

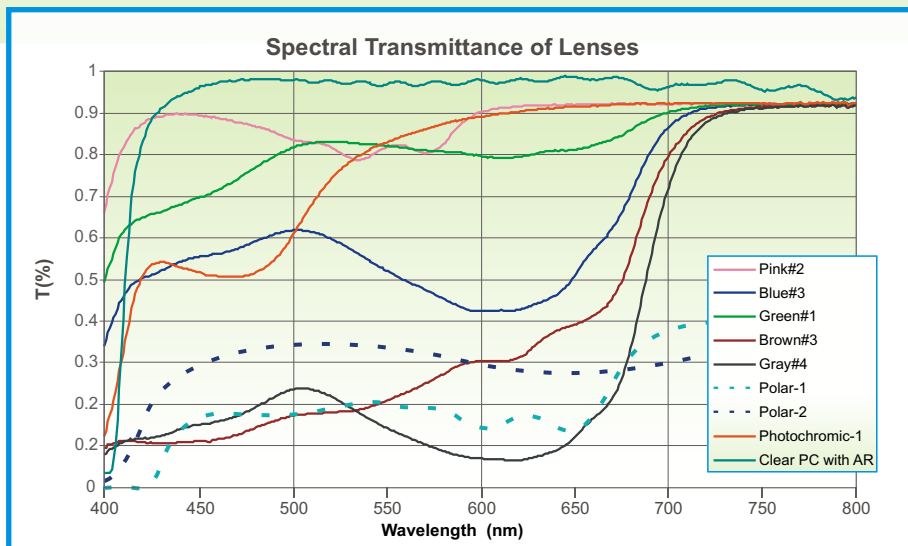
# OTS

Optical Transmittance Spectrophotometer



**CIE color and transmission measurement that is fast, accurate and easy!**

We've combined our expertise in miniature spectrometers and precision optics to create a compact system for real-time transmittance measurement of ophthalmic lenses and other optical components. The Ocean Optics Optical Transmittance Spectrophotometer (OTS) is ideal for in-lab applications where transmittance accuracy (to +/- 1.0%) and precision (+/- 0.1%) are critical. Common applications include measurement of plastic and glass lenses, as well as optical coatings, windows and filters, and glass and plastic components.



## Typical Applications

- Tint color: CIE L\* a\* b\*
- Visual transmittance
- UV cutoff
- Dye bath development
- Sunlens materials
- Dichroic, bandpass and neutral density filters
- Process monitoring

# OTS

## About the System

The OTS covers the entire visible wavelength range and accepts samples from 10 mm-150 mm diameter and up to 10 mm thickness. The system is comprised of several components:

- High-resolution miniature linear CCD-array spectrometer configured for 380-780 nm
- High-power, tungsten halogen light source
- Sample fixture (z-stage) to hold sample in place and exclude ambient light
- Specialized software for calculating %T, Luminous Transmittance, color, CIE L\* a\* b\* and other measurements
- Non-contact sample measurement
- Central Data Management with Excel Compatible Storage

## Characteristics

Special range: 380-780 nm

Detection: Miniature fiber optic spectrometer

Light source: High-power tungsten halogen

Sample collection: Fiber optic integrating sphere

Color calculation: CIE L\* a\* b\* color characteristics

Measurement calibration: Manual calibration using known glass standard (included); calibration time <30 seconds

System calibration: Recommended annual recalibration

Traceable standards: Optional

Typical samples measured: Tinted plastic and glass lenses, windows, optical filters

Sample size: 10-150 mm diameter, up to 10 mm thickness

Optical stage: Aluminum (with chemical resistant durable coating)

Software: Specialized OTS software for color and transmittance provides central data management

Quality: Conforms with ISO 8980-3, ISO 13666: 1998 and CIE norms and standards

Manufacturing compliance: CE/UL/RoHS/WEEE

## Performance

Transmittance measurement accuracy: +/-1.0%

Transmittance measurement precision: +/-0.1%

Data acquisition time: < 5 s

Light source output: 20 watts

Light source stability: 0.5% (15 minutes to stabilize)

Light source drift: <0.3% per hour

Bulb lifetime: 2,000 hours

Bulb color temperature: 3,000 K

Operating temperature: 5°C - 35°C

Operating humidity: 5-95% RH

## Computer Requirements

Operating systems: Windows XP, Vista

Computer interfaces: USB 2.0

