Case Study: Academic Health Sciences Center
Houston, Texas

Cooper Lighting Solutions LED lighting, WaveLinx Pro Wireless, and Greengate Room Controller systems improve occupant experience while reducing energy usage at a major academic health sciences center.

Opportunity

Facility Type: Healthcare Facility
Client: Academic Health Sciences Center
Scope: Expansion of the center by adding a 5-story wing with 60 beds
Completion Date: Feb 2020
Location: Houston, TX
Electrical Contractor: FSG
Agents: PSA Lighting

Results:

- 25% energy savings resulted from combining LED light fixtures with a digital lighting control system
- Pre-programmed Greengate Room Controllers and WaveLinx Pro Wireless reduced installation costs by 40%

LOWER PROJECT COSTS.
ONGOING ENERGY SAVINGS.
OPTIMAL PATIENT EXPERIENCE.

Abstract

The health sciences center customer is a complete inpatient and outpatient healthcare facility. It includes medical and surgical specialties, expanded-hours urgent care, as well as a 24-hour emergency department.

To cater to the needs of the rapidly growing region, the center's Health Board of Regents decided to expand its facility by adding a new 5-story wing with 60 additional beds, additional support staff space, intensive care units, laboratory, café, and many other services.

During the design process, patient and caregiver experience was top-of-mind. Research has shown that welcoming and aesthetically pleasing spaces improves the patients' wellbeing and accelerate their recovery, and lighting plays a direct role.

After testing many LED luminaires and lighting control options, the center opted for Cooper Lighting Solutions LED luminaires and digital controls.

Enhanced Lighting & Control

Metalux LED luminaries account for about 65% of the new building's ambient lighting, delivering high-quality, volumetric optics. Portfolio downlights, which provide a more hotel-like aesthetic, were used in patient rooms and lounges.
To streamline lighting control across multiple locations like patient rooms, nurse's stations, and general areas like the lobby and cafeteria, the center selected the cost-effective WaveLinx Pro wireless and Greengate Room Controller control systems.

The center also wanted to give patients, caregivers, and staff more control over patient room lighting. Each patient room was outfitted with five lighting control wall stations, where people could select lighting "scenes" and adjust light levels according to the task or scenario at hand. Using more than 400 wireless relay switch packs and multiple types of luminaires, it enabled connectivity between multiple fixtures, controls, and accessories.

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With a wired control solution, room-level control would have required extended wiring (and far more installation time and costs). Wireless technology greatly simplified the process, reducing installation and commissioning time as well as the system's overall cost. With no need to run hard wire with controls, the installation process was swift, resulting in a 40% cost reduction compared to traditional wired digital lighting control systems.

After the new spaces opened in February 2020, the system has been well received by staff and patients. Besides enhancing the aesthetics and helping patients feel at home, the new lighting makes it easier to keep rooms clean. The in-room keypads and dimmers allow staff and patients a level of customization for different tasks, scenarios, or times of the day.

The combination of LED luminaires with digital occupancy sensors has also resulted in 70% energy savings compared to the original, non-retrofitted spaces.

An Adaptable, Scalable Solution

Amid the pandemic, healthcare facilities everywhere learned that flexibility is vital to any renovation. The center needed the ability to change its floor layouts without the need for re-wiring. With WaveLinx Pro Wireless, it will be able to program, group, schedule, and control its light fixtures remotely at any time to accommodate changes.

And, because a key pillar of the organization's long-term strategy is to enable business intelligence through big data, it will now have the capability to collect, analyze, and leverage facility data using wireless sensors and the Trellix Smart Spaces IoT Platform.

About Cooper Lighting Solutions

For more than 50 years, Cooper Lighting Solutions has helped healthcare facilities unlock the power of lighting to improve wellbeing and sustainability while solving complex business problems. We offer tailored healthcare solutions that balance application requirements with aesthetics, from the parking lot to the patient suite. From our basic Greengate controls to our extensive sensor-integrated luminaire portfolio, WaveLinx system and Trellix IoT platform, our solutions provide valuable data, insights, and a foundation for countless operational improvements.

Products Installed:

- **1438 Metalux/Failsafe** troffers, flat panels, strip lighting, vapor tights, and other specialty lighting
- **1025 Portfolio** Downlights
- **117 HALO** Undercabinet lighting
- **128 Sure-Lites** Exit lighting
- **15 McGraw-Edison** Outdoor lighting
- **394 WaveLinx/Greengate** Wallstations/Dimmers
- **597 WaveLinx/Greengate** Switchpacks/Load controllers
- **360 WaveLinx/Greengate** Occupancy sensors
- **107 WaveLinx/Greengate** Room/Area Controllers

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