



Project Summary

Management at MGM Grand Detroit was eager to reduce the annual electrical bill at the facility by \$500,000. In an effort to do this, several types of fixtures were considered including retrofit, induction and LED. After side-by-side testing of 12 different types of lights from various manufacturers, Relume parkVUE 40HB fixtures were chosen.

End User: MGM Grand Detroit Self Park, Detroit, Michigan

Application: Parking Garage Lighting

Products:

- RVLt parkVUE 40HB – 3,117 fixtures
- SentinelC control system

Benefits:

- 78% 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



The company’s low-glare parkVUE fixtures coupled with the wireless control capability made Relume the obvious choice among the other competitive product offerings evaluated during the selection process. In addition, the “Made in Michigan” rebate through DTE and the fact that they are manufactured locally at a quality controlled manufacturing facility helped complete the selection process.

| | |
|--|----------------|
| Pounds of Coal Saved @ 0.08 lbs. per kWh | 307,166 lbs. |
| Gallons of Oil Saved @ 0.07 gallons per kWh | 268,770 gals |
| Pounds of Carbon Dioxides Saved @ 1.95 lbs. per kWh | 7,487,161 lbs. |
| Pounds of Sulfur Dioxides Saved @ 0.008477 lbs. per kWh | 32,548 lbs. |
| Pounds of Nitrogen Oxides Saved @ 0.004092 lbs. per kWh | 15,712 lbs. |



Project Overview (con't)

Members from the corporate office came to view the side-by-side comparison and everyone was excited. The parkVUE was chosen for its superior uniformity and ease of installation and maintenance. After a successful 6 week installation by Motor City Electric and Caniff Electric, the project was completed. As a result of this installation the facility is already taking advantage of \$422,000 tax credit from the State of Michigan as well as a \$152,000 rebate from DTE. The project has been so successful that the installation has been nominated by MGM Corporate for their 2013 Green Advantage Award.

“As an engineer and also being responsible for sustainability, this was just the right thing to do. We are very happy with the project outcome and are already experiencing savings,” said Jeff Jackson, Director of Engineering for MGM Grand Detroit.



Cost Analysis

Annual LED Life-Cycle Cost Analysis

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

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

| Savings | Savings |
|-----------------------------------|-------------------|
| Energy Savings | \$ 353,240 |
| Maintenance Savings (est.) | \$ 4,982 |
| Total Savings LED Fixtures | \$ 358,222 |

Using the RVLT parkVUE fixtures resulted in an overall savings of 20% annually, estimated at more than \$1,964. With a 60% savings in energy costs and additional maintenance savings the project will have an estimated simple payback of 3.9 years. With the addition of included Photocell Sensors, the client is expected to save an additional 15% on Energy Savings.

Visit www.rvlti.com for more information.

Numbers are calculated at the time of installation and may not reflect current upgrades to lighting fixture components.