



STUDENT SUSTAINABILITY COMMITTEE

Semesterly Report

Thank you for your commitment to green initiatives at the University of Illinois. One of the ongoing requirements listed in the terms of the funding agreement for your project is the submission of semesterly reports with key information about your project. In addition to this form, please provide additional financial documentation and/or progress photos if available.

Please be as accurate as possible in describing the project (including possible setbacks or challenges in meeting the initial goals of the project). Not fully meeting your project's goals will not disqualify you from making future funding requests as long as your reports are as complete and accurate as possible. If you have any questions, please contact the Student Sustainability Committee, at sustainability-committee@illinois.edu.

Project Name: Energy Farm LED lighting and occupancy sensor upgrade

Date of Report Submission: 7/26/2021

Project Purpose:

This funded project allowed for the upgrade of lighting in a high bay workshop area utilized by Energy Farm staff / student employees, graduate researchers, and faculty associated with the research mission of the Energy Farm. The initial lighting installed at the construction phase of the building in 2010 was high intensity discharge lighting. These lighting fixtures are not energy efficient and also contain Mercury, which adds a hazardous waste consideration to bulb recycling. Additionally, light levels measured in the workspace were significantly below the OSHA recommended light levels for the classification of activities within this space.

This funding allowed for the removal of outdated fixtures, upgraded lighting fixtures to LED, and decreased the per fixture energy consumption while increasing the overall light levels to an acceptable workspace benefiting the University users.

Power measurements before the lighting upgrade was an average of 2125 watts with an average illumination of 216lux. After upgrade the average power consumption dropped to 1750 watts but with an average illumination of 821lux. While the power consumption decrease was only 17%, the 380% increase in lighting levels meeting the OSHA minimum standard of 750 lux, this is a significant improvement.

Detailed Accounting of Expenditures to Date:

ACES Contribution [1-200250-416001-416025]			
Fiscal Period	Labor Cost	Material Cost	Total
Mar-21	\$313.61	\$1,068.19	1,381.80
Apr-21	\$415.30	\$25.71	441.01
Totals:			\$1,822.81

SSC Contribution [1-304413-802050-802602]			
Fiscal Period	Labor Cost	Material Cost	Total
Mar-21	\$627.26	\$2,136.67	2,763.93
Apr-21	\$830.72	\$51.47	882.19
Totals:			\$3,646.12

Crop Sciences Contribution [1-100021-802050-802004]			
Fiscal Period	Labor Cost	Material Cost	Total
Mar-21	\$313.62	\$1,068.33	1,381.95
Apr-21	\$415.34	\$25.73	441.07
Totals:			\$1,823.02

Project Progress to Date:

February 2021 – Student Intern measured initial light levels prior to improvements
April 2021 - Light fixtures were installed
May 2021 - Student employee measured final light levels and produced summary graphics of light distribution pre/post improvements.

Student Involvement and Outreach to Date:

Due to the COVID pandemic, the ACES student safety intern was unable to be involved on site. Once the Energy Farm's student employee was able to work on site again, they were involved in learning how to make light measurements, create heat maps, and produced the graphics attached showing the progress of this project.

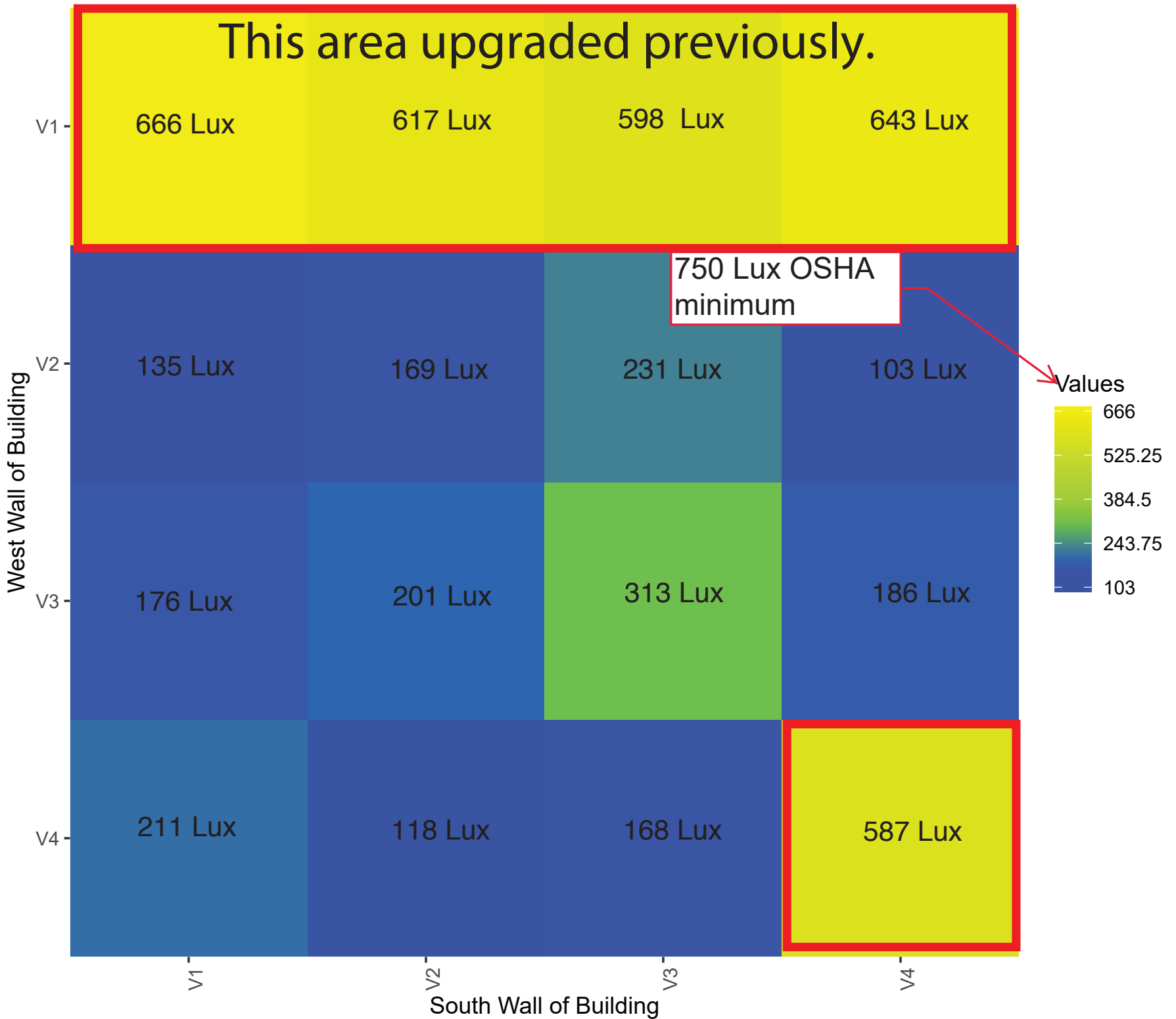
Marketing and Promotion Efforts to Date:

Due to the COVID pandemic, all tours that would normally visit the Energy Farm and see this and several other SSC supported past projects were suspended. Fall 2021 we plan to restart visitors to the Energy Farm if campus policy continues to align with this desire.

Additional Comments:

This project came under budget slightly at \$7291.95 (total budget \$8811). I am requesting that the balance be allowed to upgrade several light fixtures on the exterior of the Energy Farm building from HID to LED also. These lights run from dusk to dawn as security lights, so upgrades will provide a long term energy reduction. Budget provided by F&S was \$1100 which would still keep our overall budget in line.

UIUC Energy Farm Old Lighting Heat Map



UIUC Energy Farm New Lighting Heat Map

