



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: ■ Relume parkVUE 40HB – 3,117 fixtures installed with 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	3,225,639
Pounds of Sulfur Dioxides Saved @ 0.008477 lbs. per kWh	14,022
Pounds of Nitrogen Oxides Saved @ 0.004092 lbs. per kWh	6,769
	7,487,161 lbs.
	32,548 lbs.
	134,612 lbs.



Project Overview (cont')

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

Traditional Fixtures

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

Relume LED Fixtures

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 (est.)	-	-	-	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 Relume LED fixtures results in an overall savings of 78% 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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