



ELECTRICAL ENERGY CERTIFICATION FORM

Project Name: _____ Permit Number: _____

Street Address: _____

Building type or space activity: _____

Complete Section A or Section B based on the standard and applicability. To determine applicability, see the scoping provisions of Section 2 of ASHRAE standards or Section 102 of IECC. All provisions are mandatory unless noted as prescriptive.

SECTION A

Based on ANSI/ASHRAE/IESNA Standard 90.1 2007

LIGHTING

- (Prescriptive)** New and replaced lighting systems comply with the lighting power density of Section 9, except as exempted in 9.1.2.
- (Prescriptive)** New control devices as a direct replacement of existing control devices comply with the requirements of 9.4.1.2(b), (9.1.2).
- (Prescriptive)** Installed interior lighting power includes all power used by the luminaires, including lamps, ballasts, transformers, and control devices, except as exempted in 9.2.2.3, (9.1.3). Such power does not exceed allowance provided in 9.5 or 9.6, (9.2.2.3).
- (Prescriptive)** Luminaire wattage incorporated into the installed interior lighting power is determined in accordance with 9.1.4 (a) through (e).
- Exterior building grounds luminaires that operate at greater than 100 watts contain lamps with a minimum efficacy of 60 lm/W, are controlled by a motor sensor, or qualify for one of the exceptions under 9.1.1 or 9.4.5, (9.4.4).
- Exterior lighting power allowances for all exterior building applications comply with 9.4.5.

INTERIOR LIGHTING CONTROL

- Each area enclosed by ceiling-height partitions has at least one manual control for lighting serving that area. Control devices are readily accessible and located so the occupants can see the controlled lighting. Control devices comply with 9.4.1.2 (a) and (b).
- Buildings larger than 5,000 ft² are equipped with an automatic control device to shut off lighting in those areas, except as exempted in 9.4.1.1. The automatic control device functions on:
 - A scheduled basis per 9.4.1.1 (a);
 - An occupancy sensor per 9.4.1.1 (b); or
- A signal from another control or alarm system per 9.4.1.1 (c).

POWER/VOLTAGE DROP

- Feeder conductors are sized for a maximum voltage drop of 2% at design load, (8.4.1.1).
- Branch circuit conductors are sized for a maximum voltage drop of 3% at design load, (8.4.1.2).

EXTERIOR LIGHTING CONTROL (except as exempted in 9.1)

- Lighting designated for dusk-to-down operation is controlled by an astronomical time switch or a photosensor, (9.4.1.3).
- Lighting not designated for dusk-to-down operation is controlled by a combination of a photosensor and a time switch, or an astronomical time switch, (9.4.1.3).
- All time switches retain programming and time settings during loss of power for a period of at least 10 hours, (9.4.1.3).

ADDITIONAL CONTROL

- Control for display/accent lighting, case lighting, hotel and motel guest room lighting, task lighting, nonvisual lighting, and demonstration lighting are provided in accordance with 9.4.1.4.

TANDEM WIRING

- Luminaires designed for use with one or three linear fluorescent lamps greater than 30 watts each will use two-lamp tandem-wired ballasts in place of single-lamp ballasts when two or more luminaires are in the same space and on the same control device, except as exempted in 9.4.2.

EXIT SIGNS

- Internally illuminated exit signs do not exceed 5-watts per face, (9.4.3).

COMPLIANCE PATH (Prescriptive)

- Building Area Method of calculating interior lighting power allowance is in accordance with 9.5. Space-by-Space Method of calculating interior lighting power allowance is in accordance with 9.6.

SECTION B

Based on International Energy Conservation Code – 2009

INTERIOR LIGHTING CONTROL

- Lighting within dwelling units contain 50% or more of high-efficiency lamps in the permanently installed interior light fixtures, 505.1 Exception.
- Each area enclosed by ceiling-height partitions has at least one manual control for lighting serving that area. Control location complies with 505.2.1.
- Light reduction to at least 50% is accomplished per 505.2.2.1, except as exempted, by means of:
 - Controlling of all luminaires or lamps;
 - Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps;
 - Switching of middle lamp of luminaires independently of the outer lamps; or
 - Switching each luminaire or each lamp.
- Buildings larger than 5,000 ft² are equipped with an automatic control device to shut off lighting in those areas. The automatic control device functions on:
 - A scheduled basis per 505.2.2.2 #1, including an occupant override switch and an automatic holiday scheduling feature;
 - An occupancy sensor per 505.2.2.2 #2; or
 - A signal from another control or alarm system per 505.2.2.2 #3.
- Daylight zone control is per 505.2.2.3.
- Sleeping unit controls in hotels, motels, and boarding houses are per 505.2.3.

ENERGY CONSUMPTION

- Buildings having individual dwelling units are provided with provisions to determine the electrical energy consumed by each tenant by separately metering individual dwelling units, (505.7).

LIGHTING (Prescriptive)

- Total connected lighting power calculated under 505.5.1 is not greater than the interior power calculated under 505.5.2, (505.5).
- Total connected interior lighting power is the sum of all interior lighting equipment (in watts) per 505.5.1.1 through 505.5.1.4, (505.5.1).
- The line-voltage lighting track and plug-in busway are per 505.5.1.4.
- The interior lighting power is calculated utilizing 505.5.2 and Table 505.5.2.
- Exterior lighting supplied through the building's energy service complies with 505.6.1 and 505.6.2.

EXTERIOR LIGHTING CONTROL

- Lighting designated for dusk-to-down operation is controlled by an astronomical time switch or a photosensor, (505.2.4).
- Lighting not designated for dusk-to-dawn operation is controlled by a combination of a photosensor and a time switch, or an astronomical time switch, (505.2.4).
- All time switches retain programming and time settings during loss of power for a period of at least 10 hours, (505.2.4).

TANDEM WIRING

- Fluorescent luminaires equipped with one, three or odd-numbered lamp configurations, that are recess-mounted within 10-foot center-to-center of each other are tandem wired, (505.3 - 1).
- Fluorescent luminaires equipped with one, three or any other odd-numbered lamp configuration, that are pendant or surface-mounted within 1-foot edge-to-edge of each other are tandem wired, (505.3 - 2).

LIGHTING FIXTURES IN OPEN PARKING GARAGES

All lighting fixtures located within portions of above ground, open-sided parking structures are full cut-off types per Article 20, Part 3 of the Fairfax County Zoning Ordinance.

CERTIFICATION

I further hereby certify that the project referenced herein complies with all the applicable requirements of ANSI/ASHRAE/IESNA Standard 90.1, 2007 – or - 2009 IECC, and Article 20, Part 3 of the Fairfax County Zoning Ordinance.

Name: _____

Address: _____

Occupation: _____ Date: _____

Virginia
Registered
Design
Professional Seal,
Signature & Date