



Before, 8 Foot Candles at 27 feet



After, 19 Foot Candles at 27 feet

For world's largest wood treatment facility, SONARAY™ shines bright for energy savings, better lighting, and a safer, cleaner environment.

With an 180,000 square foot warehouse, covering some 4+ acres of land, and the capacity to treat over 1 million board feet of lumber in a day, this Central Virginia wood treatment facility bills itself as the world's largest. And while being the world's biggest at anything can be impressive, it can also present great challenges when it comes to efficiency, cost-savings, and being environmentally friendly.

One area that presented a challenge for the facility was lighting. Having already been a recipient of an *Agribusiness Environment Award* from the Virginia Agribusiness Council, the company was looking for ways to be more energy conscious and be even better to the environment for future generations. That's when they looked to SONARAY™ LED lighting to help the wood treatment facility "build" a lighting plan that would start paying dividends early and well into the future. Of course they also wanted a practical solution that would give workers better lighting, and reduce not only air pollution, but make for a safer environment.

The company's main lumber warehouse had been using 120 high pressure sodium lamps (400 watts each), but had been experiencing not only high maintenance costs due to ballast and bulb changes, but also had substandard lighting. In fact, average lighting measurements at 27 feet in the warehouse registered only 8 foot candles. This was far from optimal lighting to ensure a safe and productive work environment.

The company operates 6 days a week, 52 weeks a year, with an average usage of lighting at 21 hours per day. Energy cost per kilowatt hour is 12 cents for the company, so these metrics were all important factors to consider when looking at a complete solution.

After considering these facts, SONARAY™ conducted a custom layout for the company and came back with a recommendation for a one-for-one replacement using the new, lower wattage SONARAY™ fixtures. The 150 watt LED lights not only proved to be energy savers and better for the environment, but also increased the average foot candle reading at 27 feet to 19, versus the previous 8, so lighting output nearly tripled while significantly lowering the power load for each fixture.



In addition, total kilowatt hours saved per year were an estimated 245,307 so there was a great reduction in the company’s carbon footprint, allowing them to reduce carbon dioxide air pollution by over 206 metric tons per year. This amount would be an equivalent estimate of the carbon dioxide produced by more than 28 homes’ electricity use in a year (<http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>).

So, SONARAY™ was able to accomplish the company’s goals of (1) energy efficiency with lower cost, (2) lighting that is environmentally friendly and fits with the company’s forward-looking “green” mindset, and (3) safety for workers.

A breakdown of the savings for the company along with usage data and projections appear in the table below:

Category	Original Lighting	SONARAY Luminaires
Quantity of Fixtures	120	120
Wattage Per Fixture	462	150
Total Fixture Wattage	55,440	18,000
Projected Lamp Life (Hours)	15,000	50,000
Projected Lamp Life (Years)	2.29	7.63
Lamp Changes (Annual)	0.44	0.22
Annual Maintenance Cost Per Lamp	\$21.84	\$10.92
Annual Maintenance Cost (Total)	\$2,621	\$1,310
Total Energy Savings (Annual)	NA	\$1,311
Total Savings - Energy + Maintenance (Annual)	NA	\$30,747
Initial Upgrade Cost for Fixtures	NA	\$41,040
Years to Payback	NA	1.33

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