## Elevator Cab Lighting Controls

### Author

### Matt Steen, Eric Ringold - Ambient Energy

### Description

This energy efficiency measure (EEM) reduces the lighting power density in elevators by switching from low efficacy incandescent lamps to LEDs.

### Modeler Description

This EEM replaces the elevator lighting definition from the baseline value (assumed to coincide with 88 W/elevator cab, or 3.14 W/ft^2) to one representing 100% high-efficacy fixtures, with an effective lighting power of 32 W/elevator cab. The measure identifies the electric equipment load definition whose name includes the words “elevator lights” and replaces that definition with a new one meeting the high efficacy lighting power. Instance multipliers are applied as per the original load.

### Use Case Types

New Construction

### Arguments

“run\_measure” is a choice argument that determines whether or not the Measure is applied during a given run.

### Initial Condition Message

The initial model contained {X} elevator lighting load instances with a total building elevator lighting power of {X} Watts.

### Final Condition Message

Elevator lighting power density has been changed from {initial value} to {final value} for approximately {elevator count} elevator cabs.

### Not Applicable Messages

* No elevator lighting load definitions found. EEM not applied.
* Elevator lighting already at 100% efficacy power levels. EEM not applied.

### Warning Messages

### Information Messages

N/A

### Error Messages

N/A

### Code Outline

* Get all electric equipment definitions and find definitions whose name includes ‘elevator lights’
* Create new electric equipment definition meeting 100% efficacy power.
* Loop through all space loads and find elevator lighting load instance, get load multiplier
* Remove original load instance and apply new load. Apply original multiplier.

### References:

1. <https://www.energycodes.gov/sites/default/files/documents/BECP_Energy_Cost_Savings_STD2010_May2011_v00.pdf>