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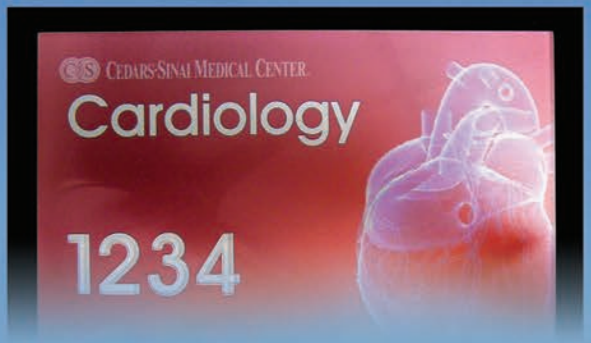


Enter Induction

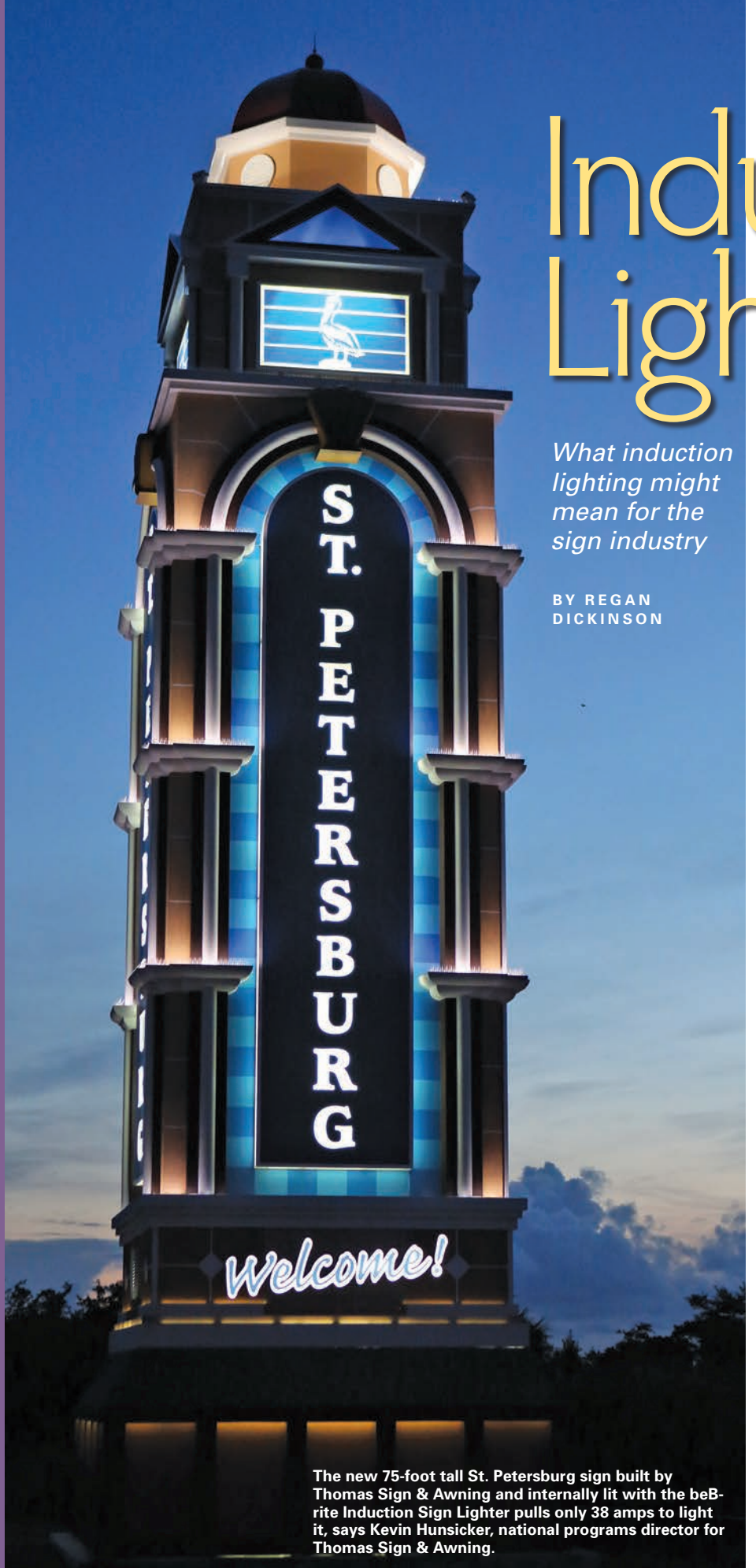
Large sign lighting has another option

NBM INC.

Induction Lighting

What induction lighting might mean for the sign industry

BY REGAN DICKINSON



The new 75-foot tall St. Petersburg sign built by Thomas Sign & Awning and internally lit with the beB-rite Induction Sign Lighter pulls only 38 amps to light it, says Kevin Hunsicker, national programs director for Thomas Sign & Awning.

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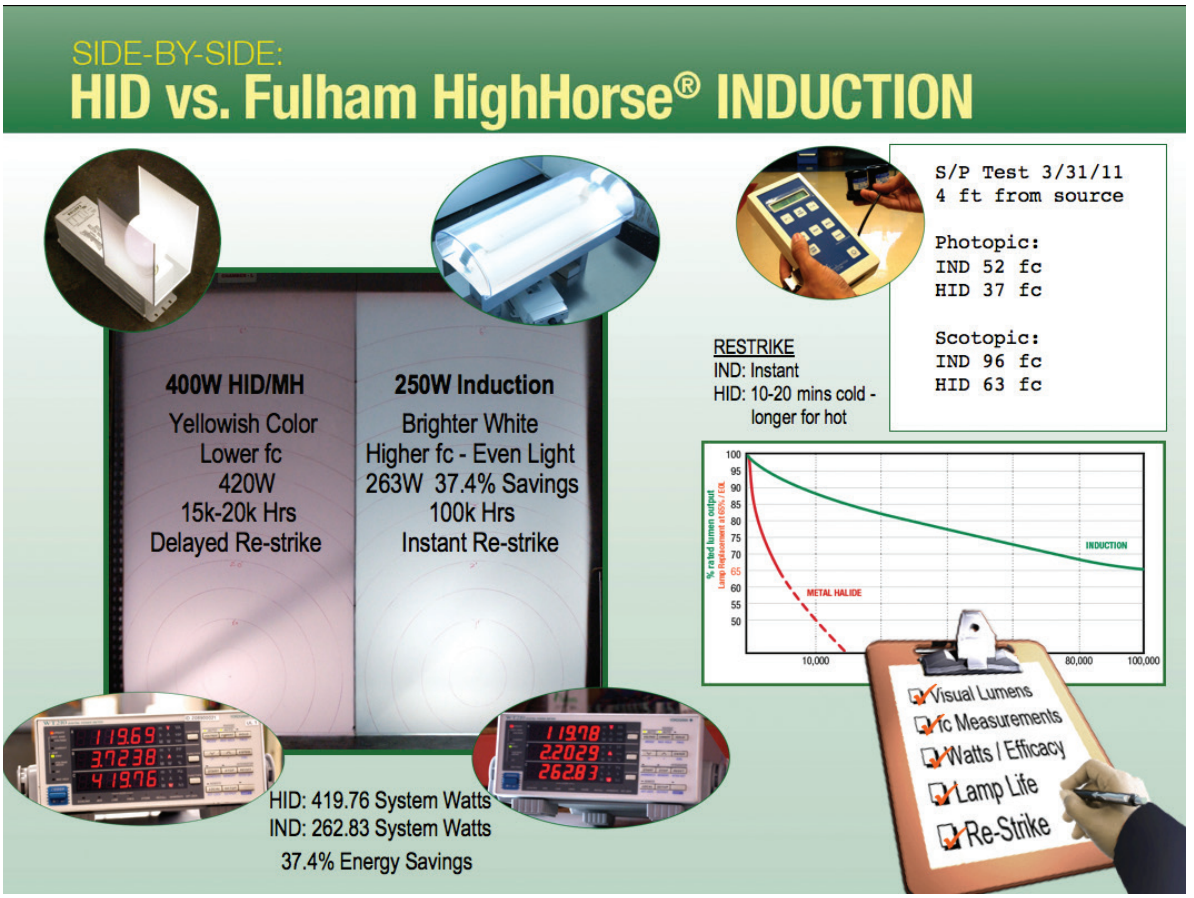
PRODUCT OF THE YEAR awards are often awarded to products that show promise, but haven't been through the real-world ringer. In other words, they're not a sure bet.

However, with induction lighting and specifically the beBrite Induction Sign Lighter, those bets are looking better all the time. Manufactured by Fulham, based in Hawthorne, Calif., and distributed by N. Glantz & Son, Louisville, Ky., the beBrite Induction Sign Lighter was named Best Green Product at the annual ISA International Sign Expo 2012.

Untested technology, particularly "green" technology, has taken a real beating over the past couple of years (Solyndra anyone?), but the "green" moniker is somewhat misleading in this case. Sure, induction lighting is "green" from the standpoint that it claims to light signs more efficiently, saving energy and putting less strain on the resources needed to produce energy.

Green is great, but even better is the green that goes in your wallet. That's what the promise of induction lighting means to the sign industry and sign buyers: more green in more ways than one.

Currently, the lighting technology is geared toward larger signs: at least eight feet high by whatever wide (8', 10', 12', you name it). That's the basic dividing line that one induction lighting user, Thomas Sign & Awning in Clearwater, Fla., draws between using induction and other light sources.



According to Fulham's Comparative Data Test between induction lighting and HID lamps, induction uses less energy, lights quicker without warm-up or cool-down times and provides a brighter, more consistent white.

"Best Buy has elected to use LED illumination, and we've converted most of their Big Ticket fluorescent signs to LED. They use a narrower format cabinet versus a wide body cabinet. You almost need a 30-inch deep cabinet for induction," says Kevin Hunsicker, national programs director for Thomas Sign & Awning. "For the cost of the fixture for induction lighting versus the costs of wiring up fluorescents and ballasts or LEDs, and the cost per square foot for luminous output, induction lighting becomes a very viable source. Once you get into that large-format 8' x 12' or 8' x 20' sign, such as bigger hotel signs, I would absolutely consider induction over HID (high intensity discharge) or sodium fixtures."

Consider it Thomas Sign & Awning did, and more than that, bet on it with one of the most visible signs in southwest Florida, but more on that shortly…

First, what is induction lighting? It's basically a commercial-grade fluorescent lamp; it's a closed loop system that uses magnets on the exterior rather than electrodes on either end. Induction lighting uses the magnetic field created on the outside of the glass that then travels through the glass and excites the atoms inside the lamp.

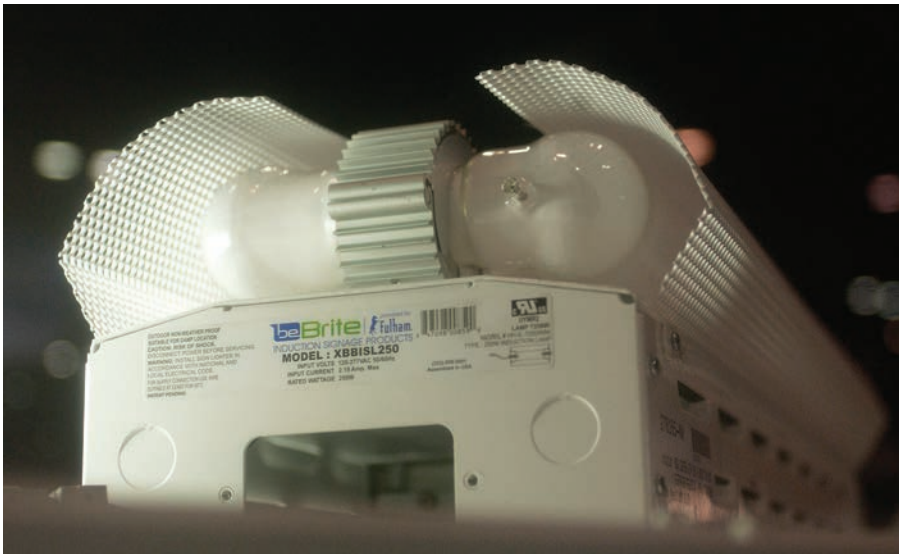
"Those electrodes are the typical points of failure for linear fluorescent lamps. An induction lamp, by contrast, removes the electrodes by closing off the tube and the contents of the lamp into a glass envelope that doesn't have any electrodes. It has an inductor on the outside instead, where the rectangular shape of this so-called tubular induction lamp meets on each end," says Jay Matsueda, Fulham's marketing director. "By firing a lamp this way, we're able to extend the life of the system dramatically. Induction lighting systems are rated to last an estimated 100,000 hours, whereas an HID lamp lasts between 15,000-20,000 hours. Even in a worst case scenario, you're still outperforming HID by four or five times. That's not to say that all induction lamps fail at 100,000 hours; some have lasted longer, but on average the lumen depreciation reaches about 65 percent at 100,000 hours, which is the point where we consider a lamp to have 'failed,' even if it's still running."

Fulham's product, sold by N. Glantz & Son as the beBrite Induction Sign Lighter, is a self-contained unit with its own generator built into the system.

Induction lighting claims to light signs more efficiently, saving energy and putting less strain on the resources needed to produce energy.

"It uses a special power conversion unit called a generator. It takes the incoming power and steps it up to transform the energy and power the lamp. It all comes as a kit, which eliminates the labor needed to put all those lamp holders into the cabinet, run all the wiring and connect it," says Dennis Wells, executive director of business development for N. Glantz & Son, who was also instrumental at Fulham in developing the product. "With the induction unit, it's ready to go; all you have to do is bring electrical

A peek inside the St. Petersburg sign structure shows how the lamps are placed inside.



The beBrite Induction Sign Lighter, manufactured by Fulham and distributed by N. Glantz & Son, is a closed loop fluorescent lighting system that uses magnets on the exterior rather than electrodes on either end. It is targeted toward large cabinet signs and is rated to last an estimated 100,000 hours, according to Fulham.

wires into it, and connect it. A lot of the assembly work goes away when someone chooses induction over fluorescent."

Induction lighting is also touted for its consistency and ability to light quickly. Matsueda says the stock color is 5000 degrees Kelvin, which he says is a true white and a truer white than what most HID lamps provide. Matsueda adds that HID lamps require time to warm up and time to cool down before it's re-lit.

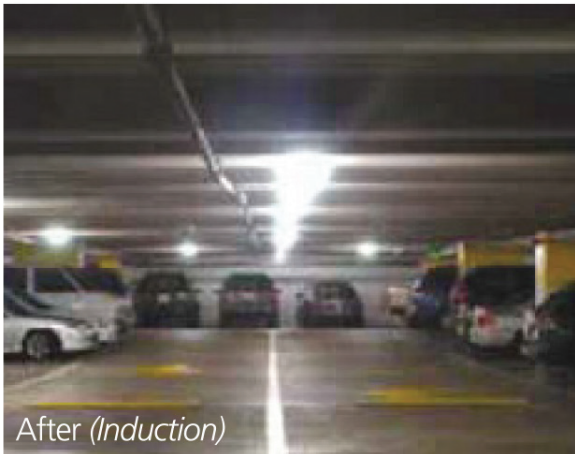
"When you have an HID system inside a sign that you want to illuminate from a cold start, the HID bulb needs to warm up. While it does that, it doesn't give off an attractive color. Furthermore, if you lose power while running an HID lighting system, before you can re-strike it when power is restored, the lamp needs to cool down. Then, once re-struck, it needs to warm up again for good color output. This process can take several minutes. With an induction lamp, it turns on instantly. You can cycle it as much as you want, which is important where power outages may be an issue," Matsueda says.

Induction in Action

Now back to Thomas Sign & Awning, which built a giant structure at the city limits of St. Petersburg, Fla., to welcome one and all to the city, just in time for the 2012 Republican National Convention in Tampa. The $600,000 sign was commissioned by Bill Edwards, a local financier and philanthropist, and built by Thomas Sign & Awning.

"This sign structure is 75 feet tall, and the lighting challenge was that we had to design it to be energy efficient. The internal structure is 20' x 20' with a complete internal catwalk; and fluorescents didn't seem to be conducive for power consumption energy savings," explains Thomas Sign & Awning's Hunsicker, who's a 36-year sign industry veteran. "N. Glantz brought induction lighting to the table. It was interesting because the luminous output of the 250-watt fixtures they brought us, which were roughly three feet in length, seemed to


Before *(HID)*


After *(Induction)*

be the possible solution. We worked out the internal lighting aspects and 18 of these fixtures fully illuminate this tower. We used LEDs in all the architectural elements with fancy trims, corners and accents. This entire structure is pulling only 38 amps of power to light it and lighting three sides of a four-sided structure. The fourth side faces the waterway, Tampa Bay, where we had to be conscious of sea creatures, like turtles."

The structure was constructed of thick-wall aluminum on the exterior, with routed, push-through graphics and the aforementioned accents, corners and trims. It's built to withstand winds of up to 150 mph, though a hurricane of that magnitude is quite unlikely to make landfall in the Tampa area.

"We're engineering to a whole different degree than anywhere else in the country. It doesn't have any loose components, like you have with neon and fluorescent. When you get to a 150-160 wind load you have to consider the vibration as well," says Hunsicker.

Besides the obvious need to keep power consumption costs down, the other issue that led Thomas Sign & Awning to induction lighting was the availability of power, which was limited.

"We had to pull power 900 feet with two step-down transformers from the DOT utilities, so we were using a 277 power source at the base. We tested the product in a confined space of 10' x 10'. It worked extremely well and the project was given to us with a 12-week window to completely build the structure. It sits 50 feet off of Tampa Bay so we also had unique engineering challenges with 35-foot deep monolithic core footers, structural steel, so we brought our complete team in on this," says Hunsicker. "We came up with a great solution for the city and we're real happy with the induction lighting.

The tower lights up from dusk to dawn; it kicks on when the highway lights come on. It has been up since August and we've had zero maintenance breakdowns. We gave the city and Mr. Edwards a full five-year unconditional lighting warranty that Fulham gave to us because their belief in the product is that great." **SDG**