


Commercial Lighting / A Luminaire Point of View

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Agenda

- Regulations
 - Energy Related
 - Other
- Technology
- Partnerships

... And how they relate to luminaire manufacturers ... or, at least, Lithonia Lighting



Regulations – Energy Related

- EAct
- ASHRAE/IESNA (IECC)
 - 90.1
 - 189
- Title 20/24
- LEED

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EPAct 2005

- Tax Incentives
 - Whole Building
 - Permanent Lighting Rules - \$0.60/sq.ft.
 - Interim Lighting Rules - \$0.60/sq.ft.
- Ballasts for energy saving lamps
- Exit Signs
- CFLs
- MV Ballasts
- Federal Buildings
- State Provisions

•Getting a lot of market play, acting as a catalyst for renovation work but needs to be extended to get new construction involved.
•Lack of specific direction RE documentation delayed projects.
•Energy savings still bigger financial component.

Obvious changes to product mix. Market is reacting proactively.

Wait and see if any teeth appear.

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ASHRAE/IESNA 90.1

- 2004
 - Reduced LPDs
 - Expanded list of LPDs for exteriors
 - Required use of occupancy sensors
- 2006 – minor changes
- 2007 – Additional power allowance
- 2010 (↓ 30%)?
 - LPDs
 - Daylight harvesting
 - Controls credits

More states are adopting 90.1 or IECC; agencies are needing to adjust accordingly; designers at the agencies and at the factories are looking at energy efficiency.

Designers are concerned over loss of flexibility. Assumption of full on (no controls credits) and upper limit (320 vs. 400w) questioned.

Ready for prime time?

Concern over the 'buying' of LPD.

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ASHRAE 189

- Code version of LEED
- ASHRAE, IESNA, AIA, USGBC
- Late Summer - 2007

Will this code version speed up adoption of LEED principals and increase demand for high efficiency luminaires?

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Title 20 - 2005

V2 vs. v3 – w/ & w/o
visibility specs

- Exit Signs
 - Energy Star v2.0
- Pulse Start required in some configurations by 1/1/2008
 - Other states following suit:
 - WA, OR, NY, RI, AZ, CT, VT
 - DOE looking at federal regulation
 - 150-500w
 - Vertical by 1/1/2008
 - All by 1/1/2009

Spending a lot of time
addressing technology
inconsistencies.

Supporting this effort to
get federal preemption
and consistency.

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Title 20 - 2008

- Very preliminary
- MH Ballast Efficiency
- MH Lumen/Watt Standard
- Fluorescent Systems
 - High performance T8s
 - Eliminate T12
 - Ban 4-lamp, lensed, recessed troffers
 - Turn cathode heater off on dimming ballast when light output at less than 75%

Finding it best to stay
ahead of the design curve.

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Title 24 - 2008

- Commercial – very preliminary
 - Ceramic MH
 - Reduce Power Densities
 - Demand Response
 - Multi-level controls
 - Demand response signaling
 - Expand daylighting requirements
 - Controls
 - Occupancy Sensors
 - Parking Garages
 - Egress Lighting
 - Solid State Lighting

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LEED

- Current Versions
 - NC-New Construction]
 - EB-Existing Buildings
 - CI-Commercial Interiors
 - CS-Core & Shell
 - H-Home (pilot projects only)
 - Retail-AG
- Under Development
 - Neighborhood Development
 - Other AGs
 - V3.0
 - LCA
 - Regional versions
 - One version

•Agencies report small but growing activity here.
•Exemptions for lighting products in some credits limits effects on luminaire manufacturers.

A mixed bag, both adding and removing complexities. May require we take a harder look at products from a cradle to cradle viewpoint.

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Regulations - Other

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- Mercury Labeling
- RoHS — Removal of Hazardous Substances
 - VDTs in CA – 2003
 - Expanding in 2010 ?
 - Lighting in EU – 7/1/06
 - Other states looking at EU requirements
 - ME, MA, VT, CT
- WEEE — Waste of Electrical & Electronics Equipment
 - EU in 2005

Packaging and products are both changing in reaction to these.

Looking at mercury and lead (circuit boards and batteries)

Technology

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- T5s
- Super (High Performance) T8s
- LEDs
- Demand Response / TOU Pricing
- Controls

Much activity in new luminaire development and updating existing luminaire products.

- Bi-level, high-efficiency T5 recessed troffers
- Fluorescent high bays with T5s, Super T8s and ballasts to handle high ambient temperatures
- LEDs in downlights, bathroom lighting, etc.
- Controls/systems to facilitate TOU pricing

Partnerships

- What would we want from ...
 - Regulators
 - A proper vetting of existing technology and technical assumptions before implementing regulations
 - SPECIFIC guidance on compliance
 - Energy Efficiency Organizations
 - A reliable place/procedure to get up-to-date information
 - Better yet, a system by which manufacturers can be automatically notified when changes occur (List Servers)

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Summary Forecast

- Increased importance of optical design in delivering high efficiency systems.
- Increased integration with controls
- Increased reliance on specific prescriptive solutions by codes and standards

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Any Questions ?

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