



# Cost Analysis

**Customer:**

**Customer Name, Existing 400W MH  
Orion, Michigan**

**Operating Hours:**

Daily: 12  
Days per Week: 7  
Yearly: 4368

Existing Fixtures:	Input Watts	Quantity
400W MH	400	10

Electrician cost	Cost per KWH:
\$/hour: \$75.00	Rate: \$0.0700

Proposed Fixtures:	Input Watts	Quantity	Cost/Fixture:	Rebate/Fixt.
B250-240M	250	10	\$162.00	\$50.00

FIXTURE CALCULATIONS	Existing	DHID
Input Wattage per Fixture	472	263
Power Factor (PF)	/ 0.70	/ 0.98
Net Input VoltAmps	674	268
Operating Hours per Year	x 4368	x 4368
Watt Hours per Year	2,945,280	1,170,000
Divide by (1000) = Total kWh per Year	2945	1170
Average Cost per kWh	x \$0.0700	x \$0.0700
Annual Power Cost to Operate One Fixture	\$206	\$82
Fixture Quantity	x 10	x 10
Annual System Lighting Power Cost	\$2,062	\$819
System kWh per year usage	29,453	11,700

PAYBACK CALCULATIONS				
Retrofit Cost per Fixture x Fixture Quantity	\$162.00	x	10	= \$1,620
Less Utility Rebate per Fixture x Fixture Quantit	\$50.00	x	10	= \$500
<b>Total Retrofit Net Fixture Costs</b>				<b>\$1,120</b>
<b>Quantity of Fixtures installed per HR:</b>			<b>2</b>	
Total Cost for installation	\$75.00	x	10	= \$375
<b>Total Cost Of Entire Retrofit System:</b>				<b>\$1,495</b>

Total Existing Energy Costs Per Year (as per above)	\$2,062
Total Proposed Energy Costs Per Year (as per above)	- \$819
<b>Total System Savings Per Year</b>	<b>\$1,243</b>

**GROSS PAYBACK IN YEARS (TOTAL COST DIVIDED BY SAVINGS) 1.20**

**MAINTENANCE SAVINGS CALCULATIONS**

**Annual Savings on the Elimination of Maintenance \$140**

Total Existing kWh Per Year	29,453 kWh
Total Proposed DHID kWh per	- 11,700 kWh
Compute Total kWh Savings Per Year	17,753 kWh

Total Retrofit Net Fixture Cost (material & installation plus applicable rebates):	\$1,495.00
Compute Total Savings Per Year (System Savings Plus Maintenance Savings)	\$1,383.10
Compute total Savings over the life of the fixture	\$16,008.06
Compute Net Total Payback in Years (Total Cost Divided By Total Savings Per Year)	1.08

<b>Net Total Payback In Years</b>	<b>1.08</b>
<b>RETURN ON INVESTMENT</b>	<b>970.8%</b>
<b>Total Profit Generated</b>	<b>\$16,008.06</b>
<b>Reduction of Harmful Emissions (Ibs.)</b>	<b>106,845.56</b>
<b>Energy Savings (%)</b>	<b>60.3%</b>

- \* all numbers are calculated using the 50,000 hour 100% useable lifespan of the retrofits
- \* lights will continue to work at less than 100% performance for even longer.
- \* emissions based on Canada's average carbon output per kWh determined by the WWF
- \* shipping plus taxes extra.