



#### VENUE

Northern Michigan University's Superior Dome is the home of the Northern Michigan University football team, marching band and a variety of other campus and community events. The dome, which opened in 1991 and has a seating capacity of 8,000, is the largest wooden dome in the world.

#### CHALLENGE

Operations staff recognized the existing antiquated lighting system with its decreased lumen output was due for an upgrade. The system required frequent and costly maintenance/repairs and was not energy efficient. The operators also wanted to use LED lighting to create more sophisticated productions, provide various dimming levels and better accommodate the various events held at facility.

#### SCOPE

The project included demolition and replacement of 300, 1000W metal halide fixtures with 136 Ephesus Arena 750W LED fixtures. The AirMesh wireless control system was also installed.

#### SOLUTION

The new Eaton Ephesus Arena fixtures provide instant on/off, 0-10 volt wireless control and dimming capabilities. The system is virtually maintenance-free, upgradable and future-proof, with the ability to produce dynamic effects to enhance the spectator experience. The AirMesh hub has five pre-programmed settings to provide control at dimming levels of 0%, 25%, 50%, 75% and 100%. The university benefits from local control and monitoring of the lights via a secure mesh network and functionality is enhanced through its connection to the campus-wide cellular network. The university may also access system information on power consumption, alarms and critical events. The flexibility of the fixture mounting allowed the existing mounting brackets to be reused to provide significant savings on installation.

#### RESULTS

Energy costs were reduced by an estimated 82% while the number of fixtures was reduced by more than half. Light levels increased to NCAA national broadcast levels (100 foot-candle average) on the playing surface. Flicker-free HDTV broadcast-quality lighting provides a much clearer, brighter view of the action to enhance the viewer experience.

*"We reviewed a variety of lighting options to replace our metal halide sports lighting over the last few years. Finally, the Ephesus fixtures provided the quality lighting solution necessary for broadcasting at an energy consumption level that produced a very reasonable payback. We were able to reduce the number of required fixtures and wattage of each fixture as well as dim the fixtures to various levels based on the activity. We are enjoying significant savings while having very uniform lighting levels across the field. The project was a success."*

*- Kathy Richards, Associate Vice President, Engineering & Planning/Facilities*



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