



## Project Summary

A national foodservice beverage manufacturer wanted to undertake a cost and energy savings approach to upgrades for its manufacturing facility. The variety of products that would fit into the complicated mix of applications for a brewery led to the decision to use Relume products.

**End User:** Foodservice Beverage Manufacturer

**Application:** Warehouse Lighting

**Products:**

- Relume parkVUE 40HB – 3,117 fixtures
- Relume SpunBay – 500 fixtures
- Relume Radiance RHZ3 – 500 fixtures

**Accessories:**

- WattStopper FSP-211 smart sensor

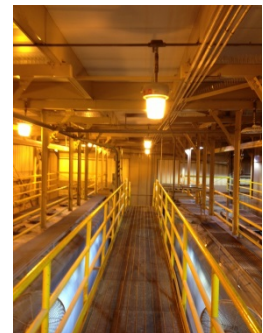
**Benefits:**

- 78 percent reduction in energy use over MH lighting
- 100% 1-to-1 fixture replacement
- Quality controlled manufacturing process
- Over 100,000 hour lifespan of new LED light engines vs. 20,000-30,000 hour lifespan of traditional lamps
- Superior glare reduction with Prismatic Lens
- Increased visibility
- Maximized Long Term Energy and Maintenance Savings

## Project Overview



Eco Engineering led the project design and was the installing contractor. There was a lot of confidence in the product and the staff of Relume which eased any anxiety levels going into a project this large. As a result, several types of fixtures were chosen for installation. Relume was very supportive and quick to respond to related questions.



Pounds of <b>Coal</b> Saved @ 0.08 lbs/per kWh	307,166 lbs.
Gallons of <b>Oil</b> Saved @ 0.07 gals/kWh	268,770 gals
Pounds of <b>Carbon Dioxides</b> Saved @ 1.95 lbs/kWh	7,487,161 lbs.
Pounds of <b>Sulfur Dioxides</b> Saved @ 0.008477 lbs/kWh	32,548 lbs.
Pounds of <b>Nitrogen Oxides</b> Saved @ 0.004092 lbs/kWh	134,612 lbs.

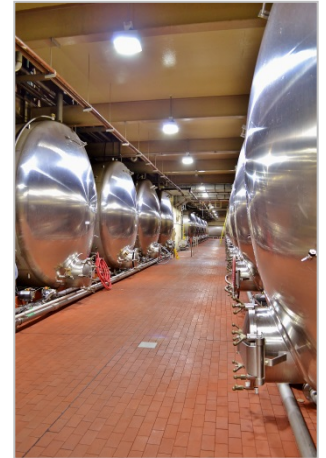




**Project Overview (cont')**

The two biggest take-a-ways were the lumen output in the field as to what is on a photometric report. What we saw in the field was so much better than we were anticipating based on our models. The other thing was the control feature and how easy it was to manipulate. The end users are already changing the output of the fixtures and also increasing the time delay which is going to add more additional savings that we couldn't calculate.

*"It's still blowing our mind to what we actually saw in the field. The ease of install and the performance of the fixtures have us going back to our other designs to take a better approach," said Matt Minard, LC, Eco Engineering.*



**Cost Analysis**

**Annual LED Life-Cycle Cost Analysis**

**Traditional Fixtures**

Fixture	Number	Energy Use (kWh)	Cost/Unit	Total Cost
MH 175W @ 8,760 hrs	2,261	4,139,529	\$ 0.092	\$ 380,837
MH 175W @ 4,380 hrs	856	783,600	\$ 0.092	72,091
Maintenance (est.)	-	-	-	7,834
<b>Total Costs for Period</b>				<b>\$ 460,762</b>

**Relume LED Fixtures**

Fixture	Number	Energy Use (kWh)	Cost/Unit	Total Cost
parkVUE 40HB @ 8,760 hrs	2,261	911,093	\$ 0.092	\$ 83,821
parkVUE 40HB @ 4,380 hrs	856	172,467	\$ 0.092	15,867
Maintenance (est.)	-	-	-	2,852
<b>Total Costs for Period</b>				<b>\$ 102,540</b>

**Savings**

	Savings
Energy Savings	\$ 353,240
Maintenance Savings (est.)	62,500
<b>Total Savings LED Fixtures</b>	<b>\$ 415,740</b>

Using Relume LED fixtures results in an overall savings of 78 percent annually, estimated at more than \$350,000. Utilizing the savings in energy costs and additional estimated maintenance savings the project will have a projected simple payback of 1.8 years.

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