

Green Building: Residential Lighting

Presented By:

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To help analyze the types products in this presentation I will focus on three aspects of each presented. We find that availability, flexibility, and cost will be the three major driving forces in determining whether a client is interested in going green with any given product.

Availability: Energy efficient fixtures are now readily available for all locations of a house. California's Title 24 has sped the pace that these new fixtures have reached market, and now there are many options for the residential client to choose from. Over the Last few years, only Fluorescent fixtures have qualified as Energy Star rated, but as of September 30, the ENERGY STAR Solid-State Lighting (SSL) Program went into effect. As a result, manufacturers who are ENERGY STAR partners can begin submitting products for qualification, retailers can begin promoting these qualified products in their showrooms, utilities and energy efficiency organizations can begin implementing incentive programs for these efficient products, and consumers can start looking for the ENERGY STAR on quality SSL products. We expect a litany of Energy Star LEDs to be hitting the market any time now.

Flexibility: Standardization of these fixtures has been a little slower. Socket type and light color vary between manufacturers. For a fixture to be ENERGY STAR rated it must have a non-standard socket that cannot be retrofitted with an incandescent lamp. The advantage of this is that most of these fixtures ship with lamps, but unfortunately, some manufacturers have

designed their own sockets, and replacements must be purchased from these manufacturers. For many consumers, an anti-fluorescent stigma must be overcome before they are ready to purchase them for their homes. Though color rendering of fluorescents and LEDs is not quite as good as with halogens, the warmer color temperatures, (around 3100K) are very comparable to that of a regular incandescent bulb. The one drawback that LEDs and Fluorescents have is that most are not dimmable. Many CFLs, or compact fluorescents, even claim to be, but will still flicker intermittently. Fortunately, work is being done in this area, and Lutron, a manufacturer of dimmers, and Phillips have partnered up to create a standard base CFL that can be reliably dimmed.

Cost: I am not going to claim that these products are the same price as those that are not as efficient. Depending on the product, they are anywhere between 10% - 100% more expensive. All of these products will save the consumer money over the life of the product, through longer lamp life and lower energy consumption, but most will require more of an initial investment. As with any green product, the key to keeping costs down is through proper planning and layout. We encourage everyone to take advantage of at least a few of these new types of products. Not only are they more efficient, but they are also more convenient because they greatly reduce the frequency that bulbs have to be changed.

Basic Decorative Options

Availability: "Energy Star" Satin Nickel & Bronze

Flexibility: G24Q-1 Quad Pin Bulb @ 3100K non dimmable

Cost: 20% more than an equivalent Edison base fixture

NIMO
LIGHTING

dining

60-356
6 Light Chandelier, 60W Max.
Width: 26", Height: 12"
Packaging: 1/Master

60-189
5 Light Chandelier, 60W Max.
Width: 24.5", Height: 17.5"
Packaging: 1/Master

60-181
5 Light Chandelier, 60W Max.
Width: 24", Height: 17"
Packaging: 1/Master

breakfast nook

60-390
1 Light Hanging Pendant,
100W Max.
Width: 16", Height: 11"
Packaging: 1/Master

60-182
3 Light Chandelier,
60W Max.
Width: 20"
Height: 17.5"
Packaging: 1/Master

60-190
3 Light Chandelier,
60W Max.
Width: 22.5", Height: 17.5"
Packaging: 1/Master

kitchen

60-365
1 Light Mini Pendant,
Stem Mounted with
Hinged Straight Swivel
100W Max.
Adjustable Height:
9"/15"/22"/39"/51"
Packaging: 6/Master

closet

60-257
6" Glass Ball
60W Max.
Packaging: 6/Master

Higher End Collections

Availability: “Energy Star”

Bronze with Amber Glass



Flexibility: Gu-24 CFL bulb and
proprietary double circline
fluorescent @ 2700K non
dimmable



Cost: 50% more than equivalent
Edison base fixture



Tech LED Pendants/Heads

Availability: Many variations, though none energy star yet

Flexibility: Solid State LED, dimmable, 3000K, Photometrics available

Cost: 30% more than equivalent Halogen fixtures

LED Pendants



Pendant Features:

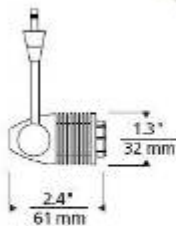
- 5.8 Watt LED module
- LED module field replaceable / upgradeable with dedicated screw-in base
- Color Temperature: 3000° K
- Initial Lumens: 300 lms, 52 lms/Watt
- Color Rendering Index: 80 CRI
- Integrated power conditioning board to manage constant current
- Rated Average Life: 35,000 hours
- Dimmable
- No UV
- Standard 6' of field-cutable suspension cable (custom lengths available)
- Over 35 unique pendant designs
- Available finishes: Satin Nickel, Antique Bronze

LED Head



Head Features:

- 5.8 Watt LED module
- LED module field replaceable / upgradeable with dedicated screw-in base
- Field changeable reflector available in 20° and 40° beam spreads
- Color Temperature: 3000° K
- Initial Lumens: 360 lms, 62 lms/Watt
- Color Rendering Index: 80 CRI
- Integrated power conditioning board to manage current
- Rated Average Life: 35,000 hours
- Dimmable
- No UV
- Rotate: 360°
- Pivot: 260°
- Available finishes: Satin Nickel, Antique Bronze
- 16 available accessories



Minka Exterior Fixtures



Availability: Energy Star, dozens of fixtures in a variety of finishes

Flexibility: G24Q-1 (quad pin) 3100K lamp, photocell included,, many dark sky compliant, non dimmable

Cost: 10% to 30% more than incandescent versions of same fixtures



Modern Fan Cirrus



Basic Fan w/ Light kit



Availability: Most manufacturers offer fan, few offer light kit combo

Flexibility: varies with products, non-dimmable

Cost: 10% - 30% more expensive than traditional fans

HALO[®] LED

Recessed Lighting

Introducing a sustainable and energy-efficient luminaire designed for new construction and retrofit applications.

Benefits

Residential

How it Works

Retail

Hospitality

Health care

Commercial

Specifications

Availability: Energy Star Rated New Construction or Remodel

Flexibility: Solid State LED, dimmable, 3000K, Photometrics available

Cost: 50% more than other low voltage recessed cans.



American Lighting

LED CABINET LIGHTING



LED BULLET

A small, powerful LED point source

- High brightness LEDs - 3100K - 85CRI
- Recess mount in sheetrock, wood and other material
- Easy installation
- Energy saving - only 1.25W each
- No UV
- 60,000 hour lamp life



LED MINI SWIVEL SERIES

A powerful point source LED system that is adjustable

- High-brightness LEDs - 3100K - 85 CRI
- Powerful, adjustable point source
- Keeps displays cool
- May be recessed in sheetrock, wood and other materials
- No UV
- 60,000 hour lamp life



LED PUCK LIGHT

The brightest Puck Light available

- Steel housing
- High brightness LEDs - 3100K - 85 CRI
- Energy saving - only 3.75W per puck light
- No UV
- 60,000 hrs. lamp life
- Recess or surface mount



LED THIRTY

Warm White LED light that produces minimal heat

- Warm white, 3000K, 60,000 hour lamp life
- Optional trim rings
- Conventional 12V wiring
- Recessed or surface mount
- Energy saving - only 1.5W per puck
- No UV



LED RULER

A sleek linear LED system that provides high brightness accent and task lighting

- High brightness LEDs - 3100K - 85 CRI
- Available in four sizes that can be interconnected to create custom lengths
- Ultra-slim design
- 60,000 hour lamp life
- No bulbs to replace

Availability: Many shapes and sizes, as of now, most not Energy Star rated

Flexibility: Some dimmable, some offer photometrics

Cost: 10% - 50% more than traditional halogen accent lights

Kichler LED Undercabinets



Availability: (12" 9W) and (18" 12W) in white, bronze, and nickel.

Flexibility: Only ½" thick, Non dimmable, daisy chainable.

Cost: 50% more than xenon UCLS

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LED Rope Light



Availability: Many colors, most not Energy Star Rated

Flexibility: Brighter than Incandescent, longer lasting, non dimmable

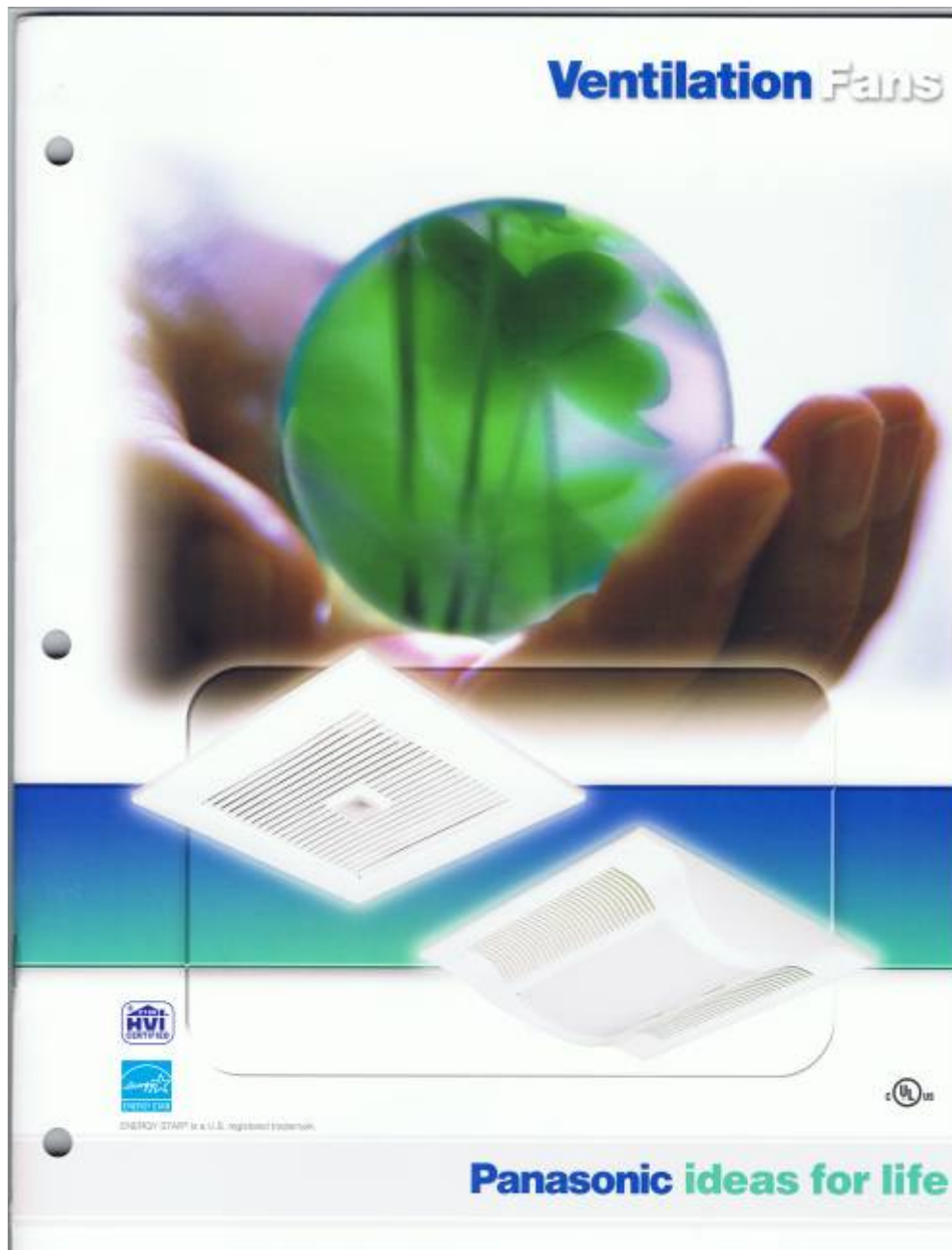
Cost: 20% - 50% more expensive than incandescent

Panasonic Vent Fans

Availability: Energy Star, heater and/or light available

Flexibility: Extremely quiet DC Motor, motion sensors available

Cost: 50% more expensive than builder grade vent fans



Hadco LED Landscape Lights

Availability: Black, Bronze, Verde,
not Energy Star rated



Flexibility: 12v and 120v, multiple
beam spreads and wattages, longer
runs w/o voltage drop



Cost: 50% more expensive than
traditional Halogen fixtures



NSL LED Step Lights



Availability: White, black, bronze, satin nickel

Flexibility: Much less voltage drop than Low Voltage applications, Wet Location rated

Cost: 10% more than equivalent low voltage fixtures

Lutron Dimmers

Availability: All standard colors, traditional toggle and paddle sizes

Flexibility: Paddle style compatible with certain Phillips brand compact fluorescent Edison base lamps

Cost: 10% - 50% more than a traditional dimmer.

