

Task 5 Notes

3.4 cm = minimum distance
400 cm = maximum distance

12 lights total
 $\frac{1}{4}$ of 12 lights = 3 lights = # of Red lights
 $\frac{1}{2}$ of 12 lights = 6 lights = # of Yellow lights

Red (less than $\frac{1}{4}$ the max distance): Between 0 and 100 cm
 $100 \text{ cm} / 3 \text{ lights} = 33 \text{ cm per light}$

Light 1 = Red: >0
Light 2 = Red: >33
Light 3 = Red: >66

Yellow (greater than $\frac{1}{4}$ and less than $\frac{1}{2}$ the max distance): Between 100 cm and 200 cm
 $200 - 100 = 100$
 $100 \text{ cm} / 6 \text{ lights} = 16.7 \text{ cm per light}$

Light 1 = Yellow: >100
Light 2 = Yellow: >116.7
Light 3 = Yellow: >133.3
Light 4 = Yellow: >150
Light 5 = Yellow: >166.7
Light 6 = Yellow: >183.3

Green (greater than $\frac{1}{2}$ the max distance): Greater than 200 cm
All lights = Green: >200