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## NATURAL DAYLIGHT MAKES HOME A SHOWPLACE IN WINTER PARK FLORIDA

ENEREF INSTITUTE REPORTS HOW DESIGN, ART AND NATURE COMBINE TO CREATE BEAUTY AND SUSTAINABILITY.

Winter Park, Florida proved to be an ideal site for Bill Cook Luxury Homes to showcase “The Oasis,” a new two-story residential property highlighted with natural interior daylight. Although multi-million dollar homes are the area’s

standard, this property is 100 feet wide by 150 feet deep, larger than what is typical. The facade of the home was inspired by Frank Lloyd Wright and the interior is a blend of modern and traditional elements using natural materials.

# THE DRIVING FACTOR FOR SPECIFYING SKYLIGHTS WAS TO OPEN UP THE SPACE AND GET MORE LIGHT INTO THE ROOM..

JAMES LAPIANA | *Architect*

In the kitchen, a row of five skylights brightens the room with natural interior daylight.

“Mainly, I wanted the skylights to light up that space and punch through the envelope, and see some daylight,” says James LaPiana, an architect with The Evans Group, the firm that designed the home. “Otherwise, you feel like you’re walking into something that has no exit, visually.”

As part of our Natural Interior Daylight Initiative (NID) to reduce energy use in lighting, Eneref Institute interviewed a number of stakeholders on the recently built 2014 New Southern Home, “The Oasis.” The residence is a demonstration model for the SEBC professional home building expo in Florida. Included in our interviews were Bill Cook, CEO of Bill Cook Luxury Homes, James LaPiana, architect with The Evans Group, and Kate Clarke, of Clarke & Co interior design.

## DAYLIGHTING SYSTEM INSTALLED

In the kitchen area, Bill Cook Luxury Homes installed a new, technologically advanced VELUX

Fresh Air Skylight system. To allow fresh air into the home, the motorized skylights open electronically for venting, with a programmable remote control. Motorized shades to reduce sun glare are also automatic and programable. The entire system is powered by a small solar panel to recharge a fully concealed battery power source and control system. The skylights have sensors and can be programmed to close automatically when it is raining.

“I just liked the whole system,” said Bill Cook.

Supplementing the natural interior daylight are LED lights Bill Cook Luxury Homes purchased from Lightstyle of Orlando lighting company. The LED lighting was specified by Bill Cook and Kate Clarke, looking for color consistency and what would look best in the house. At night, the house is lit entirely by LED lights.

## DESIGN DECISIONS

The driving factor for specifying skylights in the kitchen was to open up the space and get more light into the room, creating a “vista to the outside world.”

“That is by far and away, without any hesitation or any argument, our primary reason for choosing skylights in that location,” explained LaPiana.

Topping out at a spacious 5,141-square-feet, LaPiana credits Bill Cook with the vision and courage to build a house in Winter Park on this scale. And while LaPiana himself insisted on “some sort of opening at the end of the viewpoint from the entry,” he credits Clarke with moving the team towards the kitchen skylight solution despite early concerns about heat gain.

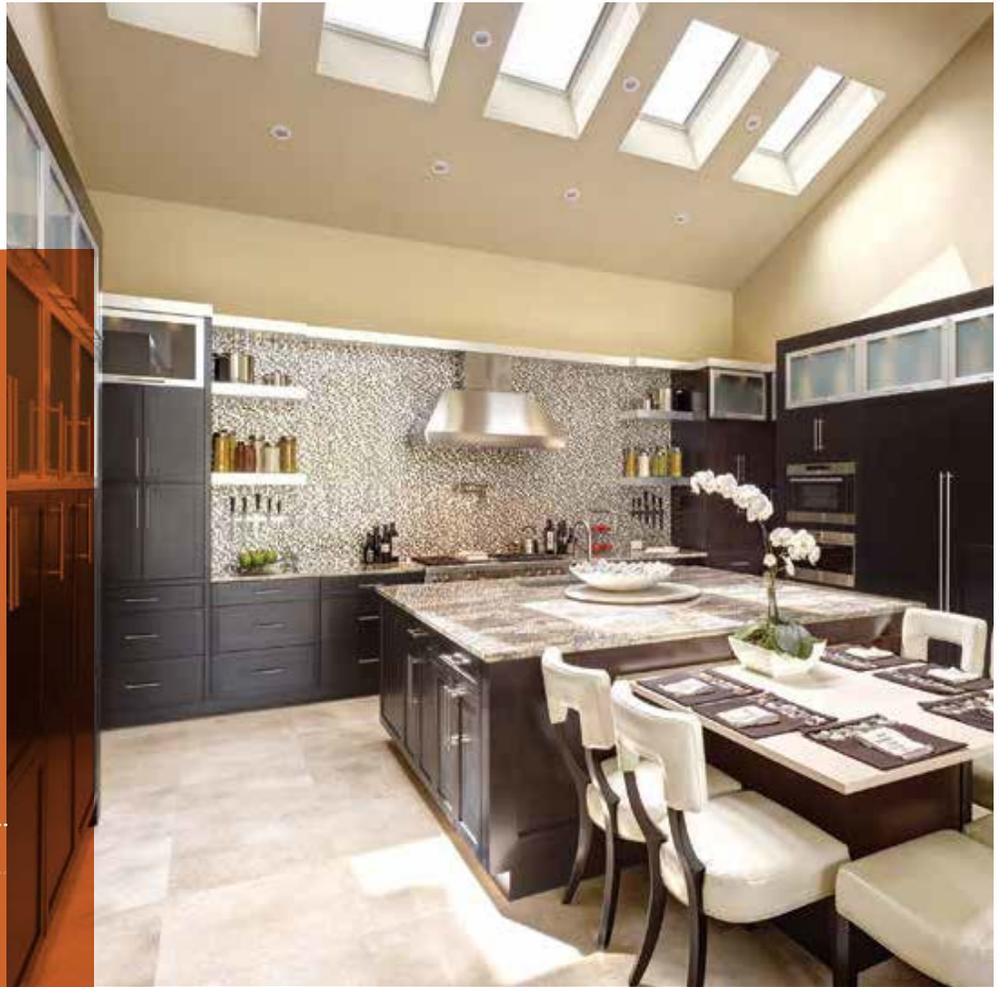
Interestingly, Clarke said when LaPiana initially suggested skylights, her first thought was that they were “old hat,” adding, “We’d seen so much of it in the 60s.” However, the features of the specific VELUX model changed her mind.

“It was a new way to turn an old wheel,” said Clarke.

Clarke participated in the initial meetings on the character of the house and later on the floor plan and elevations. As the team got into more details on the shape of spaces and location of glass, Cook and LaPiana pulled in Clarke & Co. for more input.

“We worked back and forth until we came up with a great solution,” said LaPiana.

LaPiana had initially planned on a large window above the cook-top.



## VENTING SKYLIGHTS

*The venting feature of the skylights allow heat and VOCs throughout the house to exit while letting fresh air in.*

Outside the kitchen area is the steepest view of the house, and without natural daylight the area would have been a dark space even if amply lit with electric lights. The interior designer, Clarke, preferred the skylights too because the airflow coming in through the large livingroom sliding doors could circulate air.

“Originally I didn’t know that the skylights opened, and that was a real added bonus,” said Clarke. “That was part of my agreeing to let it happen.”

According to LaPiana, the team considered making the kitchen a bit more cozy with a flat ceiling,

or opening it up and angling the ceiling to parallel the pitch of the roof. The team chose to open it up once they decided on skylights, which later, according to LaPiana, “affected some other decisions in a good way.”

For example, LaPiana said the venting feature of the skylights, designed to allow heat and VOCs throughout the house to exit while letting fresh air in, would be a “nice supplemental way to get rid of any cooking odors or steam smoke” in the kitchen.

## CONCERNS EXPRESSED

However, initially Cook was

concerned about the heat the skylights would add to the space during the hot summer months. But his concerns “were put to rest,” he said, by talking to VELUX, “who gave me statistics on heat gain.”

The VELUX skylights employ Cardinal brand LoE glass, which reflects most of the infrared light (IR), while letting in almost all of the visible light. Therefore, the Lo E substantially reduces the amount of solar radiation that would otherwise enter the building as heat. Beyond the Cardinal LoE glass, automatic filtering blinds or shade controls moderate how much light is



**FACT**

## **COLOR IS NOT AN INTRINSIC PROPERTY OF OBJECTS.**

*The color of an object depends on different kinds of light that illuminate the object. In fact, color only becomes visible to our eyes when light strikes an object. There is no color without light.*

## “PEOPLE LOVED THEM,” SAID CLARKE OF THE SKYLIGHTS IN THE KITCHEN AREA.

The Oasis was a showcase home for the 2014 South East professional home building expo (SEBC) in Florida.

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coming in reduce heat gain. The ability of the skylights to open and release heat also reduces heat gain.

“That’s kind of what sold me on it,” said Cook. “I got comfortable with them after that.”

LaPiana, who has a thirty-year history with older skylights, was more concerned about the potential for leaking, but said he was persuaded by the “fantastic flashing systems” that were part of the VELUX package to prevent the skylights from leaking.

### TUBULAR DEVICES DECISION

In the stairwell near the kitchen, Cook also installed four-foot long VELUX tubular daylighting Sun Tunnels. The daylighting Sun Tunnels are ideally suited to bring in sunlight when space is limited, or where the roof structure is quite a distance from the ceiling.

For example, in the Oasis home, the plane of the roof was separated from the plane of the ceiling by a good distance. Tubular daylighting devices are ideally designed to bring daylight into spaces where there is not

enough room for a light shaft, or the cost of the shaft would be prohibitive.

LaPiana employed tubular daylighting devices, he said, because they direct light where needed and because they “do a great job of getting the most light possible to that aperture.”

### APPEALING RESULTS

Because “The Oasis” home was a showcase for the 2014 SEBC professional home building expo, many of the attendees viewed the home during the show’s “parade of homes.”

“People loved them,” reports Clarke. “Like me, some people thought of the old-fashioned 60s... they all leaked and caused problems. But these are fantastic.”

The Evans Group architectural firm was involved from concept through installation, although the bulk of their design work required about two and a half months, said LaPiana. Build time for the home was less than nine months, reports Cook.

The skylights were worth the effort, said LaPiana. “They functioned

well, they looked good, and they provided lots of light to the space. And they seemed to not add a lot of heat. So, all the things that we were wanting them to do, they did.”

LaPiana’s thoughts about the skylights when he first entered the completed home? “I’m glad we did that. That was a good decision.”

Clarke agreed. “A whole new way of creating light on a vaulted ceiling.”

*Research and reporting compiled and provided by Eneref Institute.  
Information generously provided by Bill Cook Luxury Homes,  
The Evans Group, Clarke & Co and VELUX.*



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Our Virtual Campus is the repository for other Advocacy Reports and Web Forums.

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