



2018 AWARDS FOR ENGINEERING EXCELLENCE

Award of Excellence

YVR Apron VI LED Lighting Upgrade



Consultant

Omni Engineering Inc.

Owner/Client

Vancouver Airport Authority

Category

Projects Under \$2.5 Million

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Omni Engineering was retained by YVR to improve lighting around the apron at the main terminal building. YVR was also looking to exceed international standards for airport lighting. Omni set out to collect existing light levels across the terminal and design improvements while using as much of the existing infrastructure as possible. The goal of the project was to improve the light levels while reducing power consumption.

The initial stage included shortlisting a number of LED suppliers and performing a test trial to verify modelled results as high-output LED fixtures were not common on industrial sites. The fixtures were compared using a variety of metrics, including ease of installation, performance and cost. The overall package supplied by Musco Lighting was selected for use across the entire Apron VI. The Musco package included adaptive controls that would dim light fixtures based on the YVR flight schedule data. It is estimated that the new lighting design will result in an annual reduction of 715,000kWh, while also providing higher lighting levels on the apron. Based on the reduction in power consumption and lifecycle costs of the lighting system, BC Hydro approved the project for Power Smart incentives.

Post-construction lighting measurements proved that the lighting improved by an average of 35 lux (236%) around the apron and the uniformity was improved significantly. Coincidentally, the power consumption and carbon footprint of the system was reduced. The installation of the equipment began in December 2016 and the system was fully operational in May 2017.