

## **SDERC Lighting Display**

### **Emergency Lighting: Occu-Smart Fixture**

Location: Mobile Display

Technology Description: Provide minimal light levels required by codes during unoccupied periods and full light output during occupied periods. Lights are dimmed but power does not turn off; when the integrated sensor detects occupancy, light levels increase to maximum. Maintaining minimal power provides comfort for personnel as well as long lamp life since there are no restarts. Units with standby power levels of 33%, 10%, and 5% of maximum light levels are available. Display unit is fitted with two F17T8 lamps and a 33% step down (dimming) ballast with a ballast factor of 1.15. Although stairwell lights are usually on 24/7, there are studies that show that they are occupied less than 5% of the time.

Applications: Stairwells, restrooms, laundry rooms, other areas where minimum light levels are required by codes.

Energy Savings: Replacing two F32T8 lamps (62W) with one high lumen F32T8 drawing 32W on full power and 14W on standby (33%) will save 150 kWh/yr (assume 8,760 hrs/yr). Assuming 95% operation at the standby level and \$0.15/kWh, this is a savings of \$22.50 per fixture per year.

Costs: Currently an Occu-Smart fixture is three times more expensive than conventional new fixtures. If the Occu-Smart unit is installed instead of a new T12 fixture, the payback can be about 2.5 yrs; if it is installed instead of a new T8 fixture with a generic electronic ballast, the payback can be about 3 years. Paybacks can be much longer compared to retrofitting existing fixtures with high performance T8s and extra efficient fixed output ballasts or instead of installing new high performance fixtures with extra efficient fixed output ballasts.

For more information, visit: [http://eetd.lbl.gov/btp/lsr/pdfs/bilevel\\_fixture\\_economics.pdf](http://eetd.lbl.gov/btp/lsr/pdfs/bilevel_fixture_economics.pdf)

Donated Product: SDREO would like to formally thank Barry Kruger from Lamar Lighting for donating the fixture. He can be reached at (800) 724-7443 and [barry@lamarlighting.com](mailto:barry@lamarlighting.com).

Discussion: There are two problems with dimming ballasts. One is high cost. The other is that most are energy hogs. You can compare BEF (ballast efficacy factor) between dimming ballasts and extra efficient fixed output ballasts. But there is hope, because both pricing and efficacy of dimming ballasts may improve.