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Lighting upgrades

Without a doubt, lighting upgrades within the healthcare sector represent a proven way to save energy, improve visibility for critical tasks, and enhance patient and staff comfort and safety.

Mercy Hospital's branches in Grayling, MI and Cadillac, MI recently set out to update and achieve consistency in the lighting within the two facilities. Following the installation of several thousand new fluorescent fixtures, energy-efficient 32-watt T-8 fluorescent lamps, and electronic ballasts, the Grayling facility reduced its energy bill by nearly \$30,000 a year while the Cadillac facility reduced its energy bill by \$45,000 a year. Lighting levels and quality were vastly improved, and the upgrades in both facilities paid themselves back in nearly 2.5 years, driving returns on investment in the 40% range.

As reflected by the very real example above, opportunities to improve lighting quality and save energy within the healthcare industry abound. A recent government survey estimates that there are over 100,000 hospital and healthcare-related facilities

nationwide, occupying nearly 2.5 billion square feet of floorspace and paying over \$4 billion in electricity bills annually. With lighting accounting for an estimated 40-50% of the total energy consumed within these 24-hour operations, lighting upgrades involving more energy-efficient technology widely available in the marketplace today are a sound way to save energy costs and enhance the functionality and feel of healthcare facilities.



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Ways to make the switch and save.

For the typical hospital or healthcare facility, a number of lighting upgrade opportunities are widely known to successfully balance the critical factors of facility functionality and comfort with significant energy cost savings:

Upgrade of standard fluorescent lamps

The upgrade of standard 1.5-inch diameter fluorescent lamps driven by magnetic ballasts to sleeker, more efficient 1-inch

fluorescent lamps driven by electronic ballasts provides recommended light levels while routinely supporting a 30%+ reduction in energy costs and an under 3-year payback. Because fluorescent lamps will last for 2-3 years in the around-the-clock setting of a typical hospital, a group relamping – the practice of replacing all of the lamps in a designated area at the same time – can additionally cut labor/maintenance costs by up to 90%.

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Fluorescent upgrades of this nature are particularly effective in areas where high light output and lower power consumption are desired, such as patient care areas.

Use of compact fluorescent lamps

The replacement of incandescent bulbs with compact fluorescent lamps is another proven way to insure constant light output at recommended levels while saving significant energy costs. Compact fluorescent lamps typically use only one-third of the energy required by their incandescent predecessors and last some 10-13 times longer. These facts, combined with the appropriate color rendering that they offer, make compact fluorescents especially suitable for patient and circulation areas as well as areas requiring more visual tasks.

Use of occupancy sensors

Controlling the use of lights based on area occupancy, occupancy sensors can reduce lighting costs by 40% or more and are particularly appropriate in common areas

as well as specific locations in which constant lighting is not necessary.

Use of LED technology

Light emitting diode (LED) technology has evolved over the past decade and is commonly used to replace incandescent and compact fluorescent lamp sources in emergency lighting fixtures such as exit signs. LEDs are extremely efficient (using only 1-8 watts of power), last 20-100 years, contain no fragile parts, lose no energy to heat, and are available in a range of bright colors. Based on these benefits and the energy and maintenance cost reductions they drive, LED upgrades are optimal for emergency lighting and exit sign opportunities.

Use of halogen and HID sources

The accent downlighting that halogens can provide and the clean, white light that high intensity discharge metal halide lamps offer insure that patient circulation and staff surgical areas are equipped with

appropriate light and color rendering levels. The high efficiency, long life, and excellent color of these lamps make them optimal choices for upgrade in their corresponding applications.

Based on the extensive floorspace and 24-hour operating requirements associated with the typical hospital or healthcare facility, two-to-three year payback periods and 30-50% returns on investment are routinely achievable when lighting upgrades are undertaken in healthcare settings. At a time of rising electricity costs and escalating demands on the power grid, lighting upgrades represent a clear way for healthcare professionals to improve the efficiency and effectiveness of their lighting systems as well as significantly reduce energy costs and improve their operational competitiveness.

Written by Susan Bloom.

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Lighting Wizards.

Need help assessing your facility's lighting needs? Just click onto our website. You'll find easy-to-use and comprehensive lighting resources that will help you find exactly what you need:

The GE Lighting Optimizer compares lamps based on energy efficiency, color rendering, cost and lamp life.

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No. 4PL72



Occupancy Sensor
No. 5HH91



Compact Fluorescent
No. 3V746



LED
Emergency
Fixture
No. 4PH53



Metal Halide Lamp
No. 2F198

Description	Mfr. Model	Stock No.
Advance 120V Electronic Ballast.	REL2P32SC	4PL72
GE Compact, 15 Watt, T4 Biax Fluorescent	FLE15TBX/L/SPX27	3V746
Hubbell Occupance Sensor	ATP1600W	5HH91
Lithonia LED Emergency Fixture	LQMSW3*ELN	4PH53
GE 360 Watt, Metal Halide Lamp with Mogul Base	ED37	2F198

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