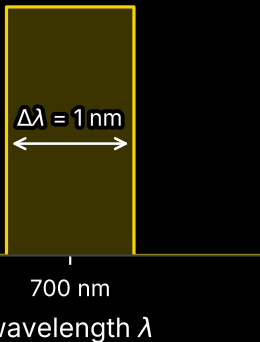


## synthetic spectrum

$$\Phi_{\lambda, \text{nm}} = 21,559.86$$

photon  $\text{s}^{-1} \text{m}^{-2} \text{nm}^{-1}$   
(1 Jy at 700 nm)

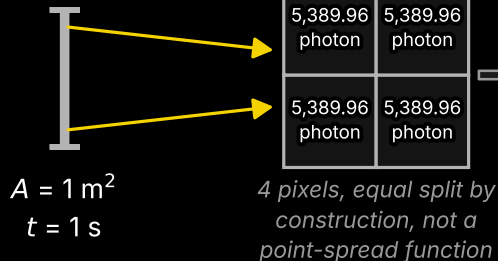


## collection and counting

$$\times A \times \Delta\lambda = 21,559.86$$

photon  $\text{s}^{-1}$

$\times t/4$ : photons per pixel  
in  $t = 1 \text{ s}$



*reference experiment, idealized*

## expected electrons

*constant QE  $q$ ; summed electrons  $[e]$   
= summed Poisson variance  $[e^2]$ ,  
numerically*

$q = 0.0$ : 0.00

$q = 0.5$ : 10,779.93

$q = 1.0$ : 21,559.86

*no dark current, clock-induced  
charge or read noise; expected  
values, not a readout*