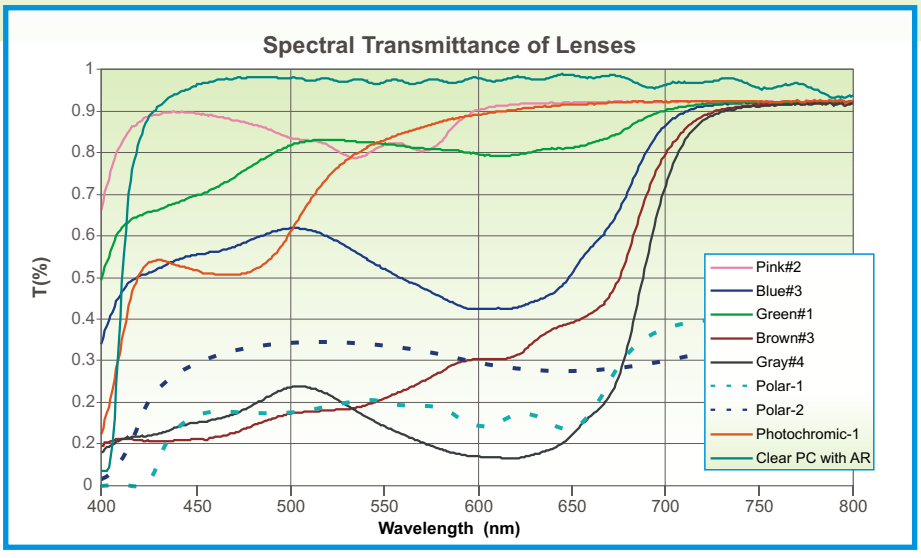
OTS

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

Ocean Optics

oceanoptics.com | OTFinfo@oceanoptics.com | +1.727.545.0741

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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

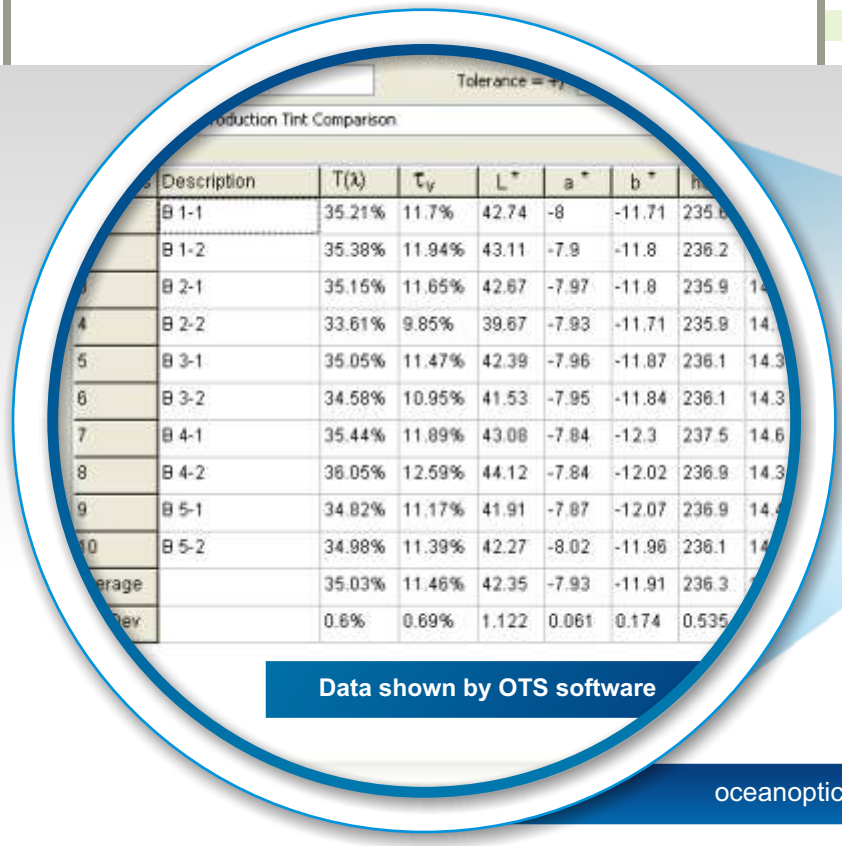
Special range:	380-780 nm
Detection:	Miniature fiber optic spectrometer
Light source:	High-power tungsten halogen
Sample collection:	Fiber optic integrating sphere
Color calculation:	CIE L* a* b* color characteristics
Measurement calibration:	Manual calibration using known glass standard (included); 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 nm 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

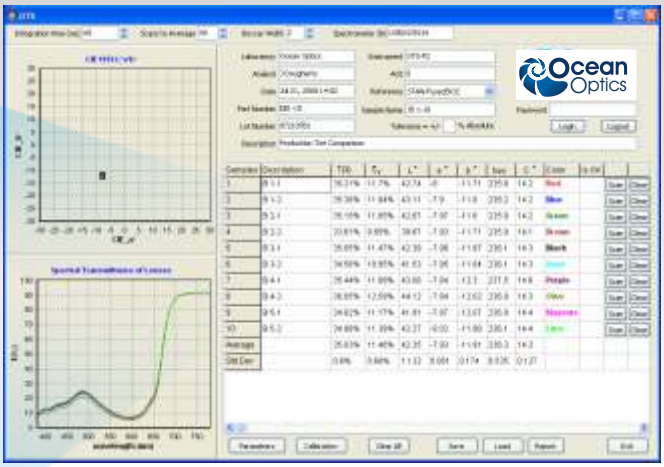
Transmittance measurement accuracy:	+/-1.0%
Transmittance measurement precision:	+/-0.1%
Data acquisition time:	< 5 s
Light source output:	20 watts
Light source stability:	0.5% (15 minutes to stabilize)
Light source drift:	<0.3% per hour
Bulb lifetime:	2,000 hours
Bulb color temperature:	3,000 K
Operating temperature:	5°C - 35°C
Operating humidity:	5-95% RH

Computer Requirements

Operating systems:	Windows XP, Vista
Computer interfaces:	USB 2.0



Data shown by OTS software



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