



	Fixture	Foot Candles	Energy Savings <b>75%</b>
Previous System	1000W HPS	2-3	
Ephesus Solution	Stadium 1000	4-5	

US Air Force photo/Tech. Sgt. Benjamin Mota

#### FACILITY

Grissom Air Reserve Base is located in north central Indiana. The host unit is the 434th Air Refueling Wing which consists of three major groups and a variety of squadrons and flights. The wing develops and maintains the operational capability of its units and train reservists for worldwide duty. Grissom ARB is home to units from the U.S. Army Reserve and U.S. Marine Corps Reserve.

#### CHALLENGE

Weather conditions such as high winds and large amounts of snow were a concern. Energy usage and lighting maintenance costs were high. A tornado knocked down a light pole in Grissom's aircraft mass parking area and damaged three others in the fall of 2013. The base took the opportunity to evaluate other lighting options to find a better lighting solution for their needs.

*"The project has a payback period of 2.88 years; the Air Force requires a 10-year payback period for any energy project. This project clearly exceeds their requirements and has a return on investment of 35 percent."*

- Michael Bowden, 434th CES electrical engineer

#### SCOPE

The project included replacement of the 1000W high pressure sodium lights. New poles were also installed to better withstand the elements and prevent a recurrence of the downed poles.

#### SOLUTION

62 Ephesus Stadium 1000 LED fixtures were installed with 6-14 fixtures per pole at a height of 80'. Once the full project is complete, a total of 110 fixtures will illuminate the two airfields.

#### RESULTS

Energy savings are estimated to be 75% and an average of 5 fc is generated on the airfield's surface. Fixture count was reduced from 151 to 110 due to the lensing technology which precisely focuses light in specific areas. The Ephesus LED upgrade eliminates maintenance costs and provides a brighter light that illuminates a greater area and makes for safer airfield operations.

*"We chose a light fixture design that reduced drag from wind; this design reduces stress on the light poles to prevent future damage. The new light poles are made up of reinforced concrete and are stronger and sturdier than the old steel posts."*

- Bryan Jaworski, 434th CES civil engineer & project manager