# Wireless Light Sensor

## Wireless Light Sensor

### Light Sensor

#### The Light sensor shall be the Echoflex TAP-31U Series Photo Sensor by Echoflex Solutions, Inc., or equal.

#### Mechanical

##### The Sensor shall support several mounting methods:

###### The sensor shall have integrated magnets in the base plate for mounting on T-bar ceiling rails

###### The sensor shall come with pre-bent wire straps for soft ceiling tile mounting

###### The Sensor shall mount to a hard ceiling using screws or peel-and-stick attachment

###### The Sensor shall support optional mounting to an electrical box or low voltage trim

##### The Sensor shall be available in white

##### The Sensor shall use a frosted cover over the photovoltaic panels

##### The Sensor shall have a button for linking the sensor to a wireless controller

###### The button shall be accessible when the Sensor is mounted

##### The Sensor shall be constructed of ABS injection molded plastic that fully encloses all components

##### The Sensor shall support a start-assist battery option

#### Electrical

##### The Sensor shall utilize photovoltaic energy harvesting for power. Sensors that require low voltage power input or batteries for normal operation shall not be acceptable

###### The Sensor shall be capable of storing sufficient energy to provide normal operation for at least seventy hours without light when charged in 960 Lux (90 FC) for a minimum of 7.5 hours

###### The Sensor shall begin operation within 5 minutes from a discharged state when charged at minimum 50 Lux (5 FC)

###### The photovoltaic solar cells shall produce energy from natural or artificial light sources

##### The Sensor shall use a 902 MHz EnOcean radio. Systems that use other frequencies radios shall not be acceptable

##### The Sensor shall have a lateral range of 24 m (80 ft.) – commercial office space (typical), up to 100 m (330 ft.) line of sight

##### The Sensor shall comply with FCC Part 15.231, IC RSS-210, and CEC Title 24

#### Functional

##### The Sensor shall wirelessly transmit the measured ambient light level and supply voltage when there is sufficient stored energy or sufficient solar energy for operation

###### The Sensor shall sample the ambient light level every 16 seconds when the light level is above 100 Lux

###### For light levels below 100 Lux down to 10 Lux, the sample period shall increase from 16 to 128 seconds proportionally

###### The Sensor shall transmit the last sampled value at maximum ten times the sample rate

###### If the sampled value varies 12.5% from an averaged value of the last four samples, the Sensor shall transmit the new value immediately

##### The Sensor shall support Simple Tap programming for configuration of compatible wireless lighting controllers

##### The Sensor shall support two ranges of light intensity value: 0-1020 Lux (0-95 FC) or 0-65,535 Lux (0-6090 FC)

###### The sensor shall support a mechanism to change the data profile type or light intensity range

##### The Sensor shall support a radio-range confirmation test mode

###### The Sensor shall provide visual indication of the communication signal strength with compatible lighting controllers

##### The Sensor shall support a light-level evaluation test mode

###### The Sensor shall provide visual indication of the ambient light level where the sensor is mounted

##### The Sensor shall support a daylight harvesting commissioning mode

###### The Sensor shall transmit every 10 seconds for a duration of five minutes

8DC-9298 rev.1.0