The Study of Light Coupling Characteristics for Liquid Crystal Display

詹展昌、薛英家 ; 韓 斌

E-mail: 9314936@mail.dyu.edu.tw

ABSTRACT

ABSTRACT This research is focused on the incident-plane structure of light guide plate (Light Guide Plate; LGP), light source of backlight module (Back Light Unit, BLU), in the liquid crystal display (Liquid Crystal Display; LCD). In general, there are two problems. the LCDs use the cold cathode light (Cold Cathode Fluorescent Lamp; CCFL) generated structural bright line questions caused of the mould group of backlight source, the phenomenon that faint with use the light caused of mould group of LED backlight source, add some to hide and only print on solving the way and spreading slice in it, to cover the bright line question caused by the fact that the mould group of the backlight source is structural; But in addition, hide and only print and will increase group''''s whole cost of backlight source mould in spreading one, so, we are leading and only entering all surface to do some changes stiffly , change and lead and only enter all surface structure stiffly , in order to improve the structural question of the mould group of the backlight source. First of all, enter 14.1 inches of CCFL Backlight and only incline the bright line phenomena taken place , use and lead the only stiff different structure which enters the plain noodles, change to enter all route original light , make originally centralized and intensity better on line, disperse the bright intensity of line because the mere route is different , make the bright line light source scattered. By the aforesaid way, apply 1.5 inches of LED Backlight to and enter the phenomenon of only inclining the light taken place and fainting , finds out better entering the plain noodles structure by way of imitating finally. As a result, it is the horizontal cannelure structure of rectangle that 14.1 inches of CCFL Backlight find out better leading and only entering the plain noodles structure stiffly , 1.5 inches of LED Backlight are the rhombus cannelure structure. According to this, my''''s above-mentioned better leading and only entering the structure principle of plain noodles stiffly , cooperate with the proper processing way, apply the real products of CCFL Backlight to and test good result.

Keywords : The mould group of the backlight source ; it is only stiff to lead ; enter the plain noodles

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REFERENCES

參考文獻 : 1.林宸生、陳德請（2001），近代光電工程導論（修訂版），全科技圖書股份有限公司，臺北。 2.周榮源（2，2002），微射出成型技術簡介，科儀新知，第23卷，第4期，頁93~99。 3.高弘毅（November 2002），LCD用高輝度導光板與聚亂型聚合體導光板（一），光電科技，第40期，頁102~107。 高弘毅（December 2002），LCD用高輝度導光板與散亂型聚合體導光板（二），光電科技，第41期，頁72~74。 高弘毅（January 2002），LCD用高輝度導光板與散亂型聚合體導光板（三），光電科技，第42期，頁99~102。 4.王毅（October 2003），投影機用燈源與燈泡製作技術，光電科技，第51期，頁60~66。 5.黃振球、章興國（November 2002），背光源模組中的反射點矩陣設計，光電科技，第40期，頁99~105。 6.蘇紹安（2001），非印刷式背光源模組光學模擬分析，碩士論文，中華大學電機工程學系研究所，新竹。 7.賴志良（August 2003），導光板模具之微溝加工，模具技術資訊，第101期，頁9~11。