



Retailer Energy Alliance

**The Retailer Energy Alliance
Supplier Summit**



National Energy Alliances

- **Retailer Energy Alliance**
 - General merchandise, grocery store, restaurant, and warehousing and distribution
- **Commercial Real Estate Energy Alliance**
 - Office, shopping center, hospitality, medical office, GSA
 - Forming this summer
- **Institutional Energy Alliance**
 - State and local government
 - Hospitals (Energy Smart hospitals)
 - Colleges and Universities/K-12 Schools (Energy Smart schools)
 - Federal government
 - Forming early next year
- **Commercial Building Industry Energy Alliance**
 - Manufacturers, suppliers, designer community, utilities, ESCOs, finance
 - Forming early next year
- **Interested in joining one of the alliances?**
 - Check buildings.energy.gov/alliances.html (if a retailer, you can sign up online)
 - or e-mail Simone.Katz@ee.doe.gov

Summary

- ***Near-Term Opportunities:***

- LED Parking Lot Lighting Solicitation
- Commercial Lighting Solution
- Library of proven technologies – Best Practices/Demonstrations

- ***Challenges***

- WCC Dry-Climate Rooftop Units
- Other technology procurement solicitations
- Whole-building design integration
- Retrofitting of whole store
- Bundle sale of equipment with energy efficiency incentives/rebates



Near-Term Opportunities

- LED Parking Lot Lighting Solicitation
- Commercial Lighting Solutions
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Challenge Area:

LED Outdoor Area (Parking Lot) Lighting

Why LEDs make sense for retail parking lots

Save energy

- Enhanced luminaire optical efficiency

- Better total system efficacy (lumens per watt)

- Control capability - dimming

Reduced maintenance costs

Improved uniformity

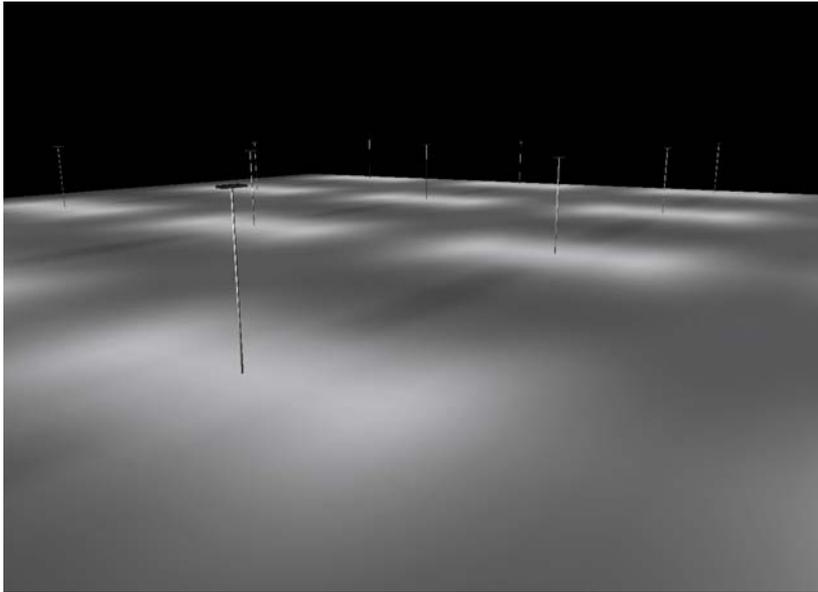
Environmentally friendly

Timing

REA working group established in April 2008

Specifications completed by the end of 2008/early 2009

Metal Halide Parking Lot



Average: 3.5

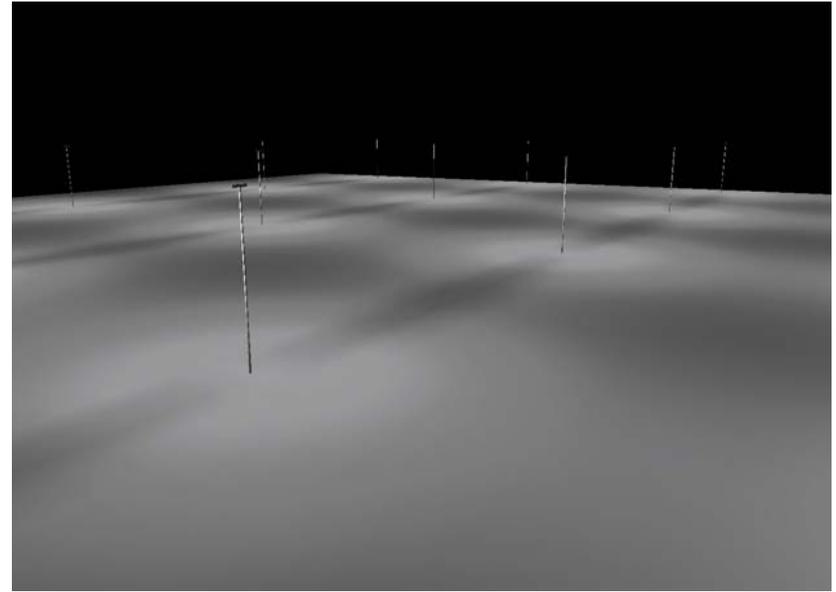
455W MH

Maximum: 9.0

Minimum: 0.9

Max : Min: 10.0

LED Parking Lot



Average: 2.8

218W LED

Maximum: 5.2

Minimum: 1.2

Max : Min: 4.3

REA LED Parking Lot Lighting Working Group Activities

- Identify candidate luminaires and investigate field and laboratory performance, and life and reliability issues.
- Develop product specifications and evaluation procedures based on working group members' needs.
- Issue a Request for Proposals to LED outdoor lighting manufacturers to be released by participating REA members (or PNNL on their behalf).
- Maximize the sales of “selected” products.

For more information contact:

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Introducing Commercial Lighting Solutions

- Energy Savings Decision Tool. Lighting solutions will be delivered via an interactive web tool and tied to an energy and economic analysis to support the decision process.
- W/SF \Rightarrow kWh. Energy savings quantified using kWh, will show savings against a series of common baselines (90.1-2004, 90.1-2001, Title 24, CBECS, etc.), and represents a way for utilities and EEPS to provide incentives for integrated systems using energy consumption rather than connected load.
- Actionable Solutions. Lighting solutions include detailed technical information in performance specification language, geared toward the A&E audience.



Commercial Lighting Solutions

Logged in as **jonesfree@comcast.net**

[Log Out](#)

[Settings](#)

[Help](#)

Whole Foods, Hypothetical, MA

Save

Copy

New Project

Select a project...

Load Project

Specialty Market Design Vignettes

Select the spaces your store will include, then enter the floor space and select a lighting vignette.

The image shows a collection of six design vignette icons arranged in a grid-like fashion. Each icon is contained within a white box with a light blue border. The icons are:

- Specialty**: A yellow star icon above the text 'Specialty'.
- General Sales**: A blue shopping cart icon above the text 'General Sales'.
- Produce**: A red apple icon above the text 'Produce'.
- Barista**: A blue coffee cup icon above the text 'Barista'.
- Bakery**: An orange loaf icon above the text 'Bakery'.
- Cafe**: A green fork and knife icon above the text 'Cafe'.
- Point-of-Sale**: A grey POS terminal icon above the text 'Point-of-Sale'.

 The icons are arranged in two rows. The top row contains Specialty, General Sales, and Produce. The bottom row contains Barista, Bakery, Cafe, and Point-of-Sale.

Next

PROJECT DESCRIPTION

Specialty Market

DESIGN VIGNETTES

- General Sales - Luminaires oriented parallel to shelves
- Produce - Track lighting highlighting produce
- Point-of-Sale - Fluorescent pendants over checkout
- Cafe - Decorative pendants and wall washing
- Specialty - Track, sconces, and decorative pendants
- Bakery - Track, sconce, and decorative pendants

CONTROL STRATEGIES

DOWNLOADS

90.1-2004

Baseline: 251275 kWh

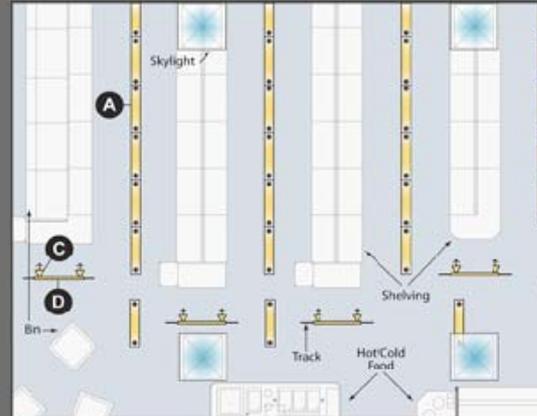
Proposed: 166329 kWh



Luminaires oriented parallel to shelves



Perspective Diagram



Overhead Plan

Lighting Power Density: 1.68 W/ft²

Concept	Strategy	Controls
<p>Image: Lighting located parallel to the gondolas provides product emphasis in a pleasing quality lighted atmosphere. In the main circulation paths, fluorescent pendants and track mounted uplight provide ambient lighting. Accent lighting is provided on specialty products and end caps. The store has high open ceilings with skylights and with merchandise displayed on standard to low height gondolas.</p> <p>Electric Lighting: The pendant mounted lighting system running parallel to the gondolas and continuing in the main circulation aisle provides vertical light on products and uplight on the ceiling. The accent lighting track has an integral indirect light providing uplight on the ceiling. Accent lighting highlights specialty products and gondola end caps.</p> <p>Daylighting: Toplighting is strongly recommended, and thus</p>		

LUMINAIRES

Pendant-mounted linear fluorescent direct/indirect fixture (82% downlight, 18% uplight) with diffuser. Minimum luminaire efficiency of 81%. Integral electronic 0-10V dimming ballast or programmed rapid-start ballast.



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Linear track/fixture combination with upper part: linear fluorescent uplight (0% downlight, 100% uplight) and lower part 2 circuit track. Integral electronic programmed rapid-start ballast.



Commercial Lighting Solutions - Next Steps

- User interface to capture actual project information.
- Gather feedback on beta web tool and make changes.
- Working with REA members to provide additional retail lighting solutions.
- Start to develop office lighting solutions with Office of the Future project spearheaded by Southern California Edison.
- Continue updating applications chapter of the Advanced Buildings Guidelines from New Buildings Institute.
- Pilot projects using lighting solutions, with measurement and verification.
- Work with utilities to design programs to incentivize integrated lighting systems, kWh-based rebates.

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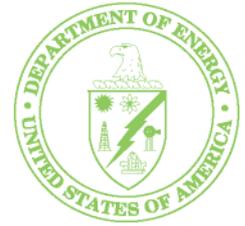
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What We Heard Today

- Recognize importance and interdependency of building systems.
 - Integrated solutions: systems are not mutually exclusive
- Increase R&D of energy efficiency technologies with the bottom line (the business case) in mind.
 - Design technologies with an eye toward the life cycle cost (O&M factored in)
 - Recognize the importance of the retrofit market
- Design technologies with minimal operational and maintenance needs.
 - Retailers are seeing a reduced ability of personnel in handling increased complexity of systems
- Work with utilities to streamline incentives for energy efficiency technologies.
- Work with us: collaborate, communicate, share. We are all here to learn from each other.

Next Steps

- Today – Dialogue/communication → partnership
- Annual Supplier Summit?
- How do you want to participate?
- Independent testing/validation of new technologies
- Look for a link for sharing information through REA:
buildings.energy.gov/retailer



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