



## Lighting Retrofit Case Study – Warehouse & Distribution Center – Kansas City, MO

### About the Client

Harvesters is the community's response to hunger. As this area's only food bank, Harvester, a non-profit organization, is a clearinghouse for the collection and distribution of food and related household products. They also work toward long-term solutions through nutrition education, hunger awareness and advocacy. Approximately 80% of Harvesters labor force is volunteer.



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### *Project Cost/Savings...*

*Total Cost: \$179,169*

*KCP&L Utility Rebate: \$83,642*

*Net Price: \$95,527*

*Annual kW Savings: 318,866*

*Annual Energy Savings: \$27,104*

*Projected R.O.I.: 3 years*

# Harvesters of Kansas City

3801 Topping Avenue, Kansas City, MO

## Project Features...

### **Warehouse**

*One for one Replacement*

*•Removal of 251-400W  
Metal Halides*

*•Replace with 25 - 6 Lamp T8  
Premium reflectors*

*Reduced fixture count*

*•Removal of 120 – 96" 2 Lamp  
HO high output strips*

*•Replace with 36 – 48" T8  
Reflectors*

*Area 4 included some T5  
replacements*

*110 Occupancy Sensors installed  
throughout warehouse*

### **Office & Common Areas**

*•Removed T12 reflector strips*

*•Replace with 3 Lamp  
recessed T8 Parabolic  
troffers*

*•Over 50 motion sensors*

*Exits Signs replaced with LED*

*Upgrade circuit panel boards*

*Complete Recycling Service*

## **About Worldwide Energy..**

*As commercial energy efficiency  
experts, we help our clients  
minimize utility expenses with  
energy efficiency lighting,  
efficient heating & cooling, and  
building envelope solutions.*

*Our efforts focus primarily on the  
areas that provide the greatest  
utility cost savings and where  
financial incentives create a rapid  
return on investment.*

*Worldwide Energy offers a total  
turnkey solution; utility rebate  
and Federal EPCAct filing services  
(provided at no additional  
charge); complete design &  
installation services; recycling  
and project financing. Our  
services usually have a 2 year or  
less return on investment.*

### **Client Concerns**

The staff at Harvesters struggled with 3 main concerns:

- Inefficient, outdated lighting – causing dark areas
- Liability concerning safety of the staff and volunteers
- Inconsistent maintenance schedules due to lack of proper equipment to reach the high ceiling light fixtures.

### **The Scope of Work**

Harvesters occupies approximately 200,000 square feet; the largest section is warehouse space with coolers and freezers. The remaining sections were offices and common areas. Harvesters operates approximately 4000 annual hours.

The outdated lighting was Metal Halide and T12 strips. All new lighting must have tube guards in order to adhere to the American Institute of Baking (AIB) standards.

Harvesters required 50 footcandles horizontally in the office area. In order to supply enough light in between the floor to ceiling racking in the warehouse, footcandles needed to be 20 horizontally and 15 vertically.

Worldwide Energy maximized the financial incentives for Harvesters, by completing the project in two phases, 2009 & 2010. The maximum yearly KCP&L Utility Rebate for Commercial clients is \$41,821, therefore Harvesters received \$83,642 in total rebates.

### **Recommendations & Benefits**

**Better visual Acuity** – the specified lamps will result in significantly higher lumen maintenance, more uniformity of illumination, and 30% higher color rendering index (CRI), resulting in fewer errors, and improved morale and safety conditions.

**Hot Restrike** – lamps restart immediately in the event of power interruption

**Reduced Maintenance, Repair and Replacement Expenditures** – 5-year ballast, 24-36-month\* lamp warranties, & 20,000 hour lamp life will result in lower maintenance and repair costs.

**Indirect Utility Expense Reduction** –the specified fixtures will reduce peak demand charges, and reduce the heating & cooling load further reducing utility bills.

**Significant Greenhouse Emission Reductions** – equivalent to removing 49 autos from the road.