What Architects & Designers Want from SSL

Avraham Mor, LEED AP, IESNA
Partner

architecture.lightswitch.net  312.288.8777x101  amor@lightswitch.net
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Learning Objectives

• Who are we?
• Key Issues
• Example
• Next Steps
THANKS!

- DOE & Energy Star
  - Including IALD Designers into this process
  - Including the IES into this process
- SSL Luminaire Manufactures
  - Great new tools for us to use
- SSL Component Manufactures
  - Supplying the luminaire manufactures with products
- Electrical Contractors
- Electrical Distributors
Who Are We?

• Multidisciplinary Lighting & Projection Design Practice.
• Serving a diverse range of clients since 1993.
• Large Team of Designers, Associates, and Support Staff.
• Nationwide Coverage
  - Chicago
  - Tower Lakes
  - Wrigleyville
  - New York
  - San Francisco
  - Los Angeles
  - Orlando
What We Do

• Conceptual Lighting Design, Collaboration, and Evolution.
  – LEED Certification Assistance including Daylighting Analysis
  – Full Project Estimating, Bidding and Management.
  – Installation Supervision.
  – Design Commissioning.
  – Existing Installation Evaluation, Refurbishment & Design.
  – Ongoing Design Maintenance.
Environments
Entertainment
Anatomy of a Lamp

- Bulb
- Filament
- Base
System Parts

- Ballast
- Socket
- Lamp
- Dimming Interface
- LED Driver
- LED Array
- Luminaire
SSL Lamp or SSL Luminaire?

How is the “Lamp” going to be changed?
Lies, Lies, Lies…

- **Actual Test:**
  - Luminaire data sheet indicates 13.3 W
  - LM-79 Tests indicates 17 W
  - Luminaire data sheet indicates 520 lm, 39 lm/W
  - Actual luminaire performance 389 lm, 22.9 lm/W
  - Difference:
    - 34% less light
    - 28% more power consumed
    - 70% less efficient

- **LM-79 TESTING IS REQUIRED!!!**
Do you want it to dim?

- Accessories required
- Control protocol that will be used
  - 0-10v, 120v, Dali, DMX
- Where is all the hardware going to be located?
- Does the product dim as expected?
• 27 story Hotel/Condo building
  – 1st – 5th Floor, Common Areas
  – 6th – 20th Floor, Guest Rooms
  – 21st – 26th Floor, Condo Floors
  – 27th Floor, Outdoor/Indoor Bar/Lounge

• Wanted to beat ASHRAE 90.1-2004
  – Maintenance and cost of running the building a major issue

• 3,500 linear feet of cove
  – Incandescent/Xenon
  – Fluorescent
  – Cold Cathode/Neon
• Started with Manufacturer A
  – VE’ed from the project
• Manufacturer B
  – Drivers every 16’-0”, j-box every 32’-0”
  – DMX control for dimming
• Manufacturer C
  – Great color temperature
  – Solid binning statement
  – Serviceable
• Back to Manufacturer A
  – Amazing photometrics
  – Required drivers every 8’-0” (j-box every 16’-0”)
• Manufacture D
  – 12v low voltage track system, 300 watt transformers
  – Max run length 37’-0”
  – Track fixtures removable and replaceable
  – Simple dimming
the Wit hotel

- 3,500 Feet of linear track
- 10,500 SSL Track fixtures (4” centers)
- 46 Transformers
- $150,000 Track, Fixtures, & Transformers
- Opens May 2009
Luminaire Manufactures

- Luminaires need to be serviceable
- Miss-reading drawings creates bidding errors
- In Chicago you cannot pass 120v from fixture to fixture (depends on your inspector)
- Unreasonable payment requirements leads to VE
- 0-10v dimming is too complicated and costly
- You need to provide a complete system with all enclosures
- You need to provide locking, focusing adjustment
Component Manufacturers

- Don’t forget…you make a component, not a luminaire
- We need brighter LED’s
- Make the LED’s smaller
- LED binning, but…
- “How it’s Made on LED’s”
- Need a driver larger than 100 watts
- How about a dimming driver larger than 25 watts
- Let’s use digital controls DALI, ACN, or 120v control
Our SSL Requirements

- LM-79 Photometry
- See at least two samples of the same CCT
- Written Luminaire Binning policy
- Written Luminaire End of Life policy
- Energy Star & Lighting Facts Label
- Spares, Spares, Spares
- All system components from SSL manufacture with warranty and labor to fix/replace
- Commissioning and Dealer/Distributor Supplied
Change is Coming