

직하형 백라이트 설계의 광학시뮬레이션의 응용

한정민, 김병용, 강동훈, 김영환, 김종환, 이상극, 옥철호, 서대식

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Application of Optical Simulation in Direct-type Backlight Design

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Abstract : In this study, it was investigated about optical simulation in direct-type backlight design. Direct-type backlight has been used high-brightness backlight such as LCD television application. The key parameter in designing direct-type backlight was consists of three geometrical dimension such as the distance of two lamps, the gap of lamp and reflection plate and the number of lamps. It has many variation in optical design and it causes the different properties in backlight system. It shows the best values of above parameters: 26mm of the distance of two lamps, 4.5mm of the gap of lamp and reflection plate and 16 lamps. And we produced the specimen as above condition, and acquired good result in backlight such as the value of the brightness is 6436 nit in center of emission area and less than 5% in brightness uniformity. It shows the effective ways of designing backlight system using optical simulation method.

Key Words : Backlight, Direc-type, Optical simulation, LCD-TV