

Nedap Luxon

e-HID ballast 250-2,000W for HID Light Management



# Superior e-HID lighting makes promotional products stand out



Industrial case | ESP Promo Ltd.



## Project outlines

In 1993 ESP Promotions based in Markham, Canada started as a small two person operation. ESP has grown continually to become a leader in the promotional products industry. With controlled growth, ESP now employs over 180 dedicated

employees and has almost 50,000 square feet of manufacturing and warehouse space. ESP is constantly setting the standard for promotional excellence through offering only the highest quality products, backed by services that lead the industry.

nedap  
**Luxon**

Get the best out of your HID Lighting

In the competitive business of promo-items there are strict deadlines to be met. Time constraints are running as a red line through all of the ESP core operations; sourcing, stock management, order picking, imprint, packaging and shipment. All of these logistic aspects require the right conditions to keep production running at full speed without any delays or errors. Good lighting on the work floor is crucial for the employees to deliver high quality promotional products. More light will also increase output and can help to avoid health and safety related injuries during working hours.

Eco-Shift Power Corp. was asked to evaluate the lighting installation for both the production area and the office. This audit made clear that in all the areas of the ESP Promotions facility the lighting levels were insufficient. The T12 fluorescent fixtures in the offices and show room needed urgent replacement. For the print room and warehouse the conventional lighting was a mix of T12 fluorescent technology and outdated magnetic HID lighting.

It became clear that for all areas a drastic improvement could be made to upgrade lighting quality in combination with a significant reduction in energy consumption. Based on a detailed lighting audit from Eco-Shift Power Corp. The ESP Promotions management team agreed to retrofit the lighting in all areas of the facility.

## Situation before upgrade

For both the print room and warehouse areas there were problems with insufficient lighting levels. Also for the offices and mezzanine areas at ESP Promotions the lighting needed immediate improvement. Another typical issue was the show room area in which visitors could not evaluate the ESP products on display with their true color scheme due to the poor lighting.

It was clear that a lighting upgrade would bring multiple benefits for the ESP Promo organization. Eco Shift Power

### Key Achievements Nedap Luxon

<b>Energy savings</b>	reduced by 64%
<b>Maintenance cost</b>	reduced by 61%
<b>Lamp power</b>	reduced from 21 units 400W magnetic to 14 units 320W Luxon e-HID (print room)  reduced from 104 units T12 8'x2 to 46 units 250W Luxon e-HID (warehouse) <ul style="list-style-type: none"><li>• 0-10V analogue dimming</li><li>• Extended HID lamp life</li></ul> reduced from T12 4'x4 lamp to T5 4'x2 lamp 28W (offices) reduced from T12 8'x 2 lamp to T5 4'x2 lamp 28W (mezzanine areas)
<b>CO<sub>2</sub> savings per year</b>	29 metric Tons CO <sub>2</sub> saved
<b>ROI</b>	73% savings on capital investment
<b>Payback period</b>	1,0 years / 12 months
<b>Total annual operating cost savings</b>	\$ 19,178 (operational savings only)

### e-HID ballast 250-2,000W for HID Light Management

Corp.'s lighting consultants received the invitation to do a full investigation and provide a detailed analysis. The audit resulted in a dedicated retrofit plan that would raise the lighting installation to the required standard for all operations. At the same time the proposal would deliver significant energy savings and lighting flexibility.

- Operating time; 18 hours 5 days a week and 8 hours 1 day a week
- 400W MH probe start, Core On Coil in the ESP Promo print room
- 20 foot-candles on the work floor with 55 lumens per watt lamp output
- T12 8' x 2 Lamp Fluorescent system in the ESP Promo warehouse
- 8 foot-candles on the work floor with 38 lumens per watt lamp output

## Upgrade and final result

ESP Promotions decided to install a lighting solution that included the Nedap Luxon electronic eHID ballast technology for their warehouse and print room operations. Instantly, the company achieved optimal lighting efficiency combined with a bright and safe working environment. As a second step an occupancy/motion sensor was mounted on each eHID luminaire in order to fully maximize the energy savings by dimming the lamp. Lastly, Eco Shift Power Corp. also made it possible for ESP Promotions to qualify for rebates offered in Ontario through the Electricity Retrofit Incentive Program (ERIP).

### Technical upgrade

- Existing 400W MH Core On Coil fixtures were all replaced with 320W Nedap Luxon



Before lighting upgrade

- Two T12 8'x 2 Lamp fixtures were upgraded to one 250W Nedap Luxon unit
- Electronic HID luminaires were equipped with dust-repellant acrylic reflectors
- Each luminaire was equipped with a motion sensor
- Light levels increased significantly from 20 to 40 foot-candles in the print room and from 8 to 40 foot-candles in the warehouse area after the retrofit
- 46% reduction in the total number of luminaires required for the warehouse area
- 33% reduction in the total number of luminaires for the print room area

### Energy savings

- Achieved an outstanding 64% energy consumption reduction
- Actual results at the site indicate that the energy savings after the retrofit are in line with the initial project projections

### Less maintenance costs

- Maintenance costs for HID lighting were reduced by 61.2%
- Due to extended lamp life, less lamp degradation (lumen depreciation) and an innovative luminaire design, the cleaning regime has improved significantly
- Improved quality of light and no flickering

### Dimming capabilities

- Lamps automatically dim by the incorporation of individual motion sensors that constantly monitor for movement on the working floor



After Nedap Luxon upgrade

Core Elements	Before Upgrade	After Retrofit	Improvements and Savings
<b>Operating hours</b>	5 days / 18 hours 1 day / 8 hours	5 days / 18 hours 1 day / 8 hours	
<b>Fixture profile and Power settings</b>	21 units 460W MH probe start	14 units 335W MH pulse start	Print room: 335 Watts per 1,5 units = 48.6% reduction
	104 units 223W T12 8'x 2 Lamp	46 units 263W MH Pulse start	Warehouse: 241 Watts per 2.26 units =47.8% reduction
<b>Ballast type</b>	Core on Coil (magnetic)	Electronic Luxon ballast	New 0-10V analogue dimming capabilities
<b>System Lumen / W Foot-candles</b>	55 10	102 37	Print room; high visibility and improved production output
<b>System Lumen / W Foot-candles</b>	38 8	99 40	Warehouse: less mistakes and better working conditions
<b>Payback / ROI</b>			➔ 1,0 years / 73%
<b>Total Savings / year (10 year period, incl. initial costs)</b>			➔ \$ 17,215

Nedap Luxon luminaire 250-575W with Motion Sensor; energy-efficient lighting for high bay retrofits



Nedap Luxon ballast 250 - 575W



Nedap Motion Sensor on reflector

Nedap Light Controls Europe | Head Office | Parallelweg 2 | 7141 DC Groenlo | The Netherlands | P.O. Box 101 | 7140 AC Groenlo  
The Netherlands | T +31 (0)544 471888 | F +31 (0)544 466008 | info@nedap-luxon.com | www.nedap-luxon.com

Nedap Light Controls North America | 14A Industrial Way | Atkinson, NH 03811 | USA  
T + 1 603.458.2089 | F + 1 603.458.5632 | info@nedap-luxon.com | www.nedap-luxon.com



Distribution Partner:



Eco-Shift Power (ESP) is a dedicated energy management solutions provider that has put together a professional team of lighting consultants. Their core business model focuses on providing turnkey advanced lighting solutions that exceed customer expectations. With a proven track record for executing top quality energy efficient lighting projects the ESP team facilitates audits, installations and manages rebate applications. For more information please visit: [www.eco-shiftpower.com](http://www.eco-shiftpower.com)

**Corporate Head Office Sales / Operations & Distribution:**  
125 McGovern Drive | Units 10, 11 & 12 Cambridge ON | N3H 4R7 | P. 519-341-5268  
F. 519-5763169 | E. info@eco-shiftpower.com | I. [www.eco-shiftpower.com](http://www.eco-shiftpower.com)

**Regional Sales Offices ESP:**  
**British Columbia – Lower Mainland** | Chris Meehan  
P. 604 614 3953 | E. [cmeehan@eco-shiftpower.com](mailto:cmeehan@eco-shiftpower.com)

**North East Greater Toronto Area** | Erik Fonseca  
P. 647-985-6137 | E. [efonseca@eco-shiftpower.com](mailto:efonseca@eco-shiftpower.com)

**Atlantic Canada** | Derek Percival  
P. 902-497-0039 | E. [dpercival@eco-shiftpower.com](mailto:dpercival@eco-shiftpower.com)