

Hannaford Brothers Store, Augusta, Maine



Project Profile

This was the first LEED Platinum supermarket to be built in the US. The challenge for architect Rick Ames of Boston-based Next Phase Studios was to create a daylight lit/low energy 50,000 square foot supermarket. This would involve the flooding of key areas with sufficient diffused natural daylighting which in turn would significantly reduce energy costs. Ames and daylighting consultant Dane Sanders of Clanton & Associates, Inc. in Boulder, employed a number of techniques to achieve the best performance and design.

Solution

A key strategy was the use of fifty-four (54) 4'x4' Wasco Skylights' Lumira aerogel (previously called Nanogel[®]) Thermal Units for both general and task lighting and to achieve optimal daylighting conditions in critical areas.

The thermal units are double-paned polycarbonate glazed skylights insulated with a layer of translucent Lumira which is the world's lightest and most insulating solid, comprising up to 95% air. The skylights provide a very high insulating value, being up to six times as energy efficient as conventional skylights. They provide an excellent solar heat gain coefficient together with an abundance of glare-free, full spectrum,



diffused light. Studies show that this has a positive effect on worker productivity and can boost sales by as much as 40%.

The Lumira thermal units are UV stable, reduce sound transmissions by 25–70%, increase acoustic performance and are completely water resistant. They also meet the OSHA standard for skylight fall protection and are consistent with the MBDC Cradle to Cradle Design philosophy.

Ames and Sanders chose the Lumira filled skylights to illuminate service and delivery corridors where they report that on most days there is limited need for artificial light. They also placed them down the center of the store to supply sufficient general lighting and installed others to highlight specific displays, such as the profitable areas where Hannaford displays its own brand products, meat and produce.

Comments

“We chose the Wasco thermal units because we liked the balance of thermal characteristics and light transmittance,” says Ames. “You get plenty of diffused light with these skylights and they give you an R-value approaching that of an exterior wall. That’s really an unbeatable combination. We’re extremely pleased with the results and we know our client is as well.”

Owner:

Hannaford Brothers

Architect:

Hannaford Brothers

Lumira Partner:

Lumira filled panels: Amerilux International