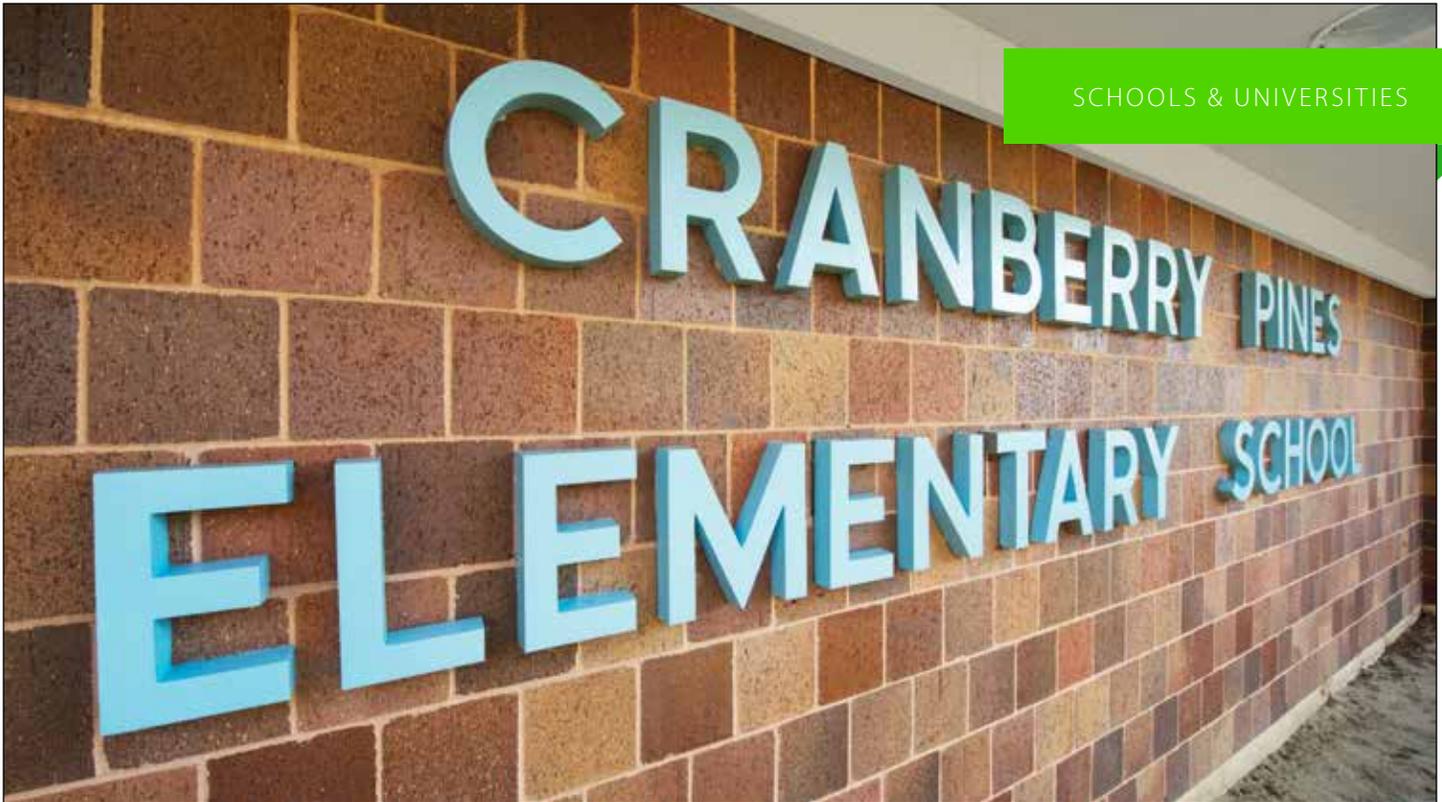


Case Study



70%

ENERGY SAVINGS

2.4^{YR}

RETURN ON INVESTMENT

40^{MIN}

SAVED PER DAY

Cranberry Pines Elementary School

Cranberry Pines is a 384-student elementary school servicing grades kindergarten to fifth in Medford Township School District. Cranberry Pines strives to create a positive, nurturing, and stimulating environment for everyone who is a part of the Cranberry Pines family, and has consistently high test scores.

“Good for school districts, good for taxpayers. Something that every school should be looking at.”

— John Gallagher, Director of Facilities



The Problem

John Gallagher, Director of Facilities at Cranberry Pines and a licensed electrical contractor, earned a National Green Ribbon School for Sustainability at his previous school, Timber Creek. John was motivated to achieve even greater results at Cranberry Elementary and wanted to start by replacing low-efficiency metal halide and fluorescent fixtures. John was frequently receiving complaints about the noise of the old fixtures and lack of controls. The back of the school was poorly lit and faced 90 acres of undeveloped land, which was a safety concern.

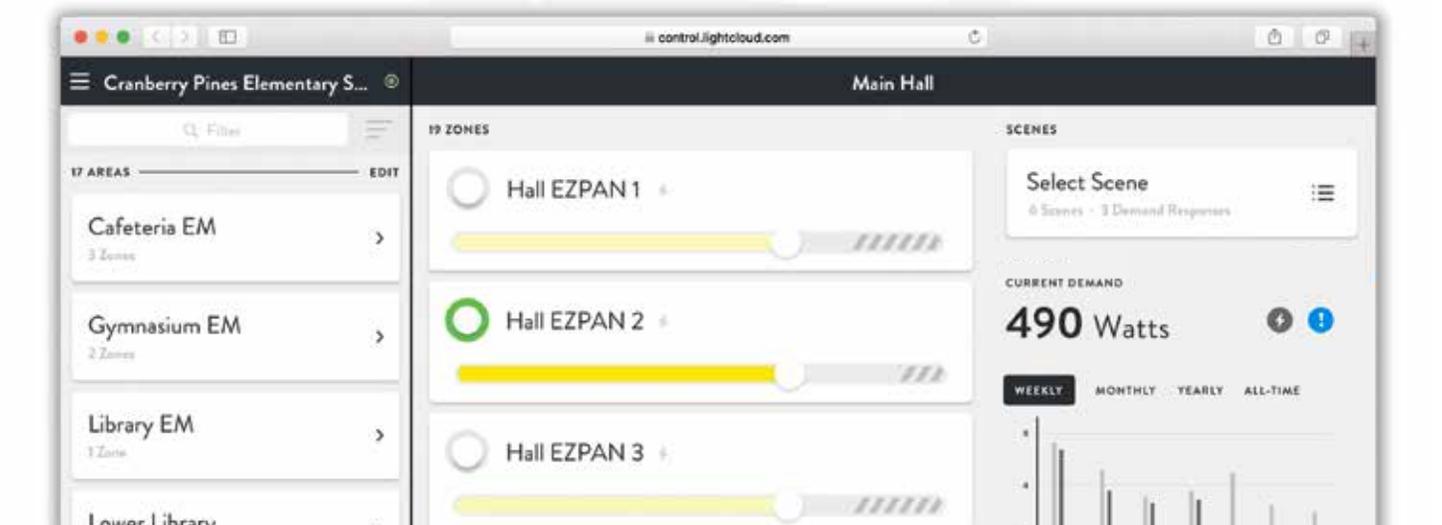
Concerns

As a licensed electrician very familiar with lighting controls and HVAC, John knew that cabling and wiring could be the most expensive part of a lighting control job. He was also aware how complicated some systems are to control: human factor. John knew to convince the school to be onboard there'd need to be a good ROI.

The Solution

John worked with Peter Knowles, Outside Sales at United Electric, and really liked that Lightcloud was a wireless system that eliminated the costly wiring and added flexibility for future expansion. A system was designed to eliminate the noisy ballasts, improve the light coverage, automate controls, and greatly reduce energy consumption. Lightcloud zones in common areas make controlling the whole system easy with unique schedules maximizing energy savings. Instructional spaces have the added benefit of dimmer switches to work with teachers' dynamic schedules. A low ROI for the Lightcloud and RAB system made it an easy pitch to administrators.

Each room was broken into two zones: general lighting and emergency fixtures. For safety and compliance, the emergency fixtures are always on and dimmed to 50% when the rooms are unoccupied. The rest of the fixtures are scheduled based on occupancy and use. During core hours when students are using the cafeteria, fixtures are set to



100% then dimmed to 75% for after-school programs when lighting isn't as crucial. In the evenings, the lights are dimmed to 50%, providing adequate light for the custodial staff and creating huge energy savings. The non-emergency lights are off at night. Every zone/room has its own needs and schedules, making the flexibility of Lightcloud imperative in multi-zone setups.

RAB fixtures were chosen to improve light coverage, eliminate noisy ballasts, and greatly improve energy consumption. RAB fixtures look great and offer a 5-year warranty. "I'm really happy with the fixtures."

Installation

"Installation and configuration has been almost mindless! Set it and forget it!" John installed the system himself and found the whole process intuitive.

Results

"I really like the product, I was excited to get it in, and it's working flawlessly...Dimming alone makes the system worth the cost; so many spaces were overlit in the school. Having the dimming feature on demand without running low-voltage wires is a no brainer."

Lighting controls have been around for a while, but they were too expensive for most school districts. "Lightcloud makes it possible to get a system with a 2.4-year* ROI! Once systems are installed, "(normally) human factor is the toughest part; hard to change behavior", but the response for Lightcloud from the faculty and the school district has been amazing. Administrators are able to control lights from surface tablets, giving them remote control they never had before.

"Showed the superintendent and he was floored!" In the past, John's custodial staff needed to arrive 20 minutes early and stay 20 minutes late, walking around turning lights on and off. Lightcloud is saving 40 minutes of labor per day! This doesn't even include additional labor savings of other lighting adjustments throughout the day. John and his staff now have access to all of the lighting controls right from their phones!

John is equally pleased with the fixtures. "The light of EZPANs is absolutely superior. They created a wow factor...everyone walks in and notices the improvement. The new fixtures doubled the available light in the spaces, so I only need to run them at 75% to make sure it's not overlit!" The noise from the old fixtures is gone, and John isn't getting any more complaints.

There were a lot of safety issues with the previous, manual lighting controls and insufficient light. The outdoor lighting was easily addressed with the RAB floodlights placed on a Lightcloud schedule. The schedules and controls saved the head custodian from "walking through a dark building trying to find switches." Now, the school is safely lit and saving energy. "Workman's comp claims, lawsuits, etc. from this kind of stuff are now a thing of the past with Lightcloud installed."

Moving Forward

John was selected to present Lightcloud to the school district to show how it fits into a broader energy savings strategy. "The district is so happy with the installation that they're going to 9 other schools in the near future. Good for school districts, good for taxpayers, something that every school should be looking at."

The administration is so excited about the potentials of Lightcloud they're considering turning it into a teaching opportunity and will be training students on Lightcloud as part of a practical lab section.



**Note: ROI is calculated based on current energy costs and conservative expected maintenance. The actual ROI may be even lower!*

Installed Lightcloud Devices



Gateway

120-277 VAC, 50/60 HZ

The Gateway is the brain of a Lightcloud system. It communicates with RAB's servers via a private 3G cellular connection, so no internet access is required. Plus, it features an Uninterruptible Power Supply for added peace of mind.



Controller

120-277 VAC, 50/60 HZ

The Controller is the basic building block of the Lightcloud system. Use it for switching and 0-10V dimming. Deploy it for power management. Or simply use it to extend the range of your Lightcloud mesh network.

Installed Fixtures



Panel

EZPAN2X4-50/D10 — Replaced 120W Fluorescent
58% in Energy Savings

Up to 65% with scheduled dimming



Floodlight

FXLED78T — Replaced 400W Metal Halide
81% in Energy Savings

Up to 81% with scheduled dimming



High Bay

RAIL185W/D10 — Replaced 1000W Metal Halide
82% in Energy Savings

Up to 85% with scheduled dimming

Project Details

Client: Medford Township School District

Distributor: Peter Knowles, United Electric

Manufacturer's Rep: Mike Briggs, Pollart Electrical