



- 1 *Angle dependence of colour temperature of an OLED microdisplay.*
- 2 *MTF measurement system.*
- 3 *Emission spectra of a cold light source.*

CHARACTERIZATION OF OPTICAL COMPONENTS AND SYSTEMS

During the development of optical systems it is necessary to characterize single components as well as complete systems. Corresponding measurement techniques are necessary, which provide an interface to the optical design software. The following measurement methods are available:

Characterization of light sources and self-luminous displays (OLEDs)

- Angle and spectral (300 – 1000 nm) dependency of emission in far and near field
- Measurement of LED's according to CIE-127
- Space resolved luminance measurement
- Illuminance measurement with integrating sphere
- Export of all data to the optical design programs ASAP, ZEMAX and FRED

Characterization of single lenses and objective lenses

- Focal distance, magnification
- MTF measurement system finite-finite, infinite-finite, finite-infinite
- Through-Focus MTF measurement
- MTF symmetry measurement
- Transmission measurement with integrating sphere

Interface optical design / experimental verification

- Realization of basic experiments for newly developed optical components and systems
- Comparison of experimental results with optical simulation

Analysis of scatter and stray light

- Analysis of scatter and stray light in optical systems (with ASAP, ZEMAX and FRED) with link to light scatter measurement
- Simulation of scatter behavior

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