

LED LIGHTING - THE NEXT CHAPTER

Greg Merritt

Vice President Marketing, Cree Lighting

Appalachian Energy Summit

APPALACHIAN STATE UNIVERSITY

University of North Carolina Energy Leadership Challenge

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The High Cost of Lighting

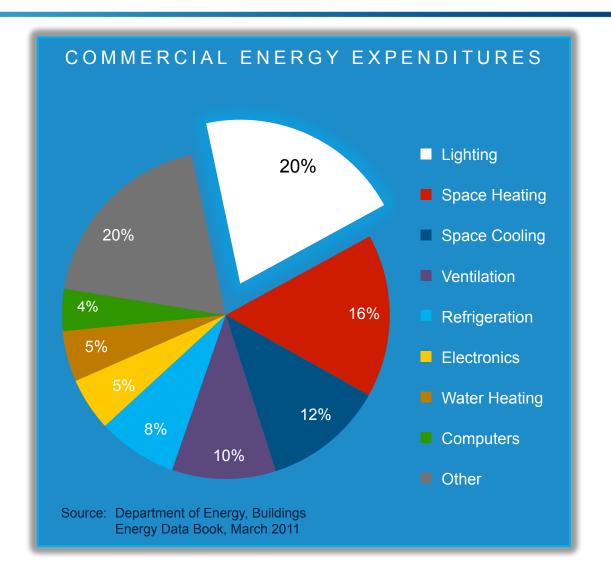
Lighting accounts for

~20%

of total commercial energy expenditures

Typically greater than

1/3
of total electric bill



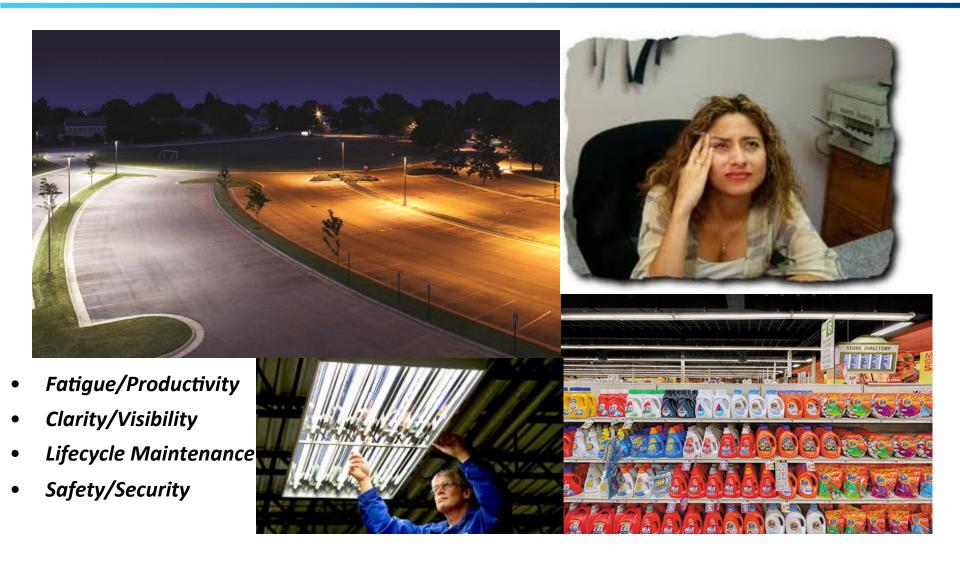
LED Lighting Reaching Remarkable Milestones

Energy Efficiency & Energy Costs	Light Emitting Diodes (LEDs)	Compact Fluorescents (CFLs)	Incandescent Light Bulbs
Life Span (average)	50,000 hours	8,000 hours	1,200 hours
Watts of electricity used (equivalent to 60 watt bulb). LEDs use less power (watts) per unit of light generated (lumens). LEDs help reduce greenhouse gas emissions from power plants and lower electric bills	6 – 9 watts	13-15 watts	60 watts
Kilo-watts of Electricity used (30 Incandescent Bulbs per year equivalent)	329 KWh/yr.	767 K Wh/yr.	3285 KWh/yr.
Annual Operating Cost (30 Incandescent Bulbs per year equivalent)	\$32.85/year	\$76.65/year	\$328.59/year

LED Performance and Payback Evolution

Environment	Incumbent Light Source
Indoor - Troffers	Fluorescent 64 Watts
Indoor - Downlights	Incandescent 65 Watts
Outdoor - Garage	Metal Halide 185 Watts
Outdoor - Streetlights	HID 250 Watts

LED Lighting's Practical and Sustainable Benefits



The Savings Are Staggering!

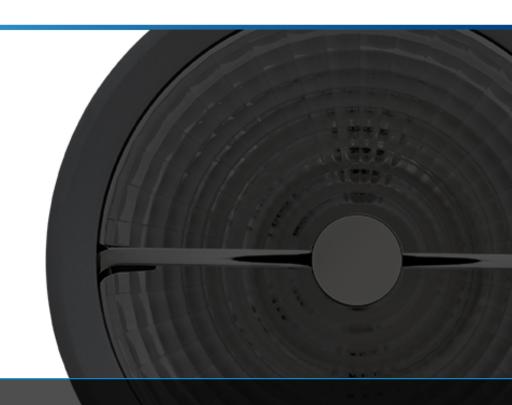
What if the US Converted All Linear Fluorescent Fixtures?

100% Conversion: Potential Source Energy Savings = 1,146 Trillion Btu \$11 Billion



Cree IS LED Lighting

- Pioneered today's LED lighting technology
- 100% committed to the continued advancement of LED lighting



BETTER LIGHT - LESS ENERGY - LOWER COSTS
THE TIME FOR LED LIGHTING IS NOW