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Smart LED Lighting in Ceiling Fans

By Carolyn on August 17, 2008 8:52 AM

In California, 90% of ceiling fans sold have light kits with incandescent sources and an average connected load of 120 watts.

Recent Title 24 changes marginally increase energy savings in these applications via dimmers but significant energy savings potential remains by shifting the fan lighting market towards energy efficient sources.

The California Lighting Technology Center (CLTC) at the University of California, Davis and Hunter Fans have partnered to design and develop a ceiling fan system that optimizes a combination of emerging LED technology and commercially available lighting controls to create a cost-effective LED lighting kit for energy savings.

The LED ceiling fan light kit will serve as a direct bolt-on replacement for pre-existing fan systems providing a smart energy-efficient retrofit solution. The retrofit fan light kit will be comprised of an LED array, power supply, glass dome with a hanging tree, and a mounting plate.

- The LED light kit will be designed to have an output of 32 Lumens per watt (approximately 800 lumens at 25 watts). Typical incandescent kit systems usually produce less than 15 lm/W.
- Custom low profile LED driver developed by Hunter Fans and Texas Instruments.
- Pull Chain Switch allows for dimming, ON and OFF functions of the LED luminaire.

The project on LED Residential Fans seeks to develop and commercialize novel LED-based lighting kits for ceiling and exhaust fans in residential applications. Both retrofit and new construction residential applications are indicated with possible opportunities in commercial applications. Additionally, the project will explore the integration of controls systems to the LED fan systems to determine if additional energy savings can be achieved in a cost-effective manner.

The CLTC and Hunter Fan are project partners. This project is part of the latest PIER portfolio — Lighting California's Future (LCF). LCF program information and reports: www.archenergy.com/lcf/LED-projects/ceilingfan.html