

Practice in Action

1. It's easy to lose track of technological advancements if it has been more than 5 years since you last updated your lighting. Be open to considering lighting alternatives you may have tried years ago – they have likely changed a lot since you last looked.

2. Your employees are the best judges when it comes to evaluating the effectiveness of your lighting in real working conditions. Try lighting a sample area so your employees can give you feedback prior to a full installation.



Fluorescent T-8 bulbs support DG3's Green Team initiatives.

Better Lighting. Less Carbon. Higher Efficiency.

When you are in the printing business, having a plant that's well lit is everything. Ideally, you shouldn't even notice a significant difference between outside and inside light. **DG3's** plant has 384 fixtures, so lighting is a very big deal to us in terms of the working conditions, quality of product we produce, cost to us and to our customers, and impact on the amount of energy consumed.

We were pretty happy with our lighting situation; however, when our electricity supplier contract was coming to the end of its 10-year timeframe, we took a serious look at all of our options. We are very glad that we did.

After a decade of what was then state-of-the-art facility lighting, **DG3** installed T-8 fluorescent bulbs throughout its 200,000 square foot facility. This industry-leading lighting solution has a viewing standard of 5,000 Kelvin*—drawing nearly 30% fewer kilowatts per day than our previous lighting.

Each day the new lighting systems consume 1,368 fewer kilowatts than the prior systems. The savings amount to a total reduction in consumption of 501,000 kilowatts per year, enough to power 535 homes each day based on U.S. Department of Energy statistics. This upgrade is in addition to **DG3's** wind power renewable energy purchase.

*The Kelvin scale and the Kelvin are named after the British physicist and engineer William Thomson, 1st Baron Kelvin. The Kelvin is often used to measure the color temperature of light sources. The Kelvin scale ranges from 2,000k to 10,000k. Industry experts consider 5,000k to be optimal for print viewing, which approximates noon-time daylight with sun overhead and a clear sky.

DG3's Green Team, Making a World of Difference

DG3's long history of recycling and other environmentally conscious initiatives was formalized in 2009 as the DG3 Green Team. We continually look to improve our quality and efficiency, as a printer and a thought leader. We are proud of the things we have accomplished, providing our customers with the highest quality printing solutions while reducing our impact on the environment.

Saving money and saving the planet often go hand-in-hand. However, when our green initiatives do cost us more money, we are secure in the knowledge that our choices improve the quality of our products and keep our environment healthy. Being responsible, reducing consumption, and improving our work environment is what the Green Team does to make a world of difference.

The Solution

DG3 has always been concerned about the environment and equally concerned about energy costs, so we're always looking for better ways to get lighting into our plant and reduce costs. Our supplier, New Millennium Lighting in Newark, NJ, suggested we try a new type of fluorescent bulb called a T-8, but we were initially skeptical. After all, we had fluorescents prior to our halide lights and viewed them as old, not new and progressive, and expensive—\$8-\$15 per bulb.

To test the new bulbs, we worked closely with New Millennium Lighting to try the T-8s in a sample area of our factory. This allowed our workers to give us feedback prior to a full installation. Our head of engineering also spoke with several reference accounts that had tried the new fluorescent bulbs and they were all happy with the results and the installation.

10 years ago	today
metal halide bulbs	fluorescent T-bulbs
350 watts/fixture	190 watts/fixture
white enamelized reflectors	highly polished polymer reflectors
white/yellow	soft white
Lumen meter: 72	Lumen meter: 72

Results

DG3's ROI was realized in about one year. Our capital investment was over \$100,000. Annual savings are approximately \$82,750, with a reduction of 551,670 kilowatt hours per year. We not only reduced our electricity consumption, we also generated less heat and lowered air conditioning costs—all reducing our carbon footprint. Another strategic advantage is the flexibility that this type of lighting provides by allowing us to reposition fixtures according to project needs and unplug fixtures that are not in use.

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