

1. ◦ **without glasses**

$$R = 1 * 1 + 3 * 3 + 2 * 1 = 12$$

$$G = 1 * 1 + 3 * 3 + 2 * 1 = 12$$

$$B = 1 * 0 + 3 * 0 + 2 * 0 = 0$$

◦ **with glasses**

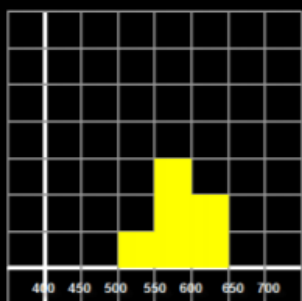
$$R = 1 * 0 + 3 * 0 + 2 * 4 = 8$$

$$G = 1 * 1 + 3 * 3 + 2 * 0 = 10$$

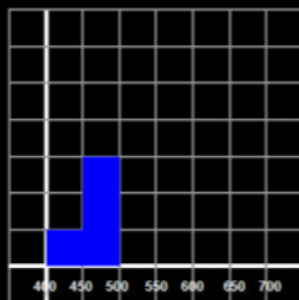
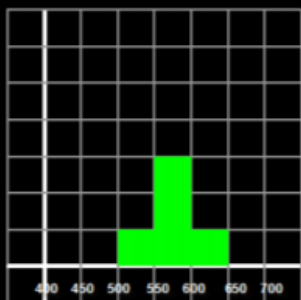
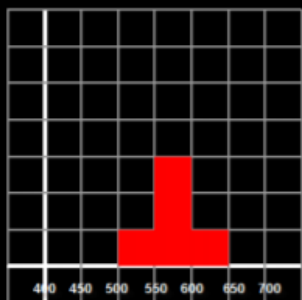
$$B = 1 * 0 + 3 * 0 + 2 * 0 = 0$$

2. 可以解决特定色觉异常患者对特定颜色的区分能力，不同的患者戴上后的差距很大。enChroma 眼镜通过选择性的过滤掉重合部分的光谱，使得颜色的饱和度发生变化，从而使色彩的区分度得到部分提升。其对色弱人群有一定的辅助作用，但是对缺失一种光感受器的色盲人群（protanopia, deuteranopia, tritanopia），该眼镜是无效的。

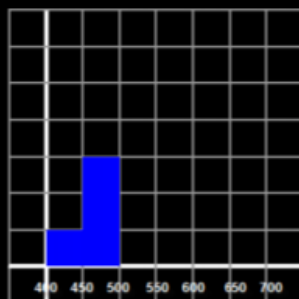
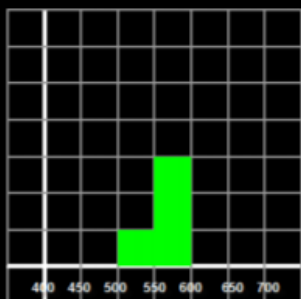
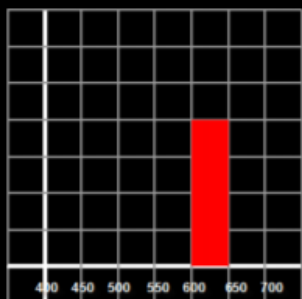
L



Without glasses

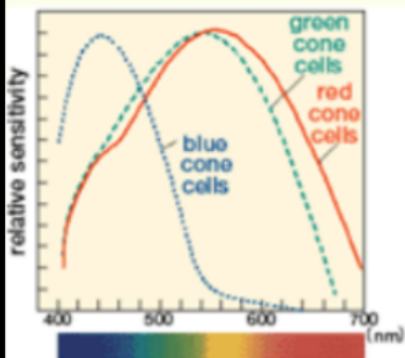


With glasses



正常

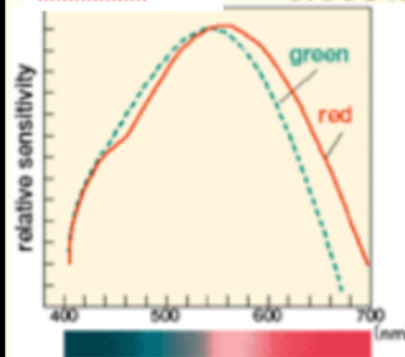
92%



蓝色盲

tritanopia

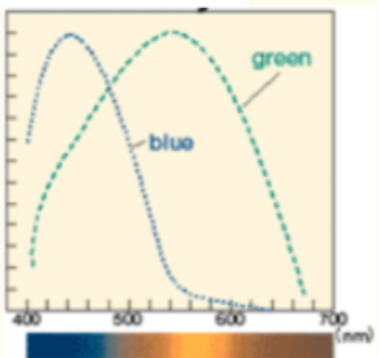
0.001%



protanopia

红色盲 甲型色盲

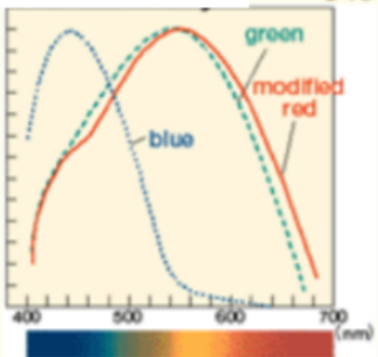
1%



protanomaly

红色弱 甲型色弱

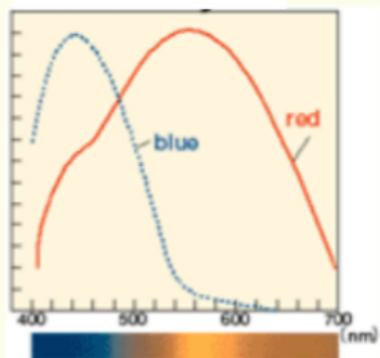
1%



deuteranopia

绿色盲 乙型色盲

1%



deuteranomaly

绿色弱 乙型色弱

5%

