

# Measurement of Diffuser Plate for LED Bulb

## INTRODUCTION

LED bulbs with low energy consumption have a high power-saving effect and are drawing attention. This time, the transmittance and reflectance spectra of the diffuser plate and reflector used in LED bulbs were measured. For the diffuser plate, a close contact holder was used to also collect the diffuse light by the integrating sphere and the total transmission spectrum was measured. A high transmittance of about 90% was observed in the visible region. The consistently high transmittance indicates that the light is transmitted without any change in the colors of warm white and daylight white emitted by the LED.

## SAMPLE

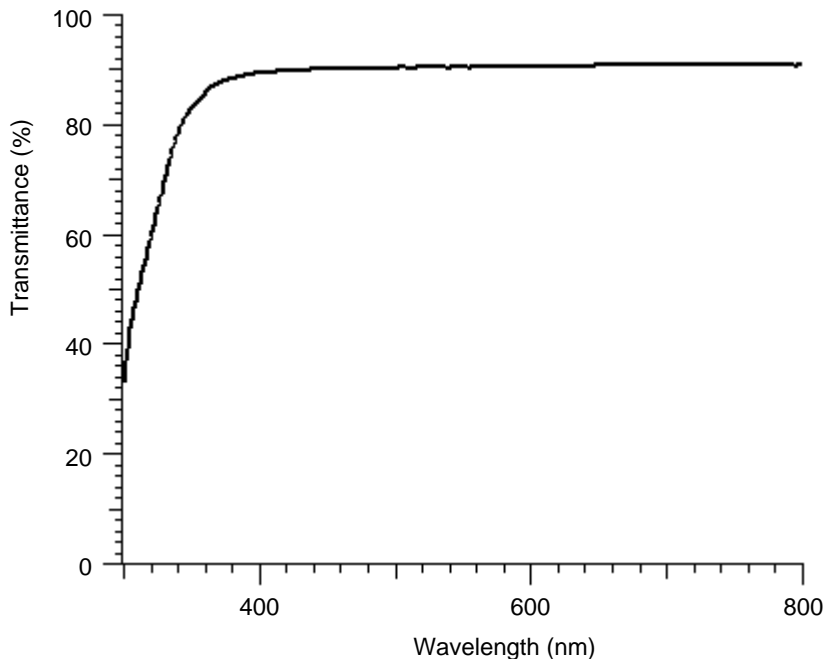
Sample : Diffuser plate for LED bulb

### INSTRUMENT CONDITIONS

Instrument : U-4100 spectrophotometer (solid sample measurement system)  
 Measurement wavelength range : 300 - 800 nm  
 Scan speed : 300 nm/min  
 Slit : 8 nm  
 Sampling interval : 1 nm

### ACCESSORY

φ60 full-sphere accessory (P/N : 134-0205)  
 Transmission holder (close contact) (P/N : 1J0-0201)



LED Bulb

### KEY WORDS

Material/Processing Material Related,  
 Other Material/Processing Material Related, Diffuser Plate, LED Bulb,  
 Transmission Spectrum, Transmittance, Spectrophotometer, U-4100

Spectrophotometer (UV)

Sheet No. UV110005-01

# Measurement of Reflector for LED Bulb

## INTRODUCTION

LED bulbs with low energy consumption have a high power-saving effect and are drawing attention. This time, the transmittance and reflectance spectra of the diffuser plate and reflector used in LED bulbs were measured. The flat part of the reflector is in a very small size and therefore, the incident light was collected by using a lens. The aluminum flat mirror (DS No. UV110001-01) was used as the standard reflective material and its total reflectance spectrum was measured. The result converted to the absolute value based on the reflectance of the aluminum flat mirror is shown. A high reflectance of about 90% was obtained. The mirror has the structure to allow the effective use of the LED emission.

## SAMPLE

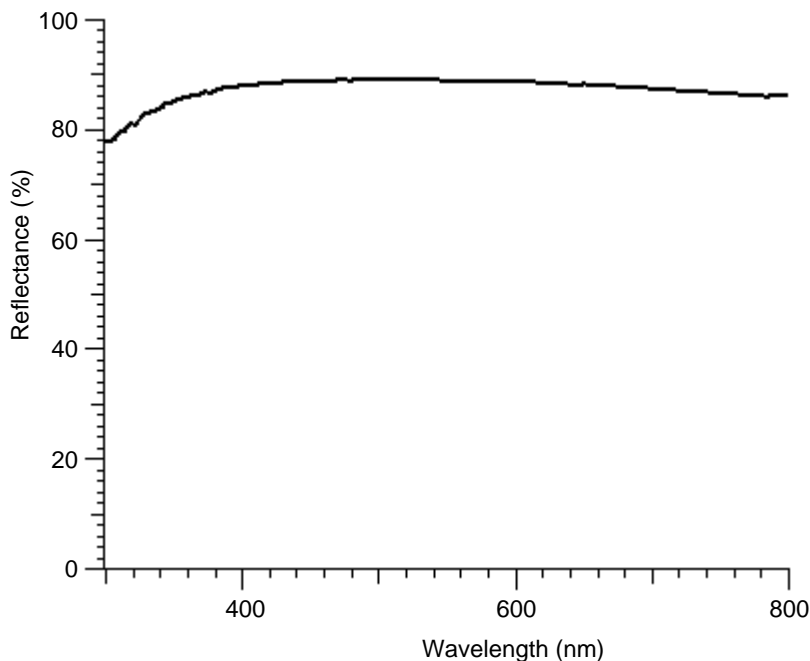
Sample : Reflector for LED bulb

### INSTRUMENT CONDITIONS

Instrument	: U-4100 spectrophotometer (solid sample measurement system)
Measurement wavelength range	: 300 - 800 nm
Scan speed	: 300 nm/min
Slit	: 8 nm
Sampling interval	: 1 nm
Standard reflective material	: Aluminum flat mirror

### ACCESSORY

Micro total reflectance measurement system (special order)



Reflector in LED Bulb

### KEY WORDS

Material/Processing Material Related,  
Other Material/Processing Material Related, Reflector, LED Bulb,  
Aluminum Flat Mirror, Reflectance Spectrum, Relative Reflectance,  
Spectrophotometer, U-4100

Spectrophotometer (UV)

Sheet No. UV110005-02