

Optical film to enhance cosmetic appearance and brightness in liquid crystal displays

This paper presents an optical film that enhances cosmetic appearance as well as brightness in a liquid crystal display (LCD) through microprisms that have a variable pitch. The optical film utilizes Fourier transformation to optimize the arrangement of microprisms for improving the cosmetic appearance in the display. The optical film has an improved light-collimating feature that redirects light more effectively, resulting in higher brightness. This paper shows details of the design procedure, but more importantly, presents optical measurement results of an actual optical film prototype to confirm the performance improvement.

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