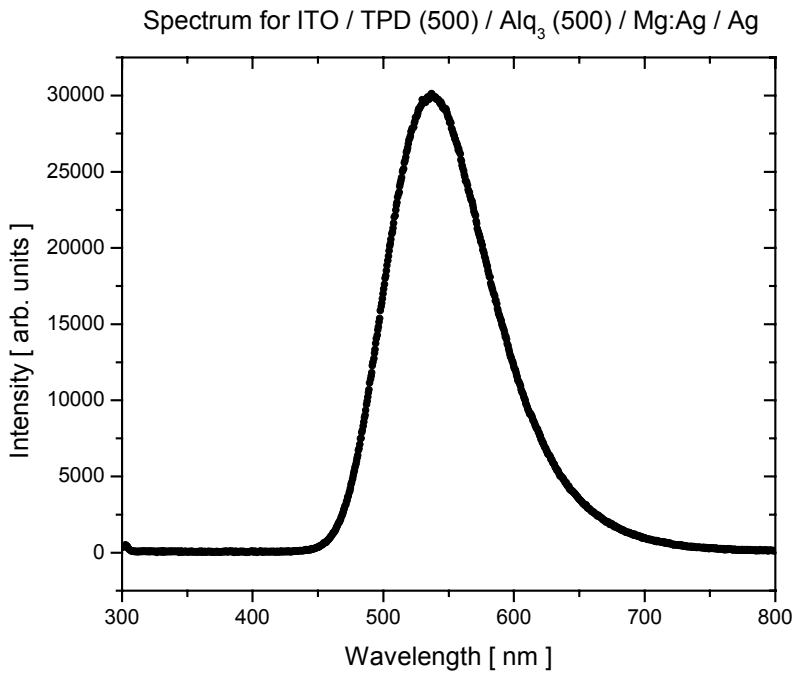
Format for the IVL data:

Column 1 : data point number
Column 2 : voltage [V]
Column 3 : current [A]
Column 4 : luminance [V]

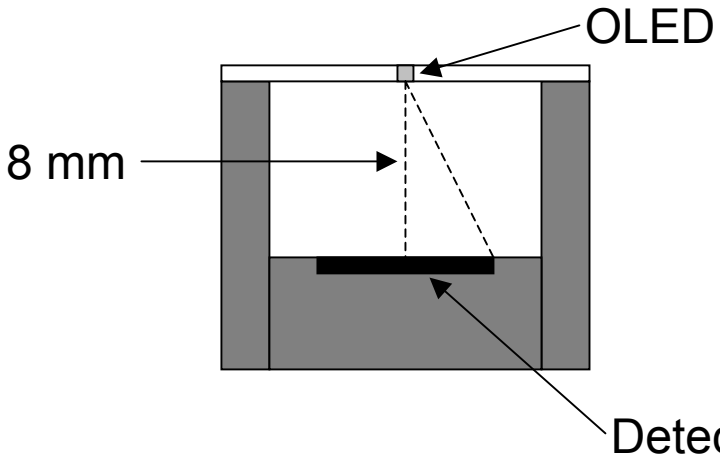
Format for the Spectrum data:

Column 1 : Wavelength [nm]
Column 2: Intensity [arb. units]

Your spectrum should look something like this:



The photodiode detection set-up was like this:



~ 37° cone captured
(~ 0.56 radians)

Output intensity profile from OLED: $I(\Theta) \sim \cos^2 \Theta$

So, fraction of light captured (α) is ~0.6

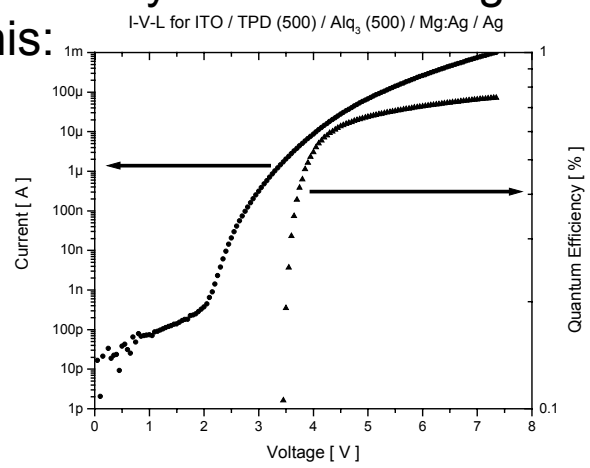
To get quantum efficiency (η) from luminance voltage (L) :

$$\eta = \frac{\left(L - L_{background}\right)[V] * 1e-5[A/V] * Rd[W/A] * \lambda_{\max}}{\alpha * I * 1241}$$

Where Rd is the responsivity of the detector in W/A:

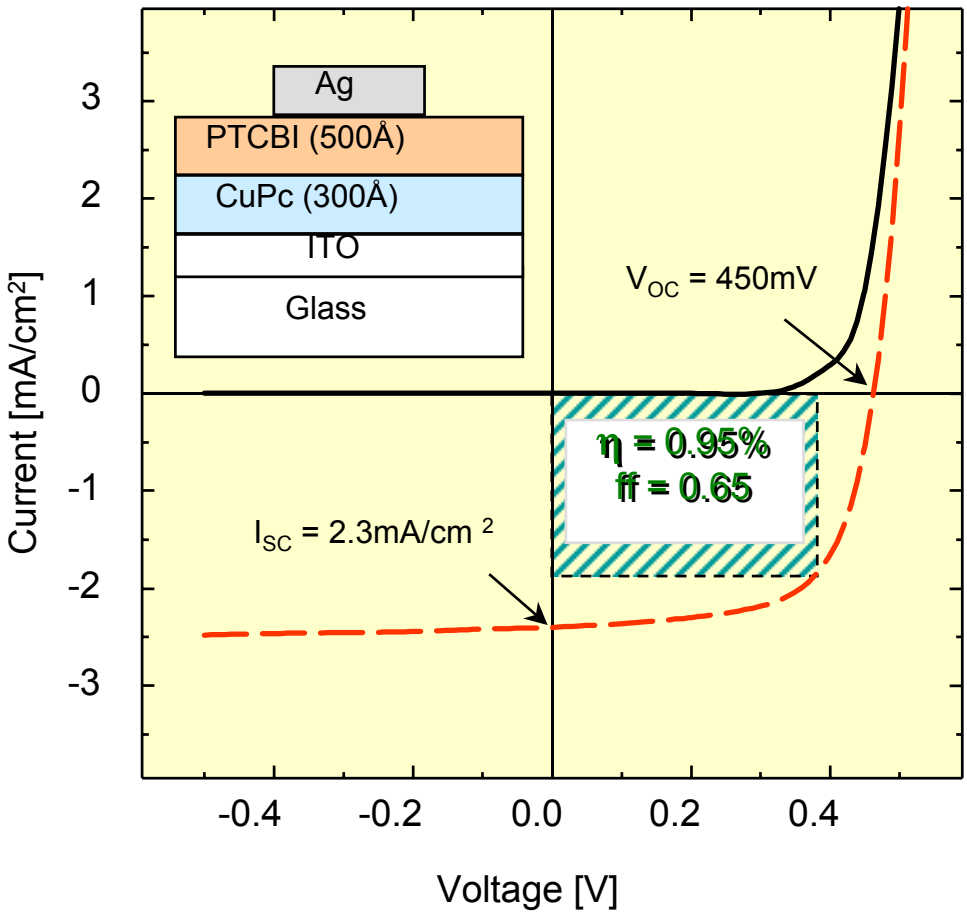
λ	Rd
405	6.0
530	3.0
630	2.5

Your I-L-V curves should ultimately look something like this:



Your photovoltaic device I-V characteristics should look something like this.

Tang, *Appl Phys Lett.* **48**, 183 (1986).



What are the CIE coordinates of the OLED?
To answer this question use the X, Y, Z photopic response curves in the Excel file “Calculation of CIE coordinates.xls”. Multiply the OLED spectrum with each of the X, Y, and Z curves, and add all the values in each columns to obtain three numbers *x, y, z*, respectively. The (x’,y’) CIE coordinates are then given by x’ = *x / (x+y+z)*, y’ = *y / (x+y+z)*. Plot the (x’,y’) coordinates on the CIE plot as below. Your coordinates should match the color of the OLED.