

Compact Fluorescent Electronic Ballast

“Assistance from the Ministry of Environment and Energy allowed Lumion to undertake the research program required to develop a superior line of electronic ballasts, which Lumion is manufacturing in Canada and marketing in both North America and Europe. Based on this technology, Lumion has also expanded its product base into other lighting-related technologies which it hopes to market around the world.”

Terry Mocherniak
President
Lumion Corporation, Toronto, Ontario



Lumion's low-profile compact fluorescent electronic ballast

THE COMPANY

Lumion Corp. specializes in designing, developing and producing integrated lighting power systems. Lumion has state of the art laboratory and engineering facilities putting it at the leading edge of lighting technology. The company has invested heavily in its research and development program to upgrade continuously its product technology and remain at the forefront of technical developments in the lighting industry.

THE CHALLENGE

Ontario Hydro and many other major utilities across North America have promoted the development of electronic ballasts to replace conventional magnetic ballasts. This is part of the utilities' effort to cut energy consumption and so reduce the need to add more generating capacity.

Retro-fitting commercial buildings and complexes has become a major industry in North America. Consultants and manufacturers alike speak about the tremendous savings that result from retro-fitting buildings with energy efficient electronic ballasts.

Although some compact fluorescent electronic ballasts used today perform adequately, meeting certain

technical criteria, they are generally quite expensive. Further, these ballasts still have problems with reliability and quality.

Lumion undertook the task of meeting North American demand for an energy efficient, high performance and reliable electronic ballast which is cost effective to manufacture and versatile in its application.

The result is an electronic ballast which performs well in all critical technical areas, with a very compact, low-profile size, and exceptional reliability at a cost which makes the ballast suitable for most original equipment manufacturer applications.

SOLUTION

Lumion focused its efforts primarily on two of the most energy efficient lamp sources—compact fluorescent and high intensity discharge lamps. Both of these industries are young and present an opportunity for exponential growth over the next decade. Lumion expects that its next generation of electronic ballasts will be miniaturized by up to 75 per cent, offering superior performance at substantially reduced costs.

POTENTIAL BENEFITS

The Lumion electronic ballast provides:

- * near unity power factor—99 per cent;
- * extremely low total harmonic distortion—less than four per cent;
- * a very compact, low profile size;
- * a life expectancy of an estimated 10 to 15 years;
- * up to 70 per cent fewer components than existing electronic ballasts.

These qualities result in dramatically lower production costs and should reduce premature failure.

Further, the Lumion electronic ballast requires 70 per cent less energy to produce the same lumen output as standard incandescent lighting systems and 10 to 30 per cent less energy to drive fluorescent bulbs than the forms of magnetic ballast currently on the market.

Lumion expects sales of the electronic ballast to generate annual revenues of \$1.1 million and \$3.2 million for the next two years as well as to create 10 new full-time jobs.

FINANCIAL INFORMATION

Project Costs

* Labor	\$ 572,530
* Materials and equipment	\$ 53,144
* Field demonstration	\$ 63,320
* Subcontract	\$ 3,138
* Market research	\$ 8,300
* Miscellaneous	\$ 15,622
Total	\$ 716,054

PARTNERSHIP IN POLLUTION PREVENTION AND RESOURCE CONSERVATION

Industrial companies located in Ontario may seek ministry/industry services that will help them to:

- * reduce, reuse and recycle solid waste;
- * reduce or eliminate liquid effluent and gaseous emissions;
- * use energy and water more efficiently.

Equipment and services supply companies can benefit from the information provided on technologies identified for business development.



Continuous in-house testing at every stage of ballast development

FOR FURTHER INFORMATION, PLEASE CONTACT:

Terry Mocherniak
Lumion Corporation
4101 Weston Rd.
Toronto, Ontario M9L 1W6
Tel: (416) 745-6178

Andrew Tomingas
Industry Conservation Branch
Ministry of Environment and Energy
2 St. Clair Ave. W., 14th Floor
Toronto, Ontario M4V 1L5
Tel: (416) 327-1419
Fax: (416) 327-1261
E-mail: tomingaa@ene.gov.on.ca

MINISTRY OF ENVIRONMENT AND ENERGY SERVICES

For further information on Ministry of Environment and Energy assistance to industry, please contact the Industry Conservation Branch at (416) 327-1492, Fax (416) 327-1261.

For more project profiles and other publications, visit the ministry's website at <http://www.ene.gov.on.ca>

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