

Results

Cylindrical Measurement	
Distance from Source (cm)	Power Measured (μW)
2.3	91.10
3.3	47.44
4.3	29.56
5.3	20.15
6.3	14.72
7.3	11.16
8.3	8.77
9.3	7.17
10.3	5.94
11.3	5.00
12.3	4.24
13.3	3.71
14.3	3.24
15.3	2.86
16.3	2.58
17.3	2.25

The data shows that the cylindrical light does not have enough intensity to work for our application.

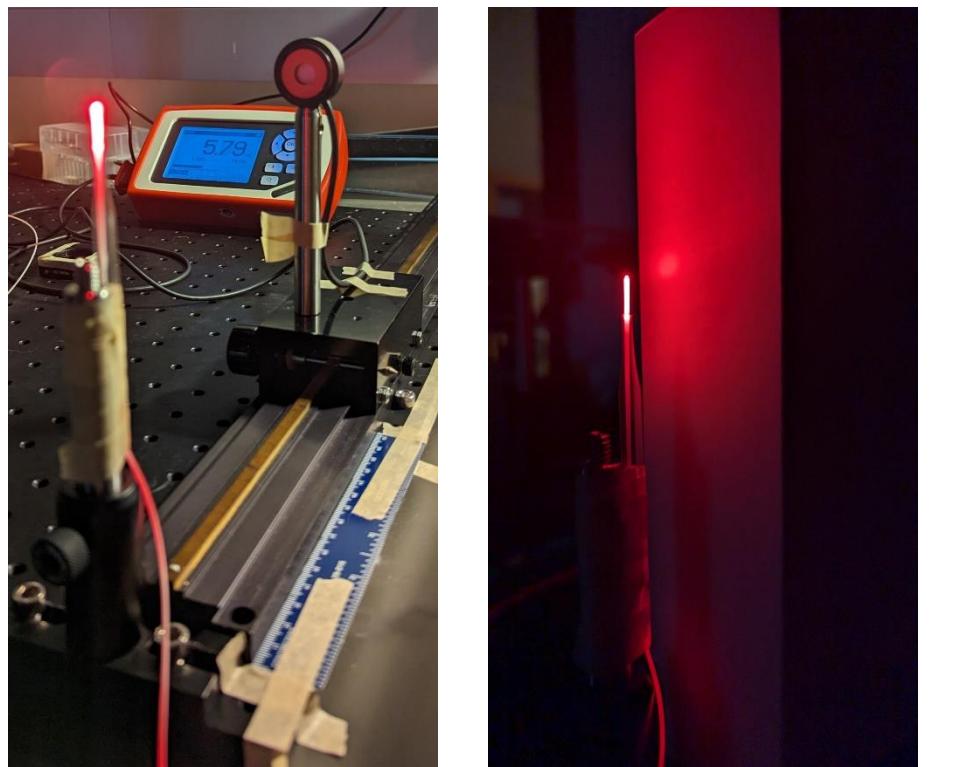


Figure 2 Experiment Set up with lab lamp light on. The lab lamp light was turned off for measurements.

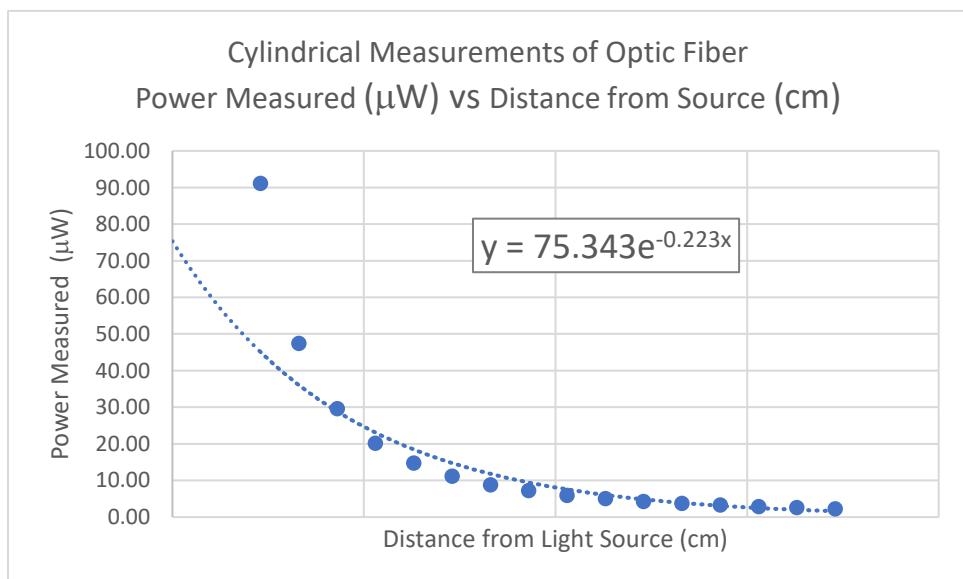


Figure 1 Scatter Plot of Measurements with exponential trend line. The graph shows the exponential decay of intensity as the distance from source increases.

Inline Measurement	
Distance from Source (cm)	Power Measured (mW)
0	5.88
1	1.90
2	0.91
3	0.49
4	0.30
5	0.20
6	0.14
7	0.10
8	0.08
9	0.06
10	0.05
11	0.04
12	0.04
13	0.03
14	0.03
15	0.02

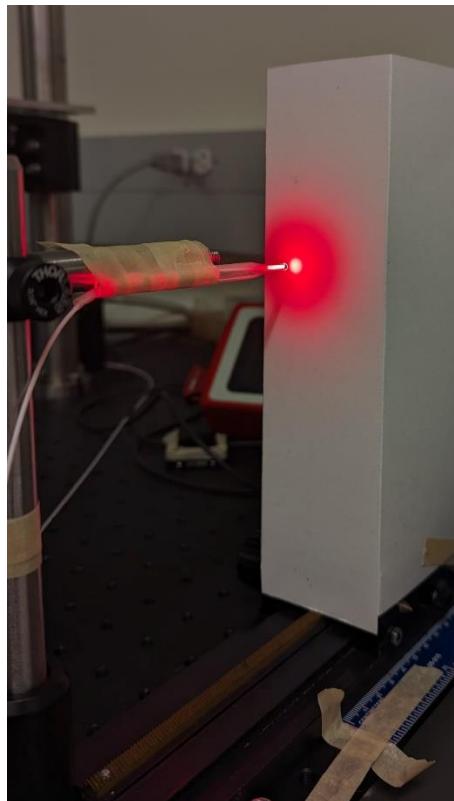


Figure 5 Photograph of the experiment with a white card stock wall covering the power sensor.

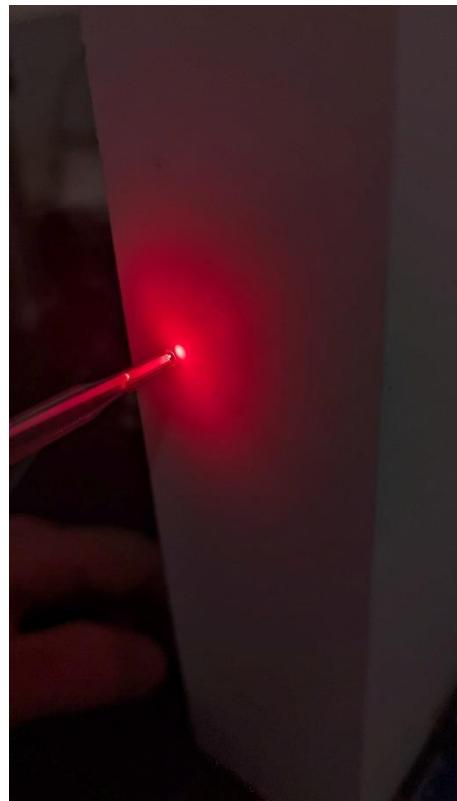


Figure 4 Photograph of the inline light hitting a white card stock wall at an approximate distance of 1 mm.

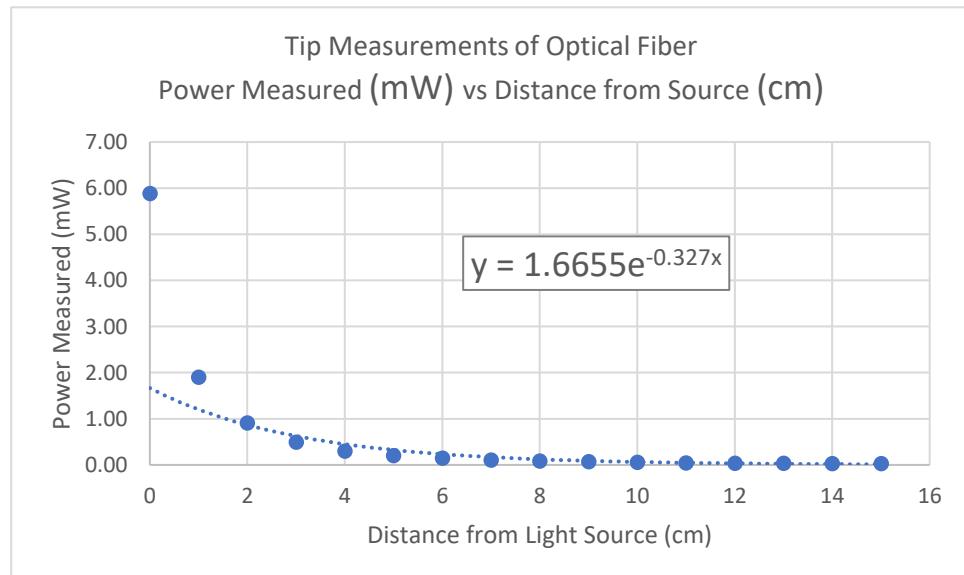


Figure 3 Scatter Plot Graph of the Power Measured vs Distance from Light Source with an exponential trendline.