

Color Saturation Improvement through the Use of Unequal-Area Color Filters
for the RGB-LED-Backlight RGBW LCD

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Abstract

The dependences of color gamut size and power consumption on the area ratio of the neutral and green subpixels for the RGB-LED-backlight RGBW LCD were studied, in which the red- and blue-subpixel areas are the same and represent onequarter of the pixel aperture area. It was found that the color saturation of the RGBW LCD can be improved through the use of a smaller neutral- and green-subpixel area ratio, at the expense of higher power consumption.

Keyword : RGBW LCD, RGB LED backlight, color filter, color saturation