



Mixed white LED issue

2019/10/15

The color spectrum of warm white LED



- **Warm white color LED (LED1)**

We have sent 2 samples with warm white LEDs to Everlight for analysis. The color spectrum measurement is PW05 which is within our CIE spec (See Fig1 Bin Grading Spec.)

- **Normal white color LED (LED2)**

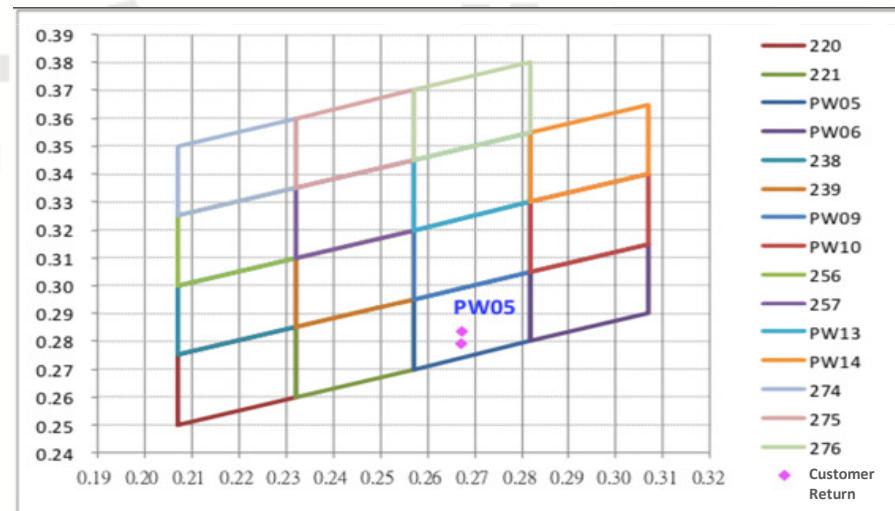


Fig1 Bin Grading Spec

Summary

- The white color LED used in our product is mixed by three color LED (R/G/B). Each LED will have a certain tolerance based on its die characteristic difference (including luminous Intensity, wavelength and voltage). Combine these different parameters with the difference of three color LED (R/G/B) and we can get the bin grading Spec. shown in Fig2 as below.
- As there is only one white color LED in our product, the color difference should have less impact to the product. Therefore, we suggested that ALT/SKB to follow our standard CIE bin grading Spec. shown in Fig 2&3 as below
- In order to avoid the defective LED produced from production line, we propose to put a limit sample (ex. Bin grading = PW05) as a comparison in production line. And then we can sort out the defective LED by inspection method in the future.

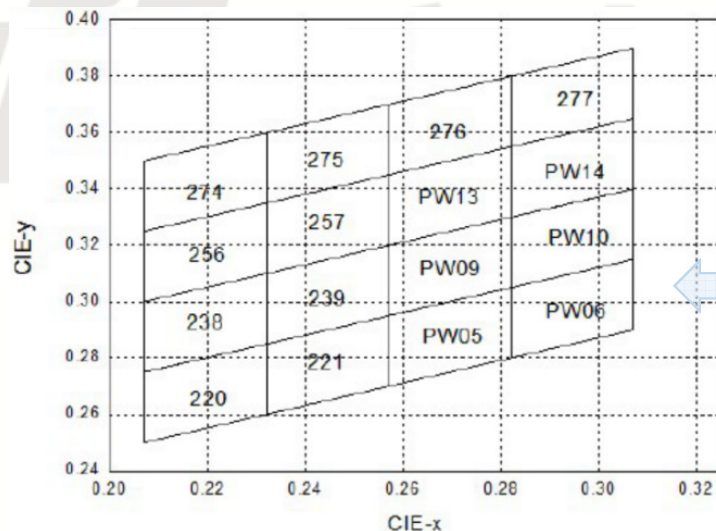


Fig2. Bin grading Spec. of white color LED

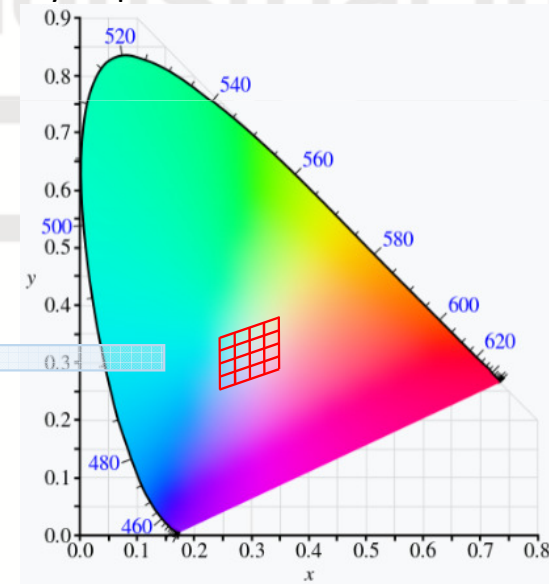


Fig3. CIE chromaticity diagram