Project Highlights

	Original	LED
Fixtures:	407	326
Interior:	Offices & Warehouse	
•	243 x 86w T8	225 x 36W
•	41 x 65W T8	
•	27 X 275w T8	70 x 195W
•	65 x 275W T8	
Exterior:	Yard & Parking	
•	11 x 400W shoebox	11 x 105W
•	15 x 400W wallpacks	15 x 68W
•	5 x 400W floods	5 x 105W

The Numbers

- EcMod IRR: 24%
- kWh Reduction: >70%
- KW Reduction: 32 KW
- Annual kWh Saved: 325,710
- First Year Savings: $40,475
- Utility Incentive: $16,250 ($0.05 / kWh)

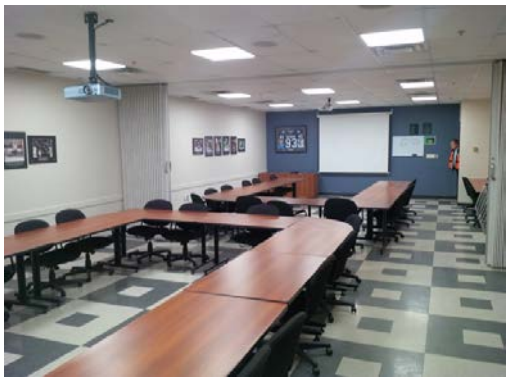
Division Engineer Dave Sabola spearheaded the project and commented " *after completing the office renovation project in Cambridge I met with the US LED and Tradeforce teams in Houston. The programmable hi-bay fixtures that resulted from that meeting are really showing their value in the projects completed so far*"

Project Overview

Division LED Project Background

A wide range of high performance LED fixtures from Houston based **US LED** have been evaluated and installed in offices, low and high bay warehousing, packaging and processing in a number of facilities across Alberta, Ontario and Quebec. Approximately 4,000 fixtures have been deployed in both interior and exterior applications and have demonstrated a combination of significantly improved light levels and project IRR's of >20% in all cases.

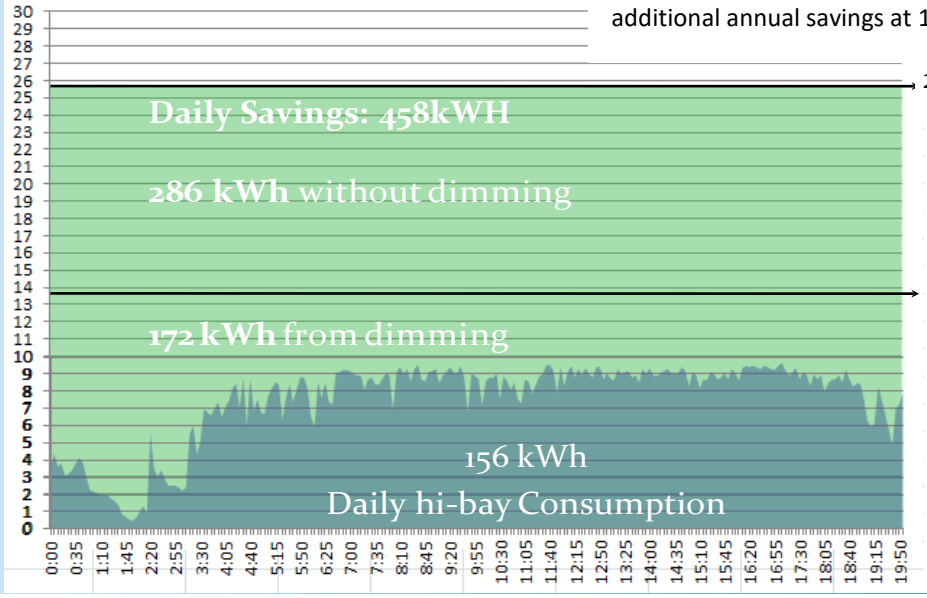
The Frito Lay distribution center in Brampton Ontario consists of 19,500ft^2 of office space and a 46,000ft^2 warehouse. The office areas were retrofitted with the L-GRID2 LED panel seen in the picture below. Sixteen 86W fluorescent fixtures were replaced by twelve 36W US LED panels improving light levels by 25% in this conference room.



A key objective of the project was to quantify the additional savings to be delivered by implementing motion sensing with dimming control on each hi-bay fixture in the warehouse. The 195W BayStar fixture selected provided significantly improved light levels and a 65% nominal reduction in power consumption as shown in the graph below. The question was would an additional 20% increase in fixture price due to adding dimming capability provide a compelling payback in a busy warehouse?

Project Results

The blue graph below shows the real-time consumption of the hi-bay LED system provided via a wireless electricity monitor installed during the retrofit. The green areas outline the savings delivered by the 13.7KW LED system compared to the original 25.6KW load and the additional 172kWh of daily savings contributed by the dimming controls. The additional $12,000 cost for dimming sensors yields $7,500 in additional annual savings at 12.5 cents /kWh for a 1.6 year payback.



Original Lighting Load:
614 kWh daily
224,000 kWh annually

Maximum LED Load:
328 kWh daily
120,000 kWh annually

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5 Manitou Dr. Unit 102B & C
Kitchener, ON
519.208.6427 local
800.519.8962 toll free
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www.tradeforcetech.com