

# STATEMENT OF PROGRAM/PRACTICE

A simple, but innovative light level meter developed by a Physical Facilities intern has transformed the way campus light levels are collected on the Purdue University West Lafayette campus.

Jay Knepp, a computer engineering major, was assigned to collect, analyze and propose enhancements to campus night time light levels. Collecting light levels was traditionally done by walking campus with a hand-held light meter, pen and map to measure readings every 15-20 feet. That data then had to be manually entered into the computer database.

With the support of his supervisor in Physical Facilities, Jay used his computer engineering skills to build a device that would drastically increase efficiency. Using a small Raspberry Pi computer and soapbox wheels, he constructed a portable light level meter that collects light levels and GPS coordinates as it is pulled along.

The device collects 1,600 lights readings in just one hour, compared to 30-40 readings with the hand-held method.

The device is now an essential tool for Physical Facilities and provides more comprehensive maps for project planning. The light meter identifies outdoor areas where lighting can be improved, which helps inform and prioritize lighting projects.



*Jay Knepp looked at an internship with Physical Facilities as a way to gain some work experience and help improve campus. What he didn't know was that he would help develop a device that the department continues to use for important, ongoing data collection activities.*

*(Purdue University photo/Mark Simons)*