

Nedap Luxon

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



Outstanding light levels and full control with Luxon e-HID lighting

Industrial case study | Alloy Casting Industries Ltd.



Project outlines

Over the years, Alloy Casting in North America has earned a reputation for their high standards of quality by working to CSAZ299.3 and ASME quality programs. The company is now pursuing the ISO 9002 quality program to further

enhance Alloy Casting's ability to produce outstanding quality castings. To meet customer specifications, every stage of the process is fully calibrated, monitored, and controlled. This in-house capability enables experienced technicians to enhance the mechanical and corrosion resistance of your alloys.

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Get the best out of your HID Lighting



An audit was conducted by Eco-Shift Power Corp. which confirmed that the existing lighting levels had significantly degraded due to the inefficiencies of their old HID lighting system. The analysis also showed that a retrofit for the Production and Grinding areas with a fluorescent T8 or T5 technology would not provide the light levels they required. As a result, Alloy Casting Industries Ltd. decided to invest in an alternative lighting solution based on ESP's final report.

Through it all, Alloy Casting strives for complete customer satisfaction at every phase of the process. With objectives that recentered on premium product finishing, high quality and employee safety, Alloy Casting Industries Ltd. took the initiative to upgrade their original lighting. In a challenging environment with noise, dust and high heat they understood that lighting quality plays a crucial role.



Key Achievements Nedap Luxon

Energy savings	reduced by 63%
Maintenance cost	reduced by 52%
Lamp power	reduced from 400 to 250W <ul style="list-style-type: none">• 0-10V analogue dimming• Extended HID lamp life
CO₂ savings per year	28 metric Tons CO ₂ saved
ROI	73% savings on capital investment
Payback period	1.1 years / 13 months
Total annual operating cost savings	\$ 16,221 (operational costs only)

Situation before upgrade

For both the Pour and Grind areas at Alloy Castings, the lighting levels were measured and reported by qualified lighting consultants. Their results found the lighting levels to be insufficient with the potential to compromise manufacturing processes and employee safety.

- Operating time 10 hours 5 days a week and 8 hours 1 day a week
- 400W MH probe start, Core On Coil
- 10 foot-candles on the work floor with 55 lumens per watt lamp output

Upgrade and final result

Alloy Castings invested in a lighting solution that utilized Nedap Luxon electronic HID ballast technology for their manufacturing facilities to gain maximum efficiency and to improve working conditions. In addition, each HID luminaire was equipped with an occupancy/motion sensor in order to fully maximize the energy savings by dimming the lamp. This winning combination also allowed Alloy Casting to take full advantage of the rebates offered in Ontario through the Electricity Retrofit Incentive Program (ERIP).

Technical upgrade

- Existing 400W MH Core On Coil fixtures were replaced with 250W Nedap Luxon electronic HID luminaires that were equipped with dust-repellant acrylic reflectors
- Each luminaire was equipped with a motion sensor
- Light levels increased significantly from 10 to 25 foot-candles after the retrofit
- 10% reduction in the total number of HID luminaires required for the Pour and Grinding areas

Energy savings

- Achieved a 63.5% 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 were slashed by 52.4%
- 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

Before



Before lighting upgrade

After



After Nedap Luxon upgrade

Core Elements	Before Upgrade	After Retrofit	Improvements and Savings
Operating hours	5 days / 10 hours 1 day / 8 hours	5 days / 10 hours 1 day / 8 hours	
Fixture profile and Power settings	460W MH probe start	263W MH pulse start	197 Watts per unit = 43% reduction
Ballast type	Core on Coil (magnetic)	Electronic Luxon ballast	New 0-10V analogue dimming capabilities
System Lumen / W Foot-candles	55 10-20	99 25	Improved visibility and better working conditions
Payback / ROI			➔ 1.1 years / 73%
Total Savings / year (10 year period, incl. initial costs)			➔ \$ 14,445



Nedap Luxon ballast 250 - 575W



Nedap Motion Sensor on reflector

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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

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