

Transmittance of light diffuser sheet used for liquid crystal display device

INTRODUCTION

A light diffuser sheet is used in a liquid crystal display (LCD). This sheet is used to reduce the directivity of the light emitted from the light source in the LCD.

To study the transmission characteristics of the light diffuser sheet, the transmission spectrum was measured by using U-4100 spectrophotometer and $\phi 60$ full integrating sphere and the transmittance was calculated. A full integrating sphere must be used to accurately measure the transmittance of the sample that diffuses or scatters the light transmitted through the sample.

As a result of the analysis, the luminous transmittance for the sample A, B, and C was 89.9%, 71.3%, and 87.0%, respectively and the sample A was found to have the best transmission characteristic. By using U-4100 spectrophotometer and the full integrating sphere, the transmission characteristics of the light diffuser sheets for LCD can be evaluated.

SAMPLE

Sample : Light diffuser sheet for liquid crystal display device (Size : 30 × 30 mm) 3 types

INSTRUMENT CONDITIONS

Instrument : U-4100 spectrophotometer (solid sample measurement system)

[UV/VIS]

Scan speed : 300 nm/min

Slit : 8 nm

[NIR]

Scan speed : 750 nm/min

Slit : Automatic control

PbS sensitivity : 2

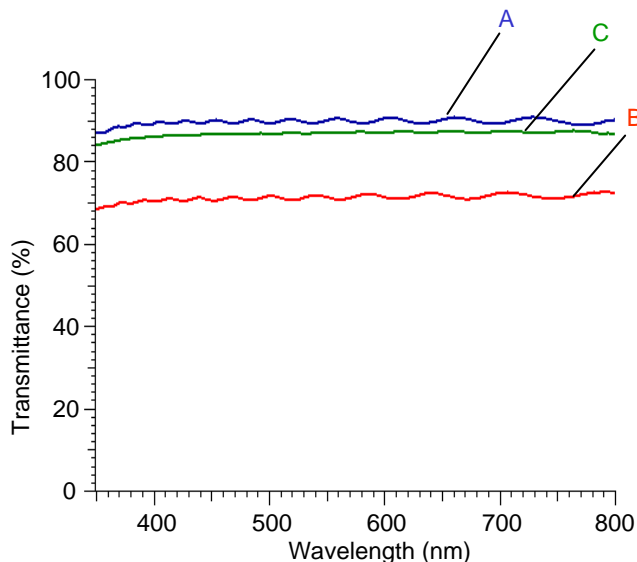
Sampling interval : 1 nm

ACCESSORY

$\phi 60$ full integrating accessory (P/N : 134-0205)

Transmission holder (close contact) (P/N : 1J0-0202)

Color calculation program (P/N : 2J1-0311)



Transmission Spectra of Various Light Diffuser Sheets

Luminous Transmittance of Various Light Diffuser Sheets

Sample	Luminous transmittance (%)
A	89.9
B	71.3
C	87.0

Light source : D₆₅ , Viewing angle : 2°

KEY WORDS

Material-Processing Material Related, Other Material-Processing Material Related, Liquid Crystal Display, Light Diffuser Sheet, Transmission Spectrum, Luminous Transmittance, Color Measurement, Liquid Crystal Display Device, LCD, Transmittance, Reflectance, U-4100

Spectrophotometer (UV)

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