

Zach Mast
Green Light: Recycling the Light Around Us

Office workers need a “light-recycler” because they typically consume a large amount of costly electricity. Office workers have a consistent amount of light coming into their cubicles; can that light be transformed through a “light-recycler”? A light recycler can save lots of energy. Building owners can reduce their electricity consumption and greatly reduce costs, and protect our rapidly disappearing natural resources.

The experiment involved selecting a dark room that is secured from entry. Solar panels for the first four prototypes were set equally between light fixtures in the room. Lights were turned on and allowed to be absorbed by the solar panels for twelve hours. The intensity and duration of light output was then recorded and repeated for five trials. The design criteria was used to measure the success of the light-recycler. The experiment was repeated using ambient sunlight absorbed for four hours for the fifth prototype.

The first four prototypes failed to meet the design criteria. The fifth prototype passed the design criteria. These findings led me to conclude that room light can be recycled using a solar panel.

However, in order to recycle incandescent light, more efficient solar panels are required. Engineers are currently working on research and development that is creating more efficient solar panels. When we are able to successfully develop panels efficient enough to recycle ambient room light, we will be able to dramatically increase the conservation of our planet’s natural resources.