Computer Integrated Manufacturing Name [ ]

Calculating Photoresistors with Equations

**Learning Target: I can calculate equations using data collected from an experiment to create automation**

Supporting Target #1: I can gather data using a system

This Means: I can set up an experiment using measurements

**www.opencim.weebly.com** > Robots in Manufacturing > Automation in Manufacturing > Automation with RoboPro >

Programming Automation Systems > Using Math to calibrate a photoresisitor

**Introduction**: Photoresistors resist the flow of electricity when there is no light hitting the sensor. The more light, the more electricity can flow through.

We are going to set up an experiment to measure the reaction of the photoresistor to light.

**Directions**: Set up the experiment (see website for directions)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0” | ¼” | ½” | ¾” | 1” | 1 ½” | 5” | 7” | 10” | 15” |
| **No Ambient Light Shield** |  |  |  |  |  |  |  |  |  |  |
| **Seconds it took to change** |  |  |  |  |  |  |  |  |  |  |
| **WARNING!!!! The lamp gets REALLY HOT when left on. Turn the lamp off in between every test to let it cool down.** | | | | | | | | | | |
| **With Ambient Light Shield** |  |  |  |  |  |  |  |  |  |  |
| **Seconds it took to change** |  |  |  |  |  |  |  |  |  |  |

Test the photoresisitor at each measurement without the ambient light shield. Also record how long the sensor takes to change when the light is applied. Test the photoresistor again at each distance with the ambient light shield in place. Record your results of both the resistance and the delay