installed in the dwelling) must be sized to have capacity to meet the entire dwelling design heat loss rate at outdoor design temperature condition. Conventional electric resistance heating may be provided for any secondary zones in the dwelling. A packaged terminal heat pump (PTHP) with comparable efficiency ratings may be used when no supplemental zonal heaters are installed in the building and integrated backup resistance heat is allowed in a PTHP
- D – High-Efficiency Water Heating and Lighting**
Natural gas/propane, on-demand water heating with minimum EF of 0.80, and
A minimum 75 percent of permanently installed lighting fixtures as CFL or linear fluorescent or a minimum efficacy of 40 lumens per watt as specified in Section N1107.2^c
- E – Energy Management Device and Duct Sealing**
Whole building energy management device that is capable of monitoring or controlling energy consumption, and performance tested duct systems^b, and A minimum 75 percent of permanently installed fixtures as high efficacy lamps
- F – Solar Photovoltaic**
Minimum 1 watt/square foot conditioned floor space^g
- G – Solar Water Heating**
Minimum of 40 ft² of gross collector area^h

For SI: 1 square foot = 0.093 m², 1 watt per square foot = 10.8 W/m².

- a. Furnaces located within the building envelope must have sealed combustion air installed. Combustion air must be ducted directly from the outdoors.
- b. Documentation of performance tested ductwork must be submitted to the building official upon completion of work. This work must be performed by a contractor certified by the Oregon Department of Energy's (ODOE) Residential Energy Tax Credit program and documentation must be provided that work demonstrates conformance to ODOE duct performance standards.
- c. Section N1107.2 requires 50 percent of permanently installed lighting fixtures to contain high efficacy lamps. Each of these additional measures adds an additional percent to the Section N1107.2 requirement.
- d. A = advanced frame construction, which must provide full required ceiling insulation value to the outside of exterior walls.
- e. The maximum vaulted ceiling surface area must not be greater than 50 percent of the total heated space floor area unless vaulted area has a U-factor no greater than u-0.026.
- f. Building tightness test must be conducted with a blower door depressurizing the dwelling 50 P:ascal's from ambient conditions. Documentation of blower door test must be submitted to the building official upon completion of work.
- g. Solar electric system size must include documentation indicating that total solar resource fraction is not less than 75 percent.
- h. Solar water heating panels must be solar rating and certification corporation (SRCC) standard OG-300 certified and labeled, with documentation indicating that total solar resource fraction is not less than 75 percent.
- i. A total of 5 percent of an HVAC systems ductwork must be permitted to be located outside of the conditioned space. Ducts located outside the conditioned space must have insulation installed as required in this code.