



# Lighting California's Future

## LCF Project 9.0

### Smart LED Lighting in Residential Ceiling Fans

#### CLTC/Hunter Fan

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# Goals

- **The goal of this project is to design, develop, demonstrate and commercialize a novel LED lighting and controls system that can be implemented in multiple residential fan applications (ceiling and exhaust fans). The target is both retrofit and new application markets. Key manufacturing partners (Hunter Fan) and California homebuilders will participate in the development and testing of these systems.**
- ✓ The product shall optimize a combination of emerging LED technology and commercially-available lighting controls to create a cost-effective LED lighting kit for both ceiling fans and exhaust bathroom fans.
- ✓ The project will also investigate the development of an entirely new LED ceiling fan system that is designed around the unique characteristics of LEDs.
- ✓ The project will explore the possibility of integrating smart LED lighting controls into the ceiling fan market for peak demand savings.

# Current Activities

- Partnership: California Lighting Technology Center (CLTC) and Hunter Fans
- Market analysis
- CLTC working with Hunter to design and develop a new LED Fan Light Kit for the 2008 market.
- Active CAD modeling and prototyping
- Exploration of LED lighting in exhaust/bathroom fans
- Photometric and thermal testing
- Exploration of controls

# Planned Demonstrations



The CLTC will :

- Develop an LED Ceiling and Exhaust Fan Field Test Plan
- Install at least 50 prototypes, using a mix of light kits and controls
- Identify field test sites that meet the field test plan site selection requirements
- Establish field test agreements
- Establish baseline test conditions

# Input

- Fan Controls and features (occupancy sensor integration, Hi/Low power switching, dimming, title 24 compliance)
- Integration of Safety/ Standby LED for emergency and way finding
- Baseline testing and standardization methods
- Potential Field testing sites