

SSL Postings

U.S. DEPARTMENT OF ENERGY

March 3, 2015



Although you do not often hear about growth in domestic manufacturing here in the United States, the solid-state lighting industry is steadily growing and establishing a manufacturing presence here at home. Solid-state lighting was not only born of U.S. ingenuity and R&D, but is also riding the crest of a worldwide trend toward greater energy efficiency. This offers a golden opportunity for U.S. manufacturing to take a significant role in SSL. From time to time, the Postings focus on SSL companies manufacturing here in the U.S., in a series called “SSL in America.” This is not intended to endorse or promote any of the companies, but rather to describe advances in energy-efficient solid-state lighting. The activities you’ll read about here are consistent with the U.S. Department of Energy (DOE) white paper [“Prospects for U.S.-Based Manufacturing in the SSL Industry.”](#)

Spotlight on Sky Factory

Sky Factory manufactures backlit artificial skylights and windows that feature photos of the sky and nature-based scenes, and are designed to mimic the real thing so closely that they’ll elicit the same relaxation response in users. Some products even feature high-definition videos instead of static photos. Because these images absorb about 70% of the light produced, Sky Factory’s products are not intended to illuminate a space all by themselves, and are almost always used in conjunction with other lighting. The company’s customers are located all over the world.

Sky Factory was founded in 2002 by artist Bill Witherspoon and started out making opaque ceiling tiles that were covered with photographs of the sky. Before long, the company came out with a backlit version, which used fluorescent lighting supplied by a manufacturing partner. A major market for these products was healthcare settings (the relaxation response elicited by the skylights and windows can aid the healing process), but Sky Factory needed to find a solution for rooms that contained MRI machines, which fluorescent lighting can interfere with unless special shielding is used. Incandescent bulbs don’t interfere with MRIs but have the wrong CCT, produce too much heat, and burn out quickly, so in 2005, the company started making some of its products with LEDs.

As SSL technology has improved, the percentage of Sky Factory's LED-lit products has increased, to the point where it's now nearly half of the company's products—with that figure growing all the time. CEO Skye Witherspoon (Bill's son) notes that there were issues with LEDs back when the company first started using them, but the technology has improved so much that more and more of its products are LED-based. Those products can be made thinner than if they were made with fluorescent lighting, which is a big advantage because many of the ceilings of Sky Factory's customers have a limited amount of available space.

All of Sky Factory's products are manufactured in a solar-powered facility located in Fairfield, IA, which is where the photography, images, and printing are done, as well as the luminaire design and assembly. All told, about 40 people work there—ranging from engineers, designers, and artists to photographers, videographers, and production staff. The various components are obtained from U.S. manufacturers wherever possible, and the extrusions are made by local or regional companies. Skye notes that Sky Factory is organized in a nonhierarchical way, with every employee having a say in company matters.

He says it's essential for the company to have control over the quality of its products, which is much easier when the manufacturing is done domestically. Another advantage of domestic manufacturing, Skye notes, is that it allows Sky Factory to respond to customer requests very quickly and with great flexibility. Most of its products are custom-designed, with customers choosing from among hundreds of existing photos posted on the company's website and specifying the size and shape they need. Skye says that having everyone under the same roof makes it much easier to create those products quickly and at a high level of quality than if parts of the process were outsourced. He says the company hopes to expand its Fairfield operations in the next few years.

Sky Factory is among a number of companies that are working to create and strengthen a solid-state lighting manufacturing base here in the U.S. This will not only help bring significant energy savings through more efficient lighting products, but will benefit our economy by adding jobs at multiple levels of the supply chain.

As always, if you have questions or comments, you can reach us at postings@akoyaonline.com.