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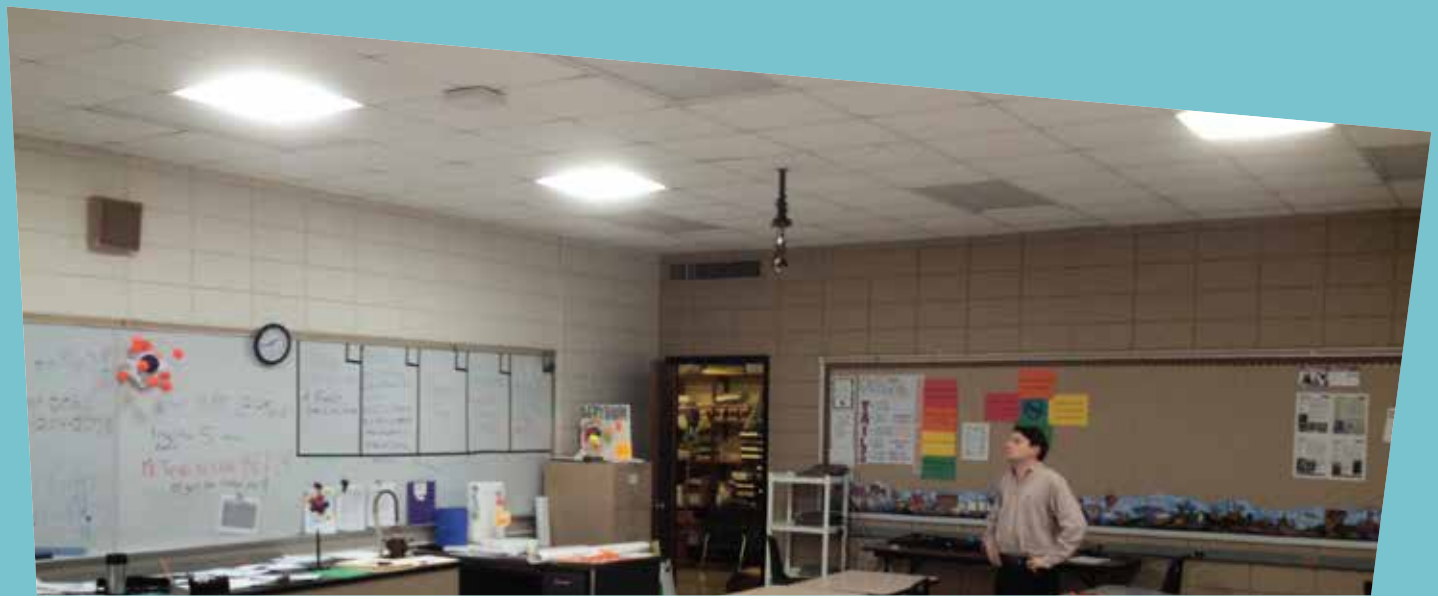
CASE STUDY

Alvin Junior High School

AcuityBrands.



Daylighting Brightens a Science Classroom at Alvin Junior High School

William Teal, a science teacher with Alvin Junior High School in Texas, has benefited from his classroom's recent retrofit with tubular daylighting devices (TDD). While he appreciates the look and feel of the new daylighting system installed in his science classroom, Teal was truly sold on daylighting after a Texas-sized thunderstorm knocked out a transformer leaving the school without electricity.

"Lightning struck the transformer and the lights went out," explained Teal. The entire school went dark, except for Teal's classroom. "We had enough light in my room -- still with it being overcast -- my kids kept working." The tublar daylighting system is connected to Sunoptics® Signaure Series skylights on the roof that are "high velocity hurricane zone" approved.

Initially, Alvin and CMTA retrofitted six Sunoptics® LightFlex™ tubular daylighting devices from Acuity Brands in the Alvin Junior High School science lab.

As Alvin School District's Director of Building Programs Jeff Couvillion explained, "We like to kind of stick our toe in the water before we jump in." To achieve a completely glare-free room, Sunoptics uses a prismatic pattern and lens layering. Below the skylight is an optic sphere designed to evenly distribute the sunlight coming in and drive it down into a light-well made of a highly-reflective ALANOD MIRO-SILVER® aluminum. "We picked an interior science classroom with no exterior windows," explained Couvillion. And as a result of the successful installation, LightFlex is now an approved daylighting system for CMTA, the school's the materials and process engineering firm

Besides installing the tubular daylighting devices in the science room, CMTA replaced the existing controls and fluorescent T8s, with new 3-lamp T8 lensed troffer fixtures for a one-to-one replacement. To bypass any obstructions between the roof and the suspended ceiling, the LightFlex TDD system has adjustable elbows that can angle the light rays. Light-control louvers adjust the exact amount of daylight entering the room. And integrated with the auto-dimming fixtures and the nLight® control system from Acuity Controls, the system can adjust the fluorescent light output to the amount of daylight entering the room at any given time.

While energy efficiency and increased student performance are the primary reasons Alvin is enthusiastic about daylighting, both teachers and students are pleased with the appearance of the new science room after the retrofit was completed. "The principal would be a great proponent of putting the same system in all the

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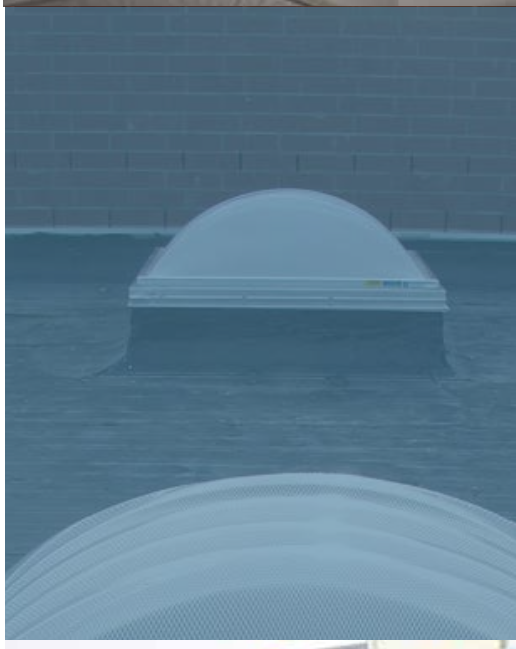
"We wished other classrooms had this type of light."



classrooms… it would have a lot of value for him," reported Couvillion.

Typically in a classroom environment, with artificial light alone – for example, at night with no available sunlight – CMTA looks to achieve 45 foot candles or greater in classroom environments. And depending upon where in the science room light readings were taken, 45-foot candles is approximately where the room ended up even with minimal help from the electric light source.

Directly under a skylight, with just one electric light dimmed down to the lowest level, the measurements read exactly 45 foot-candles. On the same spot with the electric lights completely off, the light measured 42 foot-candles at desk level on the day the readings were taken. The lowest automatic dimming threshold point for the fluorescent lights can of course be reset to increase or decrease the foot candles coming from the electric lights as desired.

"They're just super bright," said Teal of the new daylight devices.

But more importantly, the students are already sold. Teal said of his science students, "they do make comments like 'we wished other classrooms had this type of light.'"

"Overall, it's great – the kids definitely enjoy having natural light in there," declared Teal about the sunlight streaming into the ceiling of his science classroom. "It's just a much more natural feel."