

Conclusion of the Experiment

The results came back a bit skewed. The sensor itself has a cap and the ESP32 takes in the readings from the sensor and puts it into a value from 0-4095 where 0 means there is little to no light and 4095 means there is the most light. The problem I faced was that there was no way to remove the cap from the sensor because it's built in and that I could not get an exact reading in lux. I used outside resources to determine the average amount of lux in a room during the day and compared it to the readings I was getting when I let the sensors and code run in my room. I then found a conversion factor to multiply with the sensor readings and got my values in lux. From what we can conclude from the data though, is that it works as intended. We can see that in the scatter plot, The lux was high during the day and low during the night. The goal was to get an average value, not an exact value, so the results are 100% accurate, but they give a good estimate of the amount of lux coming outside the window.