



Touchstone Energy®  
The power of human connections

## Lighting the Way to Energy Savings

2½ days

This workshop provides Electric Cooperative commercial field service personnel with a thorough overview of the many factors that affect indoor and outdoor commercial lighting as well as a foundation for calculating energy savings. While this class reviews the basics discussed in the **Commercial Energy Auditing Workshop**, they cover lighting retrofit calculations far more extensively.

Areas of concentration include lighting terminology, light source families, new lighting technologies, understanding lamp and ballast catalogs, and identifying retrofit opportunities. The workshop text is the 200+ page **IESNA Lighting Ready Reference**. The overall objective of this training is to prepare attendees to perform walk-thru lighting audits for C&I members.



Particular attention will be focused on the impact of federal law requiring the phase-out of magnetic ballasts and T12 lamps. Additionally, attendees will learn how to integrate S/P ratios into their retrofit savings calculations.

Our instructor, Jim Herritage, CEM®, of Energy Auditors, Inc. has been providing energy training since 1980 and serves as Touchstone Energy's senior national technical trainer; he holds an **IESNA Certificate of Technical Knowledge**.

### Workshop Outline

- a) Light and Vision
- b) Lighting Terminology
  - i) Chromaticity
  - ii) Color Rendering Index
  - iii) Foot-candles: Horizontal & Vertical
  - iv) Lumens
  - v) Candela
- c) Lighting Laws
  - i) Inverse Square Law
  - ii) Cosine Law
- d) Lighting Sources
  - i) Incandescent
  - ii) Fluorescent
  - iii) HID
  - iv) LED
- e) Ballasts
  - i) Ballast Factor
  - ii) BEF
- f) Catalogs
  - i) Lamp
  - ii) Ballast
- g) Impact of S/P Ratios
- h) Retrofit Calculations

### What attendees have said...

*Excellent workshop – this was brand new for me – but I left with some good information.”*

Julie Lewis, Grayson RECC

*“Very knowledgeable instructor, covered much ground quickly, relevant to Cooperatives’ needs.”*

Rob Kirkpatric, Service Concepts

*“I enjoyed the class because of the amount of interaction between the instructor and students.”*

Tina Preece, Grayson, RECC.

*“I learned a lot concerning the advantages of the T12 to T8 conversion.”*

J. Cone, SCP

*“I picked up info helpful to Members in making lighting retrofits.”*

Harold Cornett, Bluegrass Energy