

# Union College Messa Hockey Rink

## Schenectady, NY

Demonstrating its commitment to sustainable operations, Union College has completed a significant lighting upgrade project at the Messa Hockey Rink at the Achilles Center. With the goal of improved energy efficiency and lighting quality for the rink, Union engaged Novus to determine the best available options, to analyze savings, and to prepare the final lighting design. Under NYSERDA's FlexTech Program, Union was able to cost-share the energy audit portion of the project.



Novus evaluated several LED retrofit options for this project. Lighting layouts and photometric calculations were prepared for each option. Material and installation costs were evaluated, along with maintenance and energy savings, to determine return on investment

(ROI) and payback period for each option. Substantial utility incentives will bring the payback period of the selected option to less than nine years.

The prior lighting configuration consisted of 158, 400-Watt Metal Halide fixtures. The final design consists of 70 high bay LED fixtures above the ice, and 16 linear LED fixtures at the bleacher and stairwells, and provides over 130 foot-candles at the ice surface with excellent uniformity of light levels. This design provides a lighting power reduction of 51 kW, or 70% of the prior lighting load. Annual energy savings are expected to total nearly 250,000 kWh.

In addition to energy savings, operational flexibility has been enhanced using wireless controllers installed on each LED fixture. The fixtures are fully addressable and dimmable, and can perform multiple pre-set lighting scenes and functions.

With the assistance of American Energy Care, Union College's staff provided the labor and equipment necessary to carry out the installation. This joint effort has resulted in a spectacular, state-of-the-art lighting installation.



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