

Occu-Smart Lighting System

LaMar Lighting



Occu-Smart Motion-Sensing Fluorescent Lighting System for Stairwells

Farmingdale, Suffolk County

Stairwells of commercial and residential facilities are required to be lit 24-hours a day for emergency purposes. However, stairwells are one of the least-occupied spaces in a building, yet are continuously illuminated, resulting in unnecessary energy consumption. With support from NYSERDA, LaMar Lighting developed the Occu-Smart lighting system to address the problem of unnecessary energy consumption in commercial and high-rise residential building stairwells, without compromising tenant safety.

The Occu-Smart lighting system can be a ceiling or wall mounted lighting fixture that is available in one-or two-lamp T8 and compact fluorescent. The system incorporates an internal ultra-sonic motion sensor, a bi-level ballast and a standby light level that is adjustable, with four light level options. It provides a standby low-light level, and upon detection of motion in the stairwell, the Occu-Smart system immediately increases the lighting to full brightness. After occupancy is no longer detected, the fixture reverts back to the low, standby level. The automatic bi-level lighting control saves energy and ensures full light output when the stairwells are occupied.

The Occu-Smart fixtures were installed in the stairwells of a commercial office building in New York City and a residential building on Roosevelt Island, NY. An independent evaluation was conducted by the Lighting Research Center (LRC). Average stairwell occupancy was measured to be less than 2%. The Occu-Smart systems dimmed light levels to standby levels for 98% of the study period in both installations. The fixtures were set at a 33% output standby level at the residential site, which resulted in a 53% energy savings. In the commercial office setting, the lamps were set at a 10% output standby level, which resulted in a 77% energy savings. The results of the two evaluations were published by the LRC on the DELTA Program web site: <http://www.lrc.rpi.edu/programs/DELTA>.

The Occu-Smart fixture has received numerous awards, including the Energy Award and Best of Category in Emergency Lighting at the 2002 LightFair International lighting trade show and conference. It was also awarded a Best of Show award from Design Journal magazine.

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