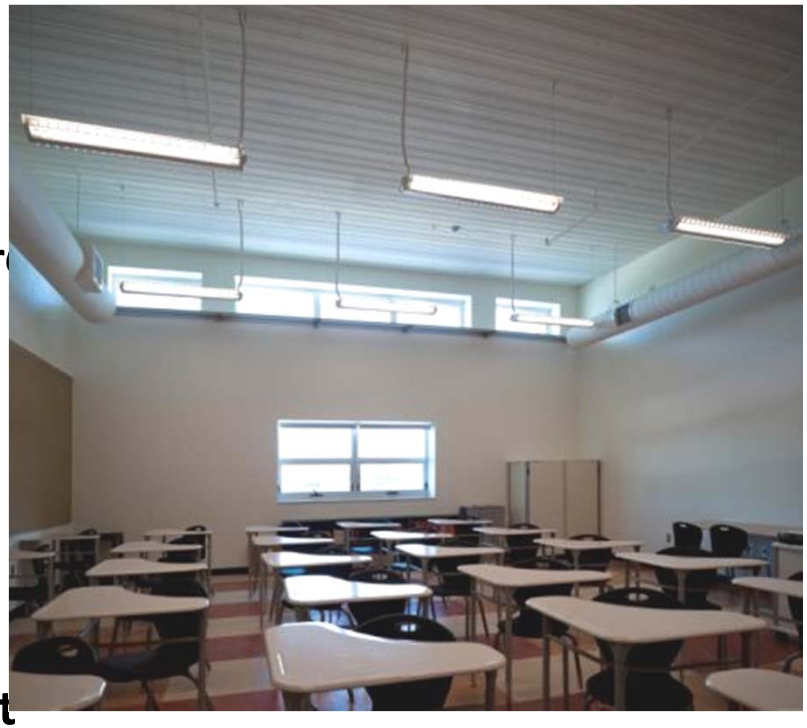
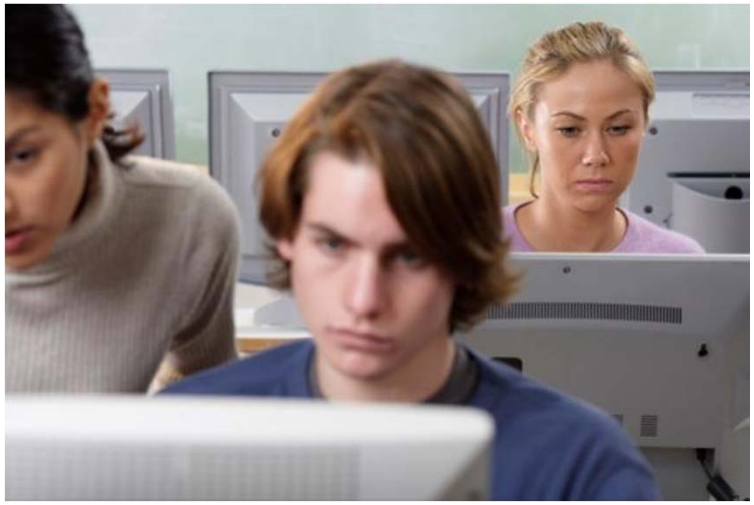
Turkey Foot Classroom Lighting

- "Right Size" Lighting
- High Performance T8 Lamps
- NEMA Premium Ballasts
  - Up to 20% energy savings when pair
    lamp
- Ballast Tuning
- Efficient Light Fixtures
- Room Finishes
- Room Geometry
- 0.82 Connected Watts/Square Foot



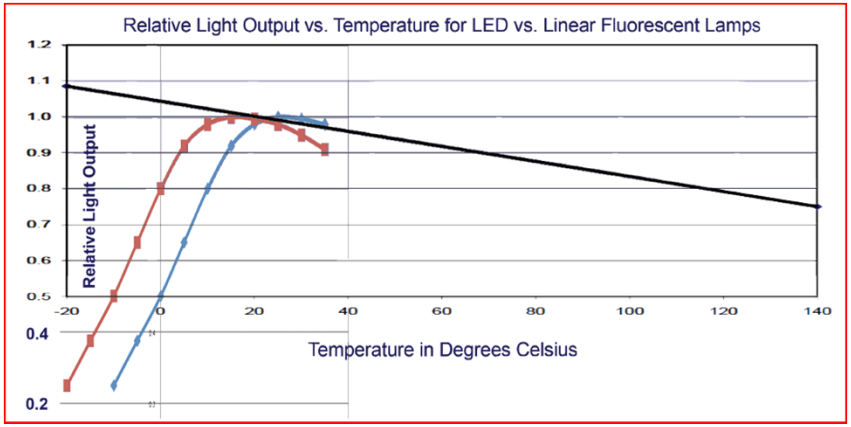
Scott High School Classroom Lighting

- "Right Size" Lighting
- High Performance LED Troffers in Classrooms and Common Areas
- Lumen Tuning
- Room Finishes
- Room Geometry
- 0.52 Connected Watts/Square Foot



LED Lighting

- High Efficacy
- Superior Light Control
- LED Dimming Saves Energy at Approximately 1:1 Ratio
- vs. LFL - 1.0 bf, 1 Lamp
  - 100% = 35 Watts
  - 3% Dim = 8 Watts
- LED Sources Do Not Noticeably Shift Color as They Dim
- Instant On/Off
- No IR or UV Emissions
- Mercury Free/Durable
- Less Issues With Temperature



Interior LED Troffer Lighting

- 100 – 130+ Lumens Per Watt Troffers vs. 90 -97 LFL (not including LFL fixture efficiency)
- Multiple Lumen Outputs For Tuning
- Costs Continue to Drop
- Efficacy Continues to Go Up
- Do Your Homework - Beware of Deals to Good to be True

High Performance Classroom Finishes and Geometry

- Ceiling - Minimum of 90% Reflective
- Floor - Minimum of 40% Reflective
- Walls - Minimum of 70% Reflective
- One Accent Wall – 40% Reflective
- Walls above 7’0” – 90% Reflective
- Light Finish Desks
- Reduce Ceiling Height/Less Volume to Light

Scott High School Daylighting Strategies

- Tubular Daylighting Devices (Top Lighting) in Common Areas
- Side Lighting in Classrooms
- Exterior Light Shelves on Exterior South Facing Façade
- Manual Shading Devices
- Variance for Classroom Footcandle Levels
  - 40 Footcandles in lieu of 50 footcandles
  - Approximately a 20% Connected Energy Reduction in Classrooms

Scott High School Exterior LED Lighting

- Efficient Light Fixtures – Higher Delivered Lumens per Watt
- Long Lamp Life
- Dark Sky (IESNA full Cutoff)
- Instant "ON"
- Zoned lighting

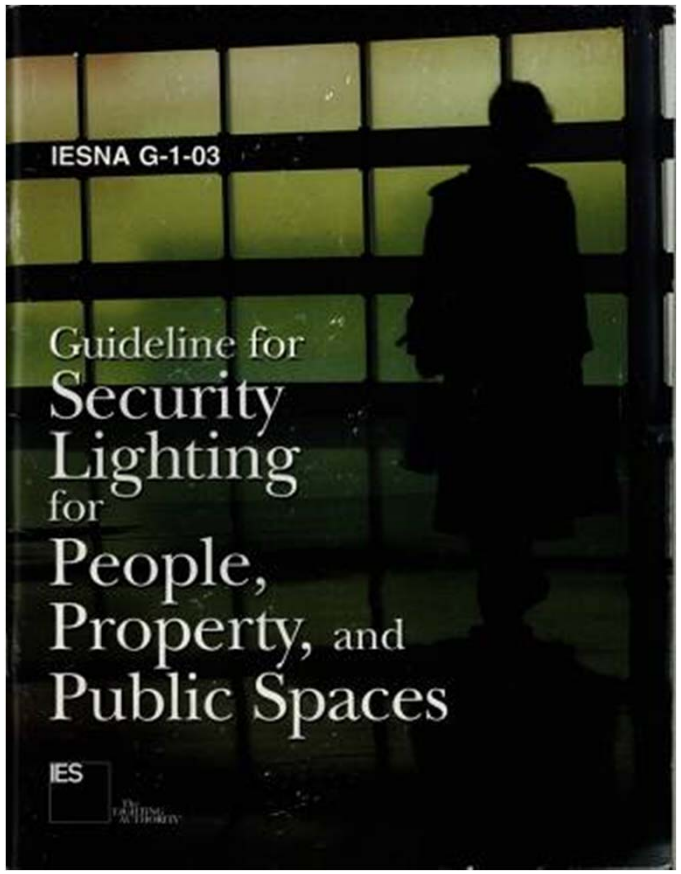
Standalone Lighting Controls System vs. Building Automation System

- First Cost
- Factory Start-Up – Contractor/Vendor Knowledge
- Calibration/Seasonal Issues of Daylight Harvesting
- Commissioning
- Owner Training
- Continued Maintenance
- Service Contracts
- Life of System/Obsolete Equipment
- Familiarity of System – Scheduling
- BAS Contractor is Familiar with Control Sequences/No Constraints to System

Lighting - Unoccupied

Variance Required:

702 KAR 4:170, Part 2, paragraph a.6

7.2.13 Schools and Institutions

- **During periods of inactivity, some rural and suburban school administrators choose to use a black-out method to protect buildings and contents, whereby buildings and grounds are deliberately left in the dark.**