## Wireless Lighting Occupancy Sensors

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### Description

Occupancy sensors can be used to turn off lights when no one is present in the space. If a large space is controlled by a single sensor, the odds that part of the space is occupied are higher and therefore savings potential is lower. Wireless occupancy sensors can allow smaller groups of fixtures to be created cost effectively, increasing the amount of savings by turning off those areas of a large space that are actually unoccupied, while keeping lights on in those areas that are occupied.

### Modeler Description

For each light in the model, reduce the lighting fraction by the user specified amount. The default reduction of 15% comes from ASHRAE 90.1-2010 Table G3.2, as wireless occupancy sensors should be able to control groups of lights at a more granular level, as opposed to the standard 10% reduction for large, open spaces.

### Use Case Types

Retrofit, New Construction

### Arguments

No arguments

### Initial Condition Message

### Final Condition Message

The number of spaces where occupancy sensors were added.

### Not Applicable Messages

Not applicable if no lights were found in the model.

### Warning Messages

### Information Messages

List each light that an occupancy sensor was added to.

### Error Messages

Error if more than a 100% reduction was requested.

### Code Outline

* Find all lights
  + Find the schedule for each light
  + Clone the schedule
  + Reduce the cloned schedule by the specified amount
  + Assign the modified schedule to the light

**This measure applies to:**

1. Large Office
2. Medium Office
3. Primary School
4. Secondary School
5. Large Hotel
6. Hospital
7. Small Office
8. Stand-Alone Retail
9. Strip Mall
10. Supermarket
11. Quick Service Restaurant
12. Full Service Restaurant
13. Small Hotel
14. Outpatient Healthcare
15. Warehouse
16. Midrise Apartment

### References

1. ASHRAE 90.1-2010 Table G3.2, Power Adjustment Percentages for Automatic Lighting Controls