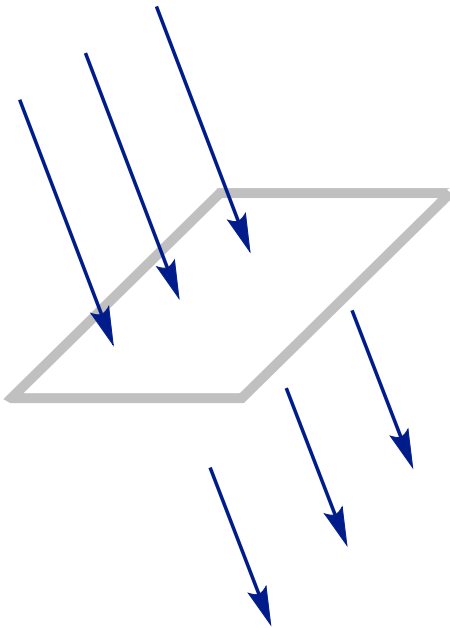


## Photon Flux

$$\text{flux} = \frac{\text{mols of photons}}{\text{m}^2 \cdot \text{s}}$$



***LED Ribbons (4.4 W) =  $9.8 \times 10^{-8}$  E/s***

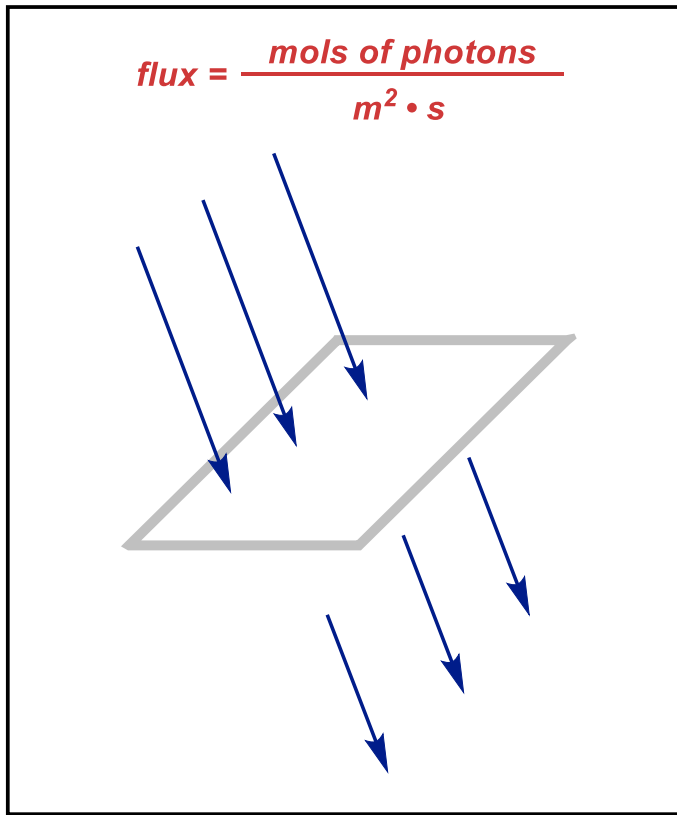
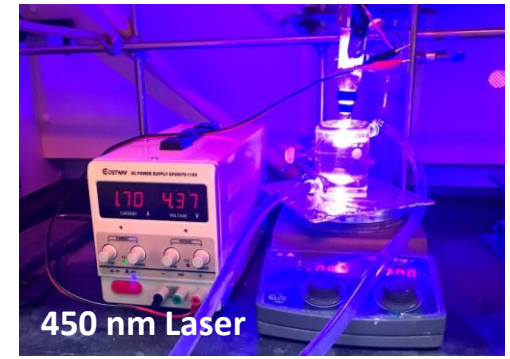
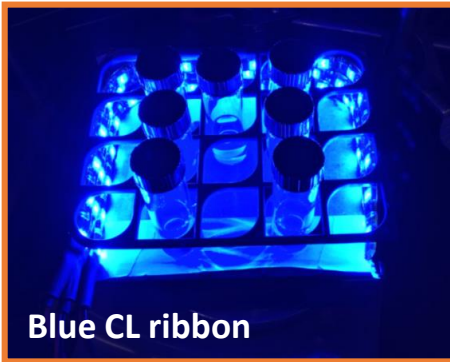
***Kessil H150 LED (30 W) =  $1.6 \times 10^{-7}$  E/s***

***0.65 W, 450 nm Laser Diode =  $2.9 \times 10^{-6}$  E/s***

***2.5 W, 450 nm Laser Diode =  $5.4 \times 10^{-6}$  E/s***

***Calculated with Ferrioxylate Actinometer***

# Assessing Improvements with Laser Irradiation



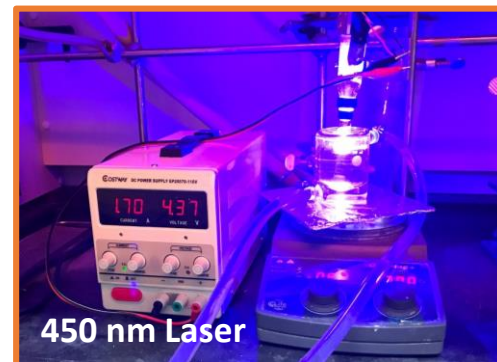
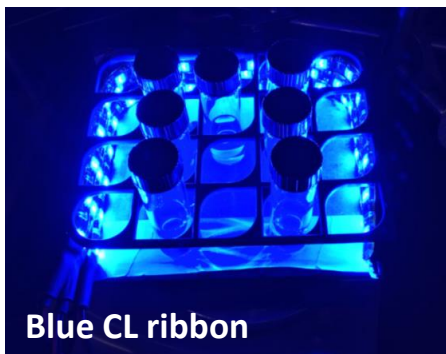
LED ribbon

$$\text{Flux} = 9.76 \times 10^{-8} \text{ E/s}$$

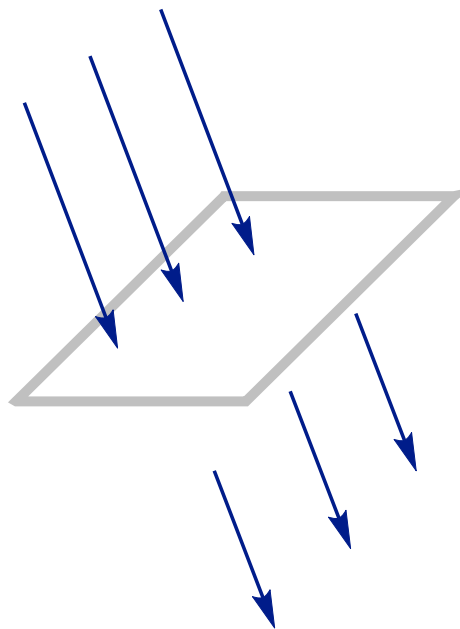
Kessil H150 Blue lamp (mixed irradiation)

$$\text{Flux} = 1.57 \times 10^{-7} \text{ E/s}$$

## Assessing Improvements with Laser Irradiation



$$\text{flux} = \frac{\text{mols of photons}}{\text{m}^2 \cdot \text{s}}$$



LED ribbon

$$\text{Flux} = 9.76 \times 10^{-8} \text{ E/s}$$

Kessil H150 Blue lamp (mixed irradiation)

$$\text{Flux} = 1.57 \times 10^{-7} \text{ E/s}$$

450nm 6W Laser Flux at 0.71A applied

$$\text{Flux} = 2.97 \times 10^{-6} \text{ E/s}$$

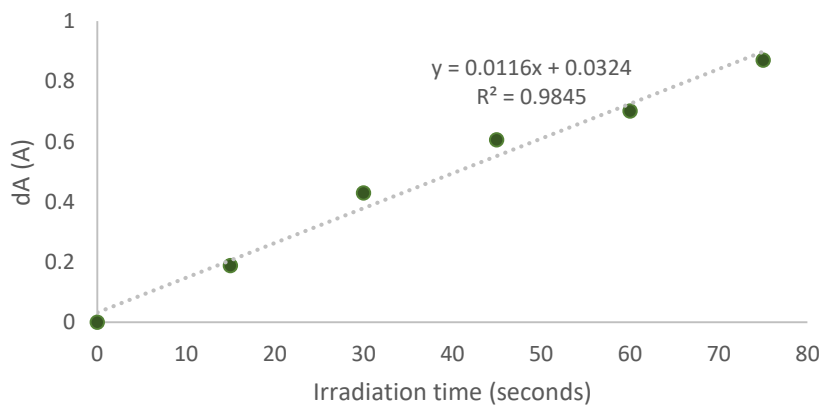
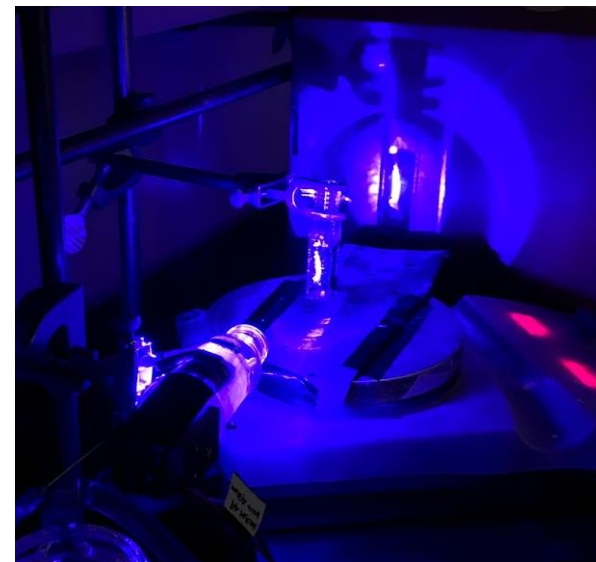
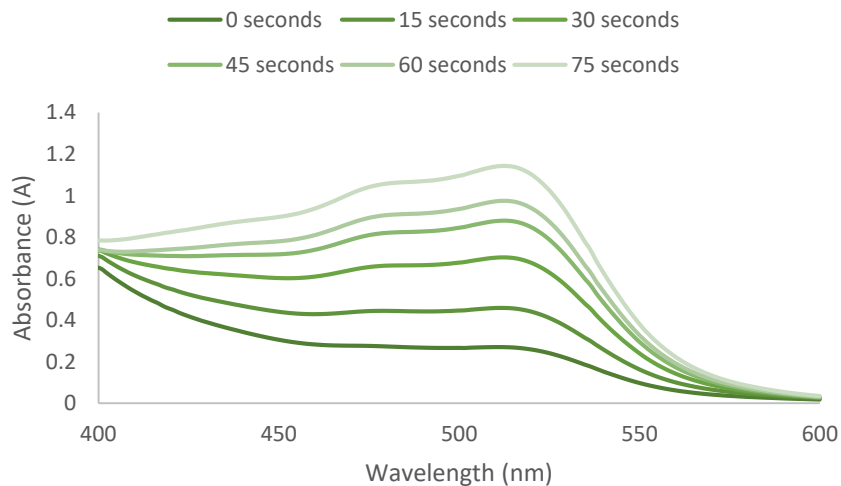
450nm 6W Laser Flux at 1.70 A applied

$$\text{Flux} = 5.44 \times 10^{-6} \text{ E/s}$$

# Photon Flux Quality Control Data

GL9847 =0.65 W 450 nm Laser

0.71 A 450 nm Blue Laser



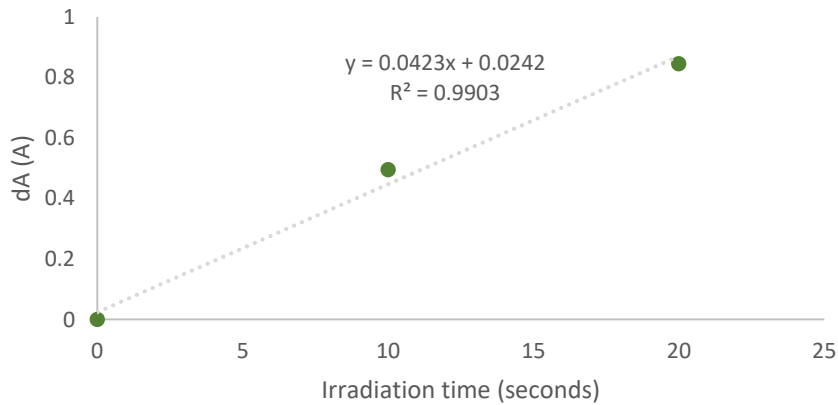
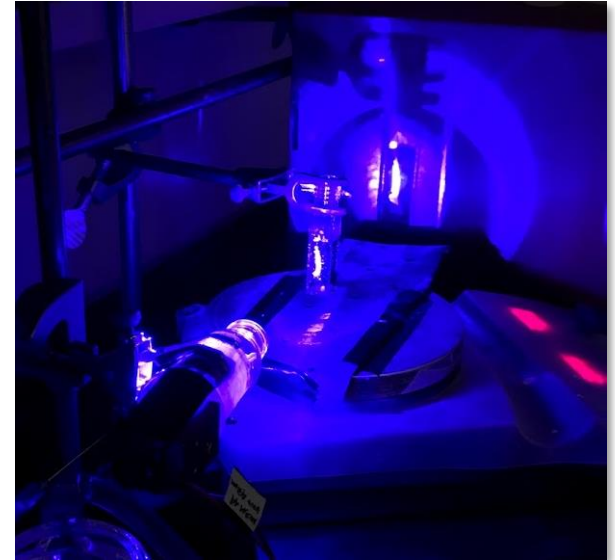
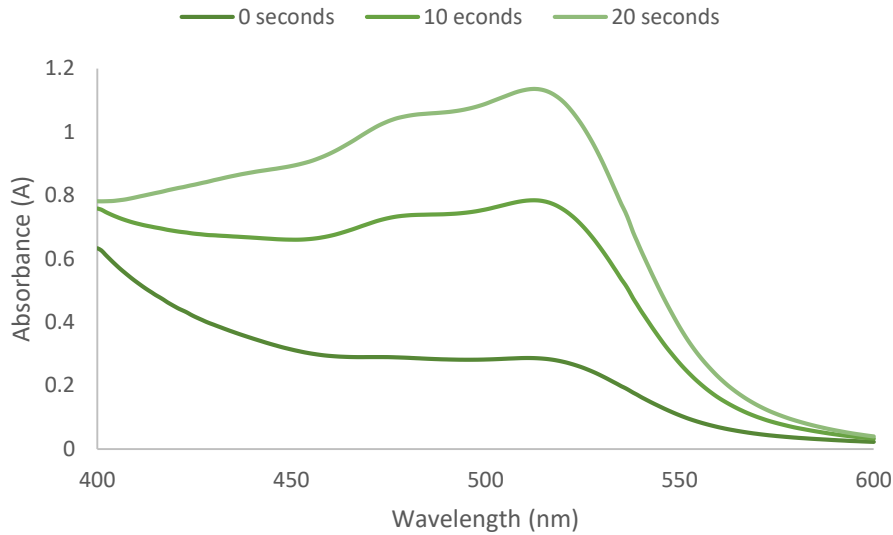
450nm 6W Laser Flux at  
0.71A applied

**Flux =  $2.97 \times 10^{-6}$  E/s**

# Photon Flux Quality Control Data

GL9850 = 1.70 A Laser

## 1.70 A 450 nm Blue Laser



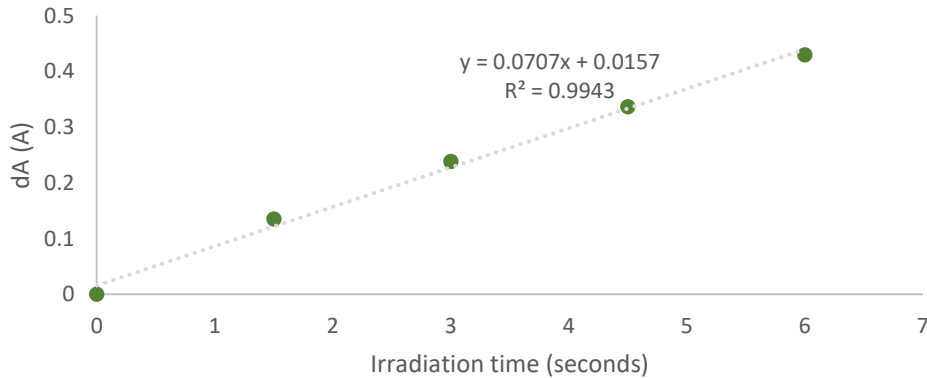
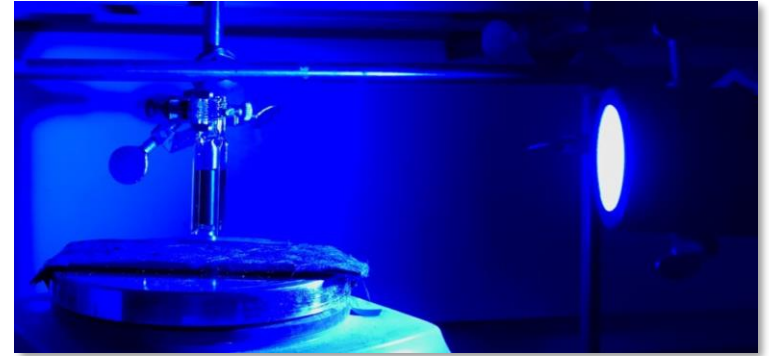
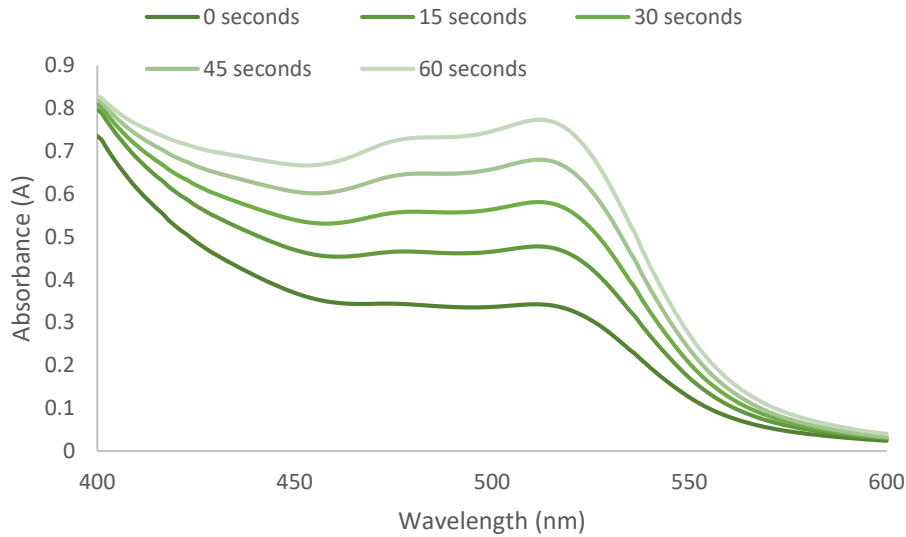
450nm 6W Laser Flux at  
1.71A applied

**Flux =  $5.44 \times 10^{-6}$  E/s**

# Photon Flux Quality Control Data

GL9850 = H150 Kessil Blue LED

H150 Blue Kessil (mixed irradiation)

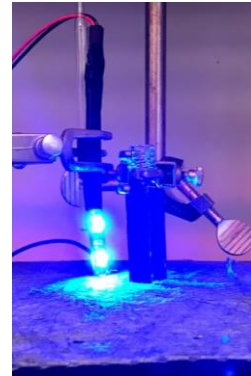
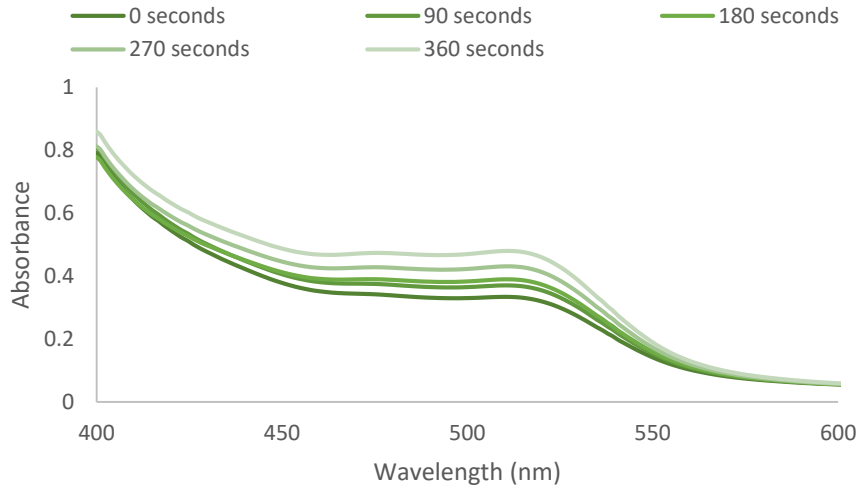


Kessil H150 Blue lamp  
(mixed irradiation)

**Flux =  $1.57 \times 10^{-7}$  E/s**

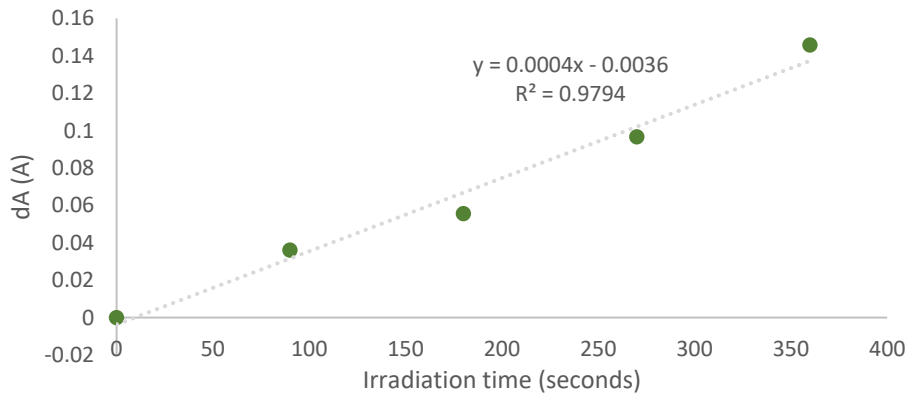
# Photon Flux Quality Control Data

GT2214 = 4.4 W Creative Lighting Strip



For measurement

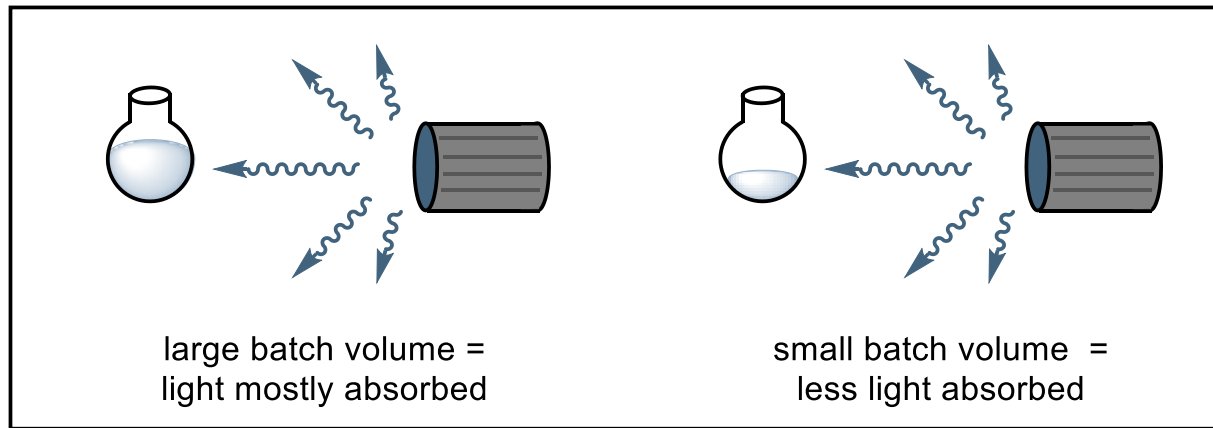
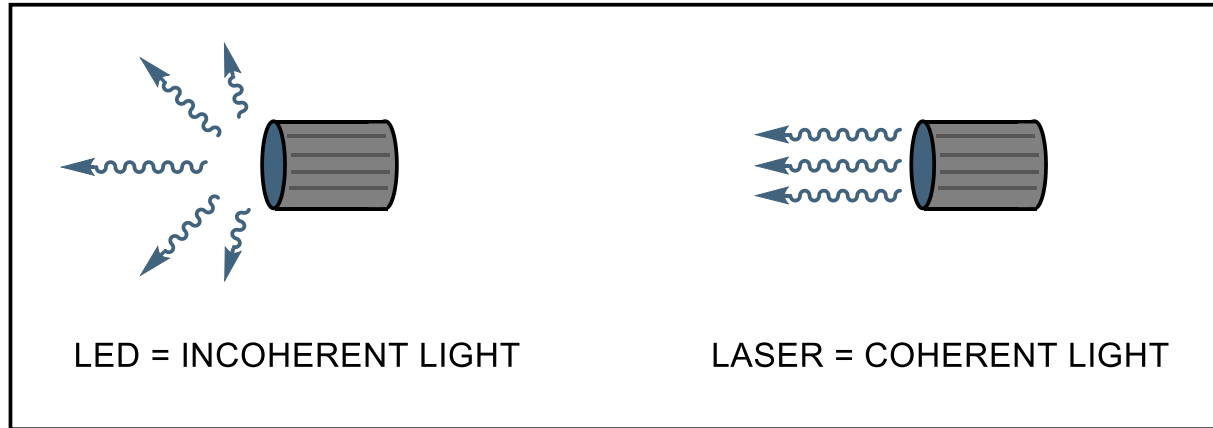
Actual Use



Blue Creative Lighting ribbon (4.4 W)

Flux =  $1.62 \times 10^{-8}$  E/s per diode  
Strip flux =  $9.75 \times 10^{-8}$  E/s

# Assessing Improvements with Laser Irradiation



More lights  $\neq$  more flux