Shaver’s Creek Environmental Center Solar Display Team

Overview
Shaver’s Creek Environmental Center wanted our team to design a display which could provide insight and awareness about the benefits and engineering behind solar energy. The problem being addressed has multiple components:

- No current display exists that captivates visitors for longer than 10 seconds
- No current display demonstrates or conveys information relevant to the Solar PV panels at Shaver’s Creek
- No current display appeals to all age groups

Objectives
The mission of the project is to create an interactive and stimulating display for the Discovery Room at Shaver’s Creek Environmental Center. The display is intended to teach lessons to visitors in varying age groups about the science behind solar power, and to provide specific information relevant to the economic viability of PV panels.

Approach
Through the display, homeowners and children can be educated about the basics and economic feasibility of solar energy. The display consisted of 11 90W halogen bulbs spaced evenly powering a solar train on a 3-foot diameter train track. Using angular variation and irradiation testing, engineering specifications were designed to teach visitors the power of solar energy on a small scale. Furthermore, our interactive iPad display will effectively communicate the power generation produced from the environmental center.

Outcomes
The final outcomes of the project are that the Shaver’s Creek Solar Display Team did the following:

- Provided the Environmental Center with a construction process for building the solar display properly.
- Raised awareness of solar energy to children and adults by giving an interactive display
- Provided homeowners with the economic viability of using solar energy on their homes
- Analyzed angular variation and solar irradiation of the solar powered train and related it to real-life situations