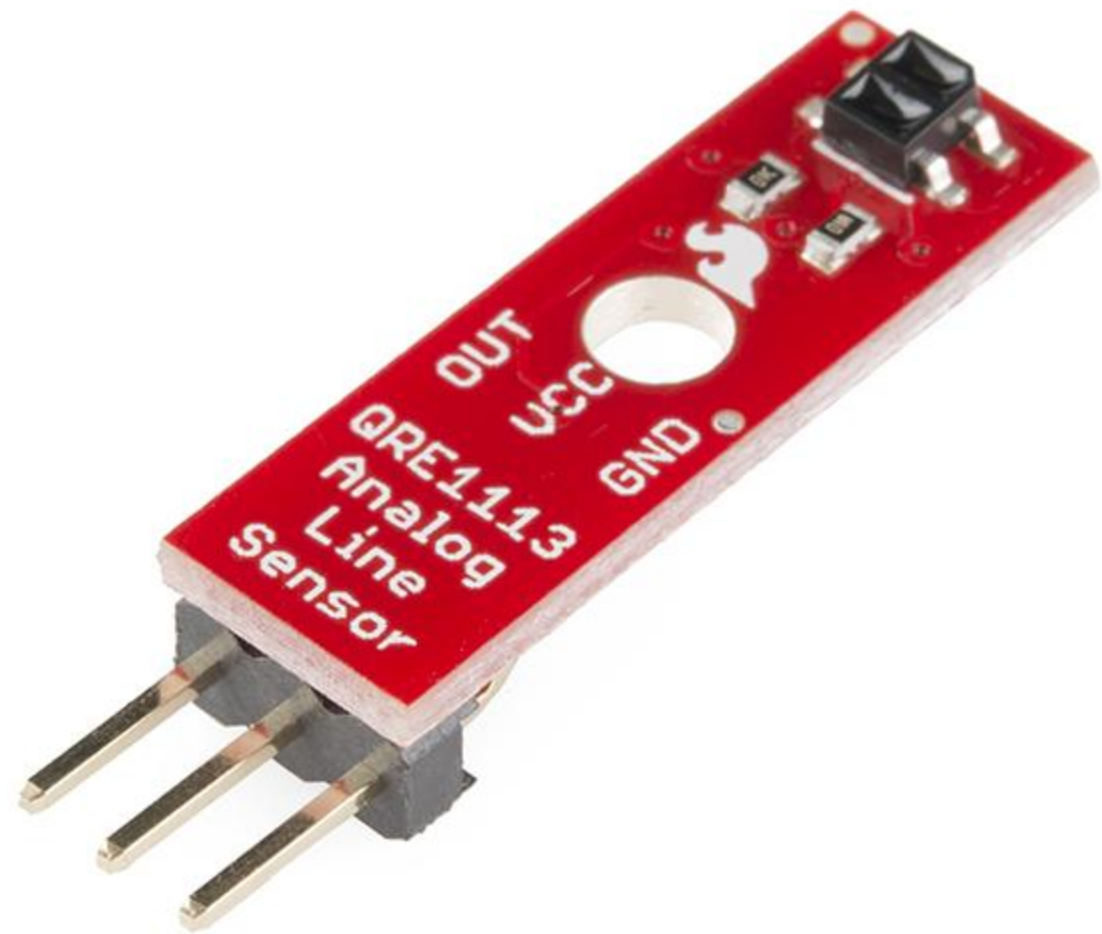
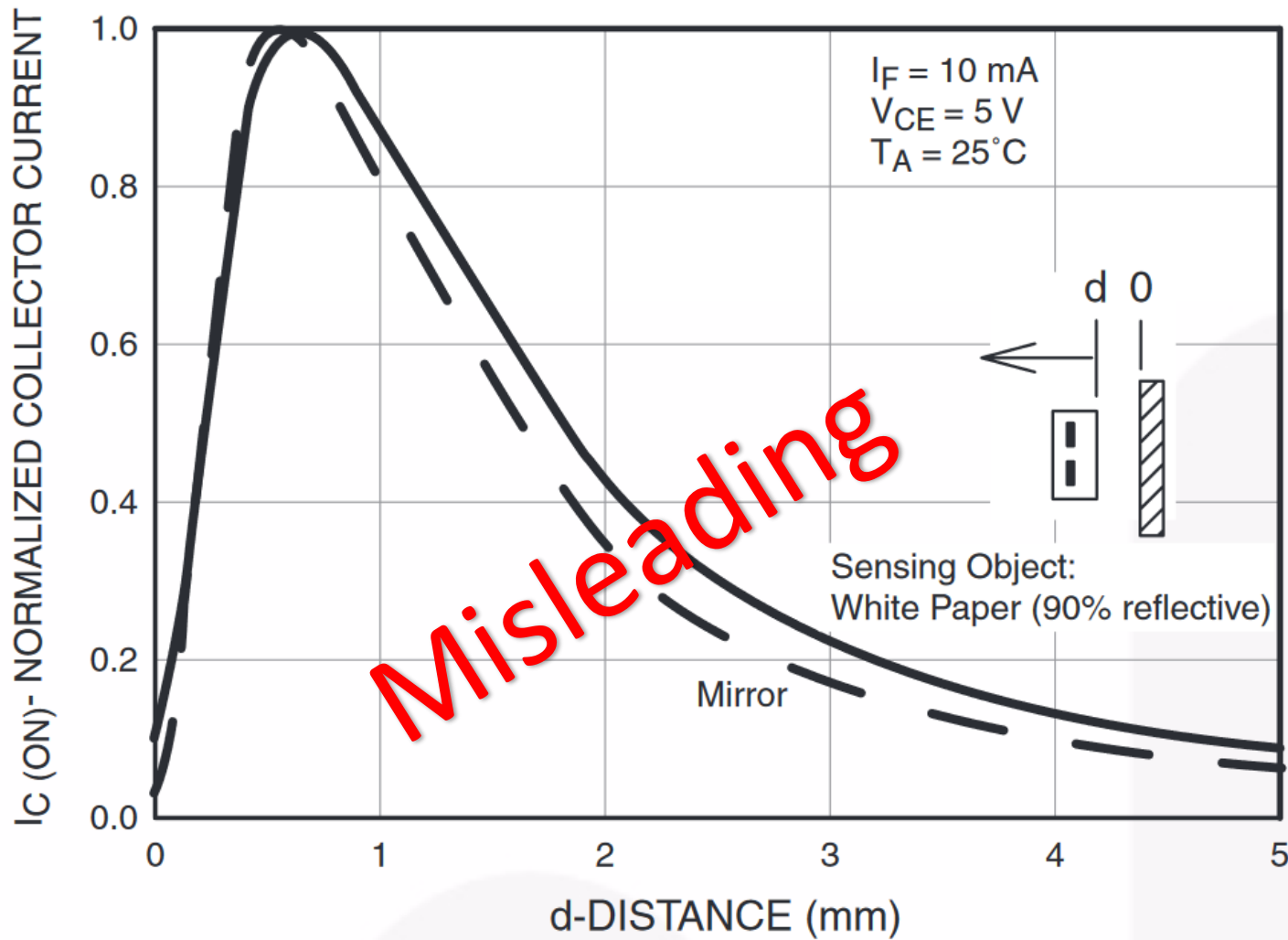


# Line Sensor Analysis

Sparkfun SEN-11769 based on QRE1113

Always understand your sensor.



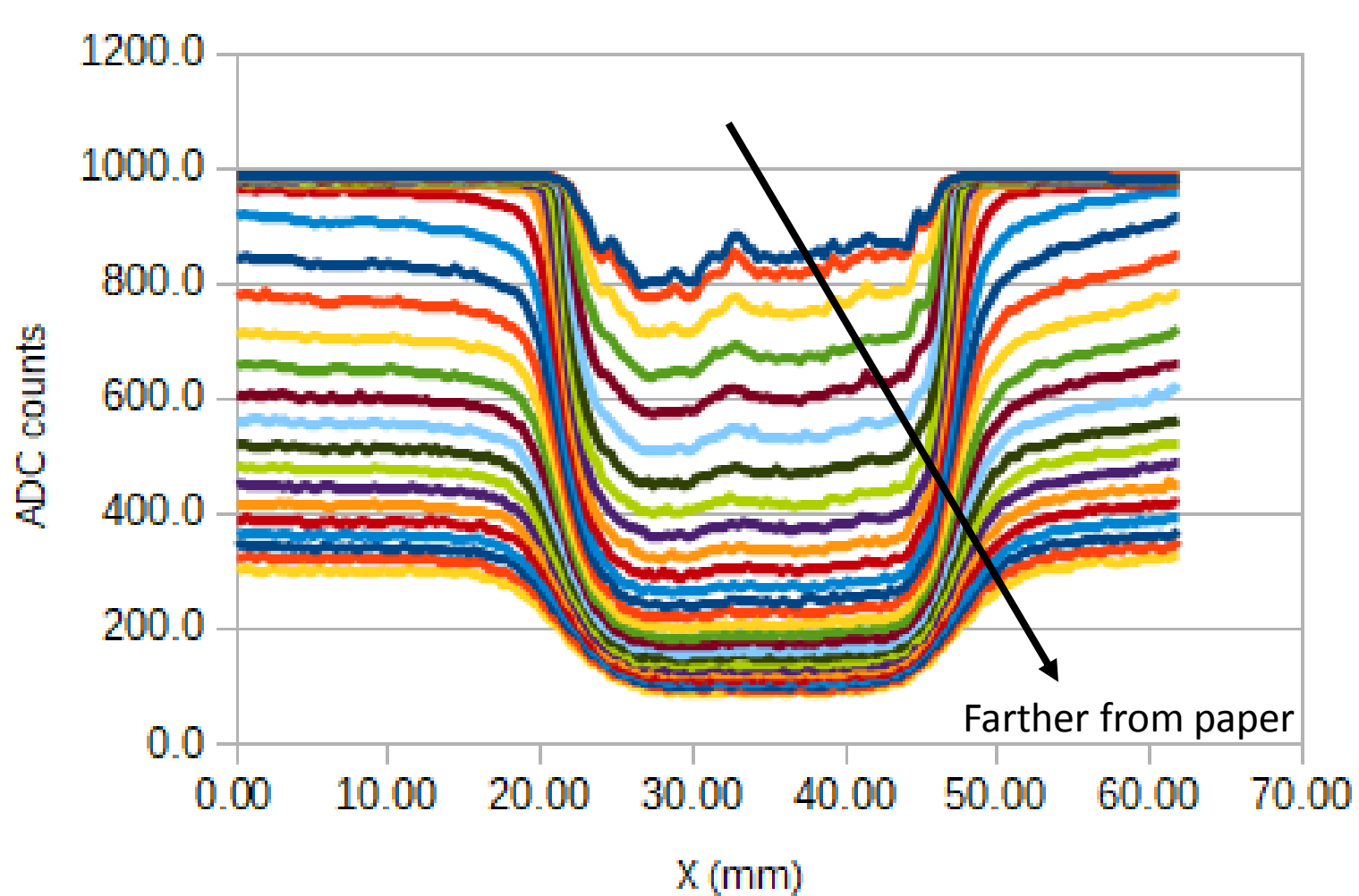


**Fig. 1 Normalized Collector Current vs. Distance between device and reflector**

# 3D Printer to the Rescue

- [VID 20171006 101429.mp4](#)

# Refectivity



# Line Following Algorithm

Do forever

error = ADC\_Value – target

P = error \* Kp // IMPORTANT

I = I + error \* Ki // Not used in this integrating system

D = (error – lastError) \* Kd // Only needed if it oscillates

lastError = error

PID = P + I + D

setRightMotor(basicSpeed + PID)

setLeftMotor(basicSpeed - PID)