ANSI/RESNET/ICC 301-2014 Addendum G-2018, Solid State Lighting
Approved Date February 28-2018
Errata change to Equation 4.2-3, June 15, 2018

Modify the following Sections:

3.2 Definitions

Qualifying Light Fixture Locations – For the purposes of rating, those light fixtures located in kitchens, dining rooms, living rooms, family rooms/dens, bathrooms, hallways, stairways, entrances, bedrooms, garage, utility rooms, home offices, and all outdoor fixtures mounted on a building or pole. This excludes plug-in lamps, closets, unfinished basements, and landscape lightin*g*.

Qualifying Tier I Light Fixture – A light fixture located in a Qualifying Light Fixture Location that contains fluorescent lamps/light bulbs.

Qualifying Tier II Light Fixture – A light fixture located in a Qualifying Light Fixture Location that contains LED lamps/light bulbs ~~with an average luminous efficacy equal to or greater than 50 lumens/watt~~; an integrated LED fixture; ~~or~~ an outdoor light fixture that is controlled by a photocell; or an indoor fixture controlled by a motion sensor.

4.2 Energy Rating Reference Home and Rated Home Configuration

4.2.2.5.2.2. Interior Lighting. Interior lighting annual energy use in the Rated Home shall be determined in accordance with Equation 4.2-2:

$$\text{kWh/y} = 0.8*[(4 - 3*qFF_{IL})/3.7]*(455 + 0.8*CFA)$$
$$+ 0.2*(455 + 0.8*CFA) \qquad \text{(Eq 4.2-2)}$$

$$\text{kWh/y} = 0.9/0.925*(455 + 0.8*CFA)$$
$$*[(1 – FFII_{IL} – FFI_{IL}) + FFI_{IL}*15/60 + FFII_{IL}*15/90]$$
$$+ 0.1*(455 + 0.8*CFA) \qquad \text{(Eq 4.2-2)}$$

where:
 CFA = Conditioned Floor Area
 ~~q~~FFI$_{IL}$ = The ratio of the interior Tier I Qualifying Light Fixtures to all interior light fixtures in Qualifying Light Fixture Locations.
 FFII$_{IL}$ = The ratio of the interior Tier II Qualifying Light Fixtures to all interior light fixtures in Qualifying Light Fixture Locations.

~~For rating purposes, the Rated Home shall not have qFF$_{IL}$ less than 0.10 (10%).~~[17]

For the purpose of adjusting the annual interior lighting energy consumption for calculating the rating, EUL_{LA} shall be adjusted by ΔEUL_{IL}, which shall be calculated as the annual interior lighting energy use derived by the procedures in this section minus the annual interior lighting energy use derived for the Energy Rating Reference Home in Section 4.2.2.5.1, converted to MBtu/y, where MBtu/y = (kWh/y)/293.

For interior lighting, internal gains in the Rated Home shall be modified by 100% of the interior lighting ΔEUL_{IL} converted to Btu/day as follows: $\Delta EUL_{IL} * 10^6 / 365$.

4.2.2.5.2.3. Exterior Lighting. Exterior lighting annual energy use in the Rated Home shall be determined in accordance with Equation 4.2-3:

kWh/y = (100 + 0.05*CFA)* (1 - FFI$_{EL}$ - FFII$_{EL}$)
        + ~~0.25~~15/60*(100 + 0 .05*CFA)*FFI$_{EL}$
        + 15/90*(100 + 0.05*CFA)*FFII$_{EL}$ **(Eq 4.2-3)**
where
    CFA = Conditioned Floor Area
    FFI$_{EL}$ = Fraction of exterior fixtures that are Tier I Qualifying Light Fixtures
    FFII$_{EL}$ = Fraction of exterior fixtures that are Tier II Qualifying Light Fixtures

For the purpose of adjusting the annual exterior lighting energy consumption for calculating the rating, EUL_{LA} shall be adjusted by ΔEUL_{EL}, which shall be calculated as the annual exterior lighting energy use derived by the procedures in this section minus the annual exterior lighting energy use derived for the Energy Rating Reference Home in Section 4.2.2.5.1, converted to MBtu/y, where MBtu/y = (kWh/y)/293.

Internal gains in the Rated Home shall not be modified as a result of reductions in exterior lighting energy use.

4.2.2.5.2.4. Garage Lighting. For Rated Homes with garages, garage annual lighting energy use in the Rated Home shall be determined in accordance with Equation 4.2-4:

kWh = 100*[(1 - FFI$_{GL}$ - FFII$_{GL}$) + ~~25~~15/60*FFI$_{GL}$ + 15/90*FFII$_{GL}$](Eq 4.2-4)
    where:
    FFI$_{GL}$ = Fraction of garage fixtures that are Tier I Qualifying Light Fixtures
    FFII$_{GL}$ = Fraction of garage fixtures that are Tier II Qualifying Light Fixtures

For the purpose of adjusting the annual garage lighting energy consumption for calculating the rating, EUL_{LA} shall be adjusted by ΔEUL_{GL}, which shall be calculated as the annual garage lighting energy use derived by the procedures in this section minus the annual garage lighting energy use derived for the Energy Rating Reference Home in Section 4.2.2.5.1, 100 kWh/y, converted to MBtu/y, where MBtu/y = (kWh/y)/293.

Internal gains in the Rated Home shall not be modified as a result of reductions in garage lighting energy use.

~~[17] (Informative note) When qFF$_{IL}$ = 0.10 (10%), the above equation reduces to the standard interior lighting equation of: kWh/y = 455 + 0.8*CFA.~~

Errata Note:

A publishing error was discovered June 2018 and corrected June 15, 2018 in Equation 4.2-3. A notice was sent advising the Addendum would take effect July 1, 2018 with a transition period of six months until compliance was required.

The equation was first published as:

kWh/y = (100 + 0.05*CFA)*[(1 - FFIEL - FFIIEL)
    + 15/60*(100 + 0 .05*CFA)*FFIEL
    + 15/90*(100 + 0 .05*CFA)*FFIIEL]

It was corrected June 15, 2018 to read:

kWh/y = (100 + 0.05*CFA)*(1 - FFIEL - FFIIEL)
    + 15/60*(100 + 0 .05*CFA)*FFIEL
    + 15/90*(100 + 0 .05*CFA)*FFIIEL