

Energy & Store
Development Conference

2013
E+Sd



THE VOICE OF FOOD RETAIL 

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2013

Apples to Oranges: The Grocer's Guide to Energy-Efficient Lighting

Panel

Moderator

Antoinette Mileti

Grocery Vertical Manager, Professional Markets, GE Lighting

Feature Speaker

Eric Johnson

Director of Construction, Brookshire Brothers

Lighting Expert

William Piontkowski

Development & Design Team, GE Lighting



Options

In a low margin industry, lighting can make a big difference. Today there are LED options for all areas of a supermarket inside and out – even where customers don't see:

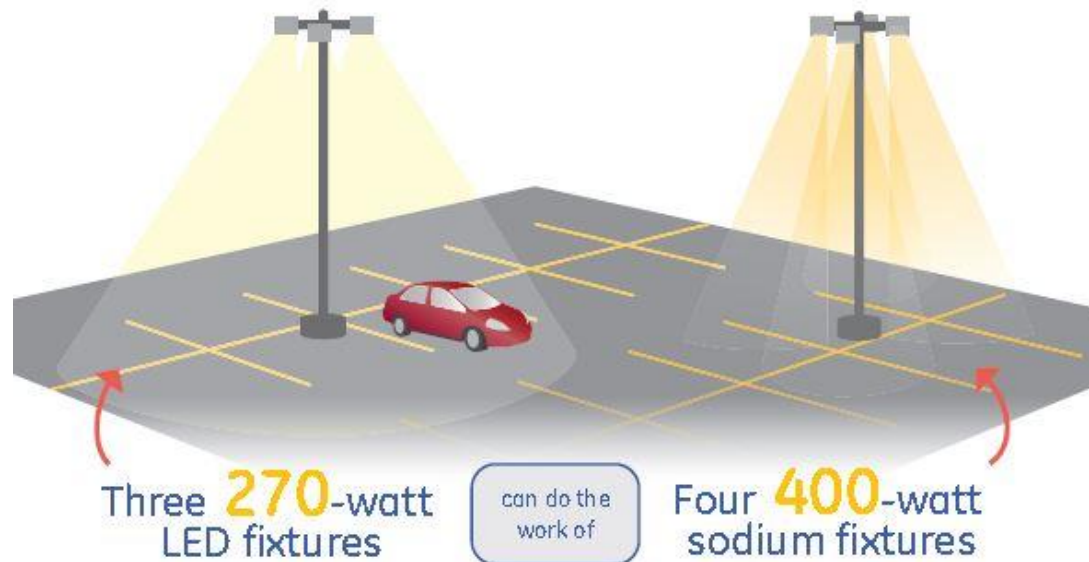
- In-store (general ambient)
- Displays (accent & feature)
- Refrigerated cases (vertical & horizontal)
- Back offices/break room
- Signage
- Parking lot/perimeter
- Warehouse/cold storage
- Canopies



Innovation

Curbing energy & maintenance costs:

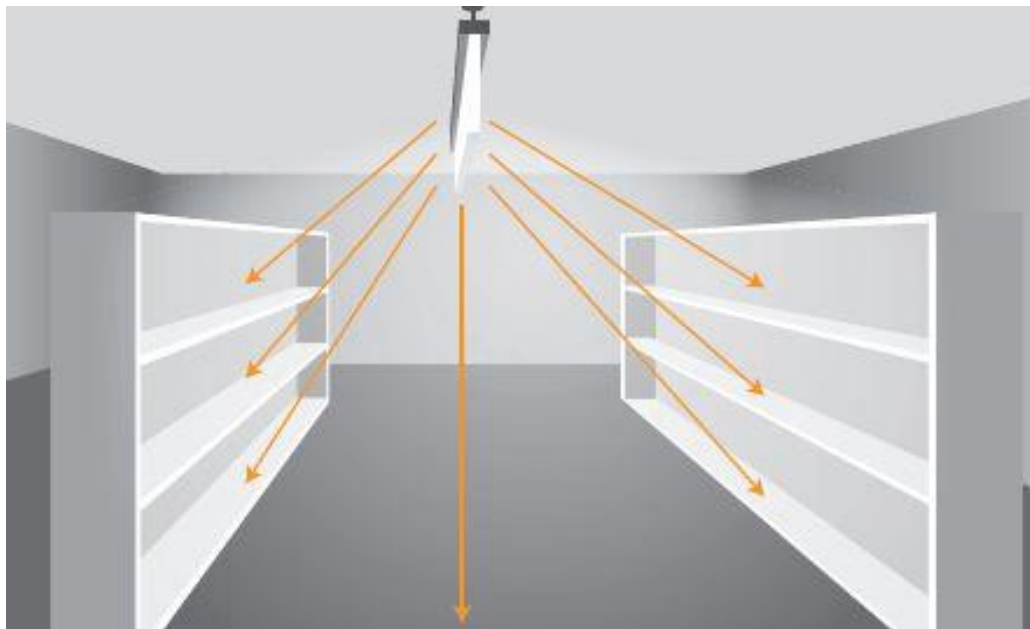
- Higher lumen output fixtures are making it practical to add LED to parking lots
- More efficient & reliable systems are replacing fluorescent in freezers (LEDs like the cold!)
- LED is preferable in outdoor signage



Innovation

Advanced optical designs make it easier to:

- Illuminate hard-to-reach bottom shelves
- Enhance the visual appeal of fresh meats/produce
- Avoid “dots” of light and glare on surfaces



Where to Start

LED is often the best choice
but not always – choosing
energy-efficient lighting
can be like comparing
apples to oranges

As new energy standards
appear and old
technologies disappear,
lighting is becoming a
longer-term strategy

Get excited about what
light can do for your
grocery space!



Success Story: Brookshire Brothers

- Headquartered in Lufkin, Texas
- 76 supermarket locations in Texas/Louisiana
- Recently updated lighting in stores, parking lots, signs and refrigerated cases to support its mission to “Create a satisfied customer!”

Eric Johnson, Director of Construction

- Supervised lighting upgrade
- Member: FMI Energy and Store Development Committee



In-Store Lighting

Re-lamping fluorescent fixtures

- All locations
- Went from 32 to 28 watts in 4-lamp fixtures; replaced ballasts
- Average \$3,200 savings per store/year



In-Store Lighting

LED in refrigerated cases

- 12 locations; 100 doors each; constantly repairing fluorescent; glare was an issue
- LED = 60% energy savings; 50,000-hours life; uniform look
- Options for walk-in coolers (storage)



In-Store Lighting

LED for displays

- Installed LED PAR30
- Spotlights make bottles sparkle and help shoppers read labels



Outdoor Lighting

LED area lighting

- Company HQs + 7 supermarket locations
- Improved lighting design in parking lots
- Replaced 400- & 1,000-watt HID fixtures with LED < 280 watts
- Wall-mounted LED fixtures also illuminate building perimeter
- \$14,000+ energy cost savings/year



Outdoor Lighting

In signs

- 15 locations
- LED replaced neon saving 80% energy
- Less upkeep; eliminates service calls



Outcomes

Brookshire Brothers' complete lighting update:

- Reduced energy use 2.6 million kWh/year saving \$235,000 (\$.09 kWh rate)
- Reduced maintenance burden
- Achieved the company's mission to find new ways to lessen its eco impact
- Created crisp, consistent lighting in freezer cases
- Improved visibility in parking lots
- Enhanced brand image with bright, uniformly lit signage
- Provided a model to use for new construction and existing stores



Savings Across All Stores

Building on the model established at its supermarket locations, Brookshire Brothers has also made energy-efficient lighting updates to:

Convenience stores (34 locations)

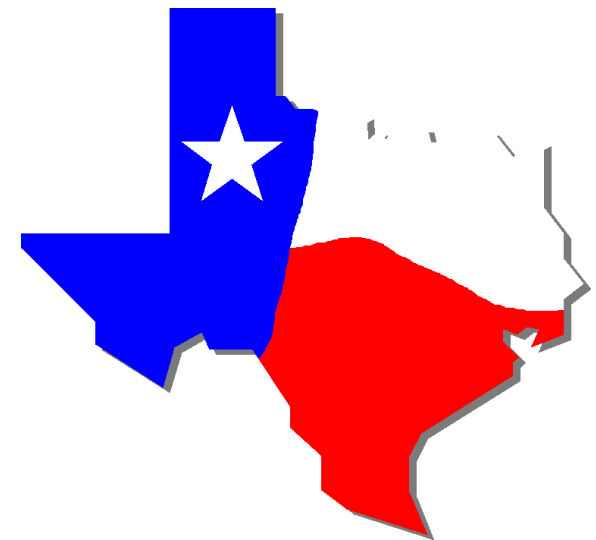
- Fluorescent re-lamp (4+ stores)
- LED in refrigerated cases (5+)
- LED area lighting (4+)

Discount tobacco outlets (44 locations)

- LED area lighting (4+)

Pharmacies (9 locations)

- Under consideration



Brookshire Brothers
Food & Pharmacy
A Celebration of Family and Community

Other Considerations

A lighting upgrade brings other considerations for today's building operations manager including:

- Project coordination with vendors and suppliers
- Project financing and long-term forecasting
- HVAC and other energy-minded upgrades
- Managing “big data” to ensure food quality & energy efficiency



Next Steps

A professional lighting audit is a good place to start. Your local utility, electrical products distributor or energy management expert can help:

What to prepare:

- Electric/utility bills (past 12 months)
- List of preferred electrical services providers
- Staff member to provide access to all areas of the store

What's collected:

- Lighting area dimensions, fixture quantities/locations/heights
- Lamp types, quantities & wattages
- Input power specifications, lighting operating hours, annual energy usage
- Photographs of audited areas

Next Steps

What to expect:

- New optimized lighting layout
- Product bill of material
- ROI analysis/time to project payback
- Proposed financing
- Final steps to installation

When choosing your supplier only trust a proven partner with an established reputation – ask questions and challenge claims, not all LEDs are the same!

Current Lamp		Proposed LED Lamp	
75W Halogen PAR30		10W LED PAR30	
Number of Lamps (Traditional)	40	No. of LEDs	40
Rated Lamp Life (hr.)	3,000	Rated LED Life (hr.)	30,000
Lamp Wattage (Traditional)	75	LED Wattage	10
Cost per lamp (Traditional)	\$ 6.00	Cost per LED lamp	\$ 45.00
Burning Hours per year	4,368	Rebate per LED	\$ -
Energy Rate \$/kWh	\$ 0.09	Labor per LED Replaced	\$ 5.00
Replacement Labor per lamp	\$ 5.00	Cost of LEDs (with rebate)	\$ 1,800.00
		Labor to replace LEDs	\$ 200.00
		Total Investment	\$ 2,000.00
Based on Long term averages			
No. of lamps replaced each year	58		
Cost of Lamps replaced/yr.	\$ 349.44		
Labor Cost for Lamps/yr.	\$ 291.20		
Energy Cost/yr. Current	\$ 1,179.36	Energy Cost/yr. LED	\$ 157.25
Maintenance costs/yr.	\$ 640.64		
Total Cost/yr.	\$ 1,820.00		
		Savings/yr.	\$ 1,662.75
		Simple Payback	13 months

The Supermarket of 2020

Refurbishing of retail space for grocery

Fewer fixtures/less cluttered ceilings

Shopping as entertainment

- Experiential environments
- Digital signage, interactive kiosks
- Lighting to help attract, engage & convert customers



Stricter energy standards will make lighting controls more important to meeting building codes

- The pursuit of smarter strategies will lead some grocers to energy self sufficiency

Questions?



Thank You