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## DAYLIGHTING TURNS STORE INTO A DESTINATION FOR WEST TEXAS SUPERMARKET

ENEREF INSTITUTE EXAMINES HOW BRINGING DAYLIGHT INTO GROCERY STORE USING SKYLIGHTS INCREASED FOOT TRAFFIC.

When it came time to build the largest supermarket in Lubbock, Texas, the management of United Grocery didn't want their carbon footprint to reflect the size of their gigantic store. So they turned to the wide open West Texas sky to light up their space.

"Maybe you've heard: we get quite a bit of sunshine here," jokes Rob Bichard, Director of Facilities Support and Development for United. "Why not take advantage of it?"

From the day they broke ground,

# I'VE HAD A LOT OF CUSTOMERS COMMENT, TOO. PEOPLE APPRECIATE THAT WE'RE TRYING TO BE GREEN.

## Because of the skylights, United's Lubbock Market Street store eliminated over half of its electric lighting consumption for much of the daylight hours.

daylight harvesting skylights was an integral component of the new grocery store plan.

The United grocery chain employees often cited the importance of environmental responsibility. "We need to be good stewards of resources, period," Bichard emphasizes.

### ENERGY SAVING ADVANTAGE

But in the aggressively competitive, low-margin retail grocery business, it's also important to reduce costs wherever possible. Using smart, modern skylights to harvest sunshine offers two equally significant benefits. The daylighting system enhances the store's appearance and offers the store a reduced energy bill.

"Daylight helps us get as much bang for the buck as we possibly can," says Bichard.

Facilities with high open ceilings, typical in large grocery stores, are particularly well-suited for day-

light harvesting using skylights. That's one reason, skylights are a growing trend in new construction, as well as increasingly specified as a cost-saving environmental retrofit. Skylights are more than just energy efficient, they're net zero energy.

Depending on the cost of energy, for newly constructed facilities, such as United's new Market Street brand store in Lubbock, daylight harvesting typically pays a return on investment within a few years. After that, the continued energy savings is like money in the bank. In Lubbock, utility bills are already lower than the national average, because of the nearby oil and gas industry. Still, United is looking forward to driving those energy bills down even further with daylighting.

### BRINGING IN SUNSHINE WITH SKYLIGHTS

Market Street is the most upscale of the four retail brands owned by United Supermarkets. Accord-

ing to the company, the Market Street concept combines "everyday groceries with specialty items, whole health products, and prepared foods."

United designed their new 24-hour Lubbock Market Street store with two complementary lighting systems. During the evening, the facility runs electric T8 fluorescent light fixtures at 100% capacity. As the sun rises and arcs overhead in the morning the fluorescent lights are automatically stepped down and Acuity brand Sunoptics prismatic dome skylights let in the maximum amount of daylight, distributing sunlight evenly throughout the store.

### HOW THEY WORK

Sunoptics, a 32-year-old US daylighting company, is an industry leader in prismatic lens skylights. A prismatic lens is a molded surface texture of tiny pyramids that widen incoming sunbeams to offer a more evenly diffused light. Their primary focus, according to the company's sales director Eric Huffman, is "keeping customer's electric lights off during the daytime."

The natural and electric lights work together to bathe the entire space with a smooth light level of about 60 footcandles. More intense electric light accents, of over 100 footcandles,



## RENDERING THE COLORS

*Daylight makes the fruits and vegetables look especially enticing.*

focus on showcased food products. The Sunoptics prismatic skylights are designed to cast an even, natural light, devoid of hotspots or glare. Over the course of the day, sensors and computerized controls adjust the electric fluorescent lights in several steps to complement the amount of available daylight beaming into the roof's skylights.

From an energy perspective, skylights are especially ideal for any facility that operates with high light-levels seven days a week. Unlike windows, which may be an impractical primary light source for a large grocery space, the

system installed in the Market Street store provides sunlight to the entire space no matter where the sun is in the sky — from sunrise to sunset.

With the skylights installed, United eliminated over half of its electric lighting costs for much of the daylight hours in the Lubbock Market Street store.

“That’s huge savings over the course of a year,” said Eddie Owens, Director of Communications and Public Relations for United.

## THE HUMAN FACTOR

Perhaps even more significant

than the energy savings is that the skylights had a measurable human benefit, as observed by John Jameson, the in-store manager for the new Lubbock facility.

“Our employees are really positive about them,” said Jameson. “And I’ve had a lot of customers comment, too. People appreciate that we’re trying to be green.”

Both worker productivity gains and customer satisfaction improves in well-designed natural day lit space, according to numerous studies by Heschong Mahone, a leading daylighting consulting firm. This human factor often makes for an even greater



# TOP-PERFORMING RETAILERS RECOGNIZE A WEALTH OF BENEFITS IN THEIR SUSTAINABILITY EFFORTS.

“Retailers are reporting five primary benefits of sustainability programs: reduced costs, enhanced reputation, risk management, employee enthusiasm, and proactive regulatory strategies,” according to the Retail Industry Leaders Association.

economic return on investment in daylight harvesting.

Daylight provides the most natural color rendering of an object. Color rendering index (CRI) is a measure of an artificial light source’s ability to realistically show, or render, the colors of objects being illuminated. This is especially beneficial when presenting food.

“We need very high color rendering index for our products,” said Owens as he explained how daylight makes the apples and oranges look especially enticing.

Researchers use daylight as the benchmark for rendering color because daylight displays the greatest variety of colors, making slight color differences easy to distinguish. A CRI rating of 100 represents the maximum CRI value, although not necessarily the ideal value in every lighting situation.

## A DESTINATION STORE

The new Lubbock Market Street facility has quickly become United’s top-selling store. Owens doesn’t attribute the sales to the skylights alone, but the high-quality ambient light plays a part, he said.

United’s customers “are clearly

more comfortable in a daylight environment,” Owens says.

John Jameson, the retail in-store manager, is particularly enthusiastic about the dining area.

“The skylights make the whole room look great,” he says. “Our lunch run is phenomenal.”

And who could have expected a grocery store to be a prime studying habitat for local college students? The skylights are attracting a young, hip crowd to the deli counters. During finals week at nearby Texas Tech University, the grocery was full of studious young people hitting the books.

“We were the place to be!” Jameson enthused.

It’s not so surprising: natural daylight increases concentration and even improves test scores, as reported in the groundbreaking Heschong Mahone study. Those students obviously concur.

United’s management team is clearly happy with the Lubbock store’s performance — both for the energy savings and the positive customers response. But they are also pleased the skylights allow them to be good stewards of

the environment.

“it’s simply the right thing to do.” says Eddie Owen. But it’s also kind of a no-brainer. “How could it not work for us,?” he asks rhetorically. “The sun’s out!”

*Research and reporting compiled and provided by Eneref Institute.*

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