



Fig: 5: CAS 140D – Reference spectroradiometer with highest color accuracy

High-end spectroradiometer CAS 140D

The determination of all photometric and colorimetric quantities results from software calculation of the spectral measurement data. This is why the quality and precision of the spectroradiometer in action is extremely important. The CAS 140D, which is recommended for the DMS systems, combines highest measurement accuracy, reliability, and stability.

Its excellent technical specifications and high optical throughput make it an extremely versatile device for usage in reference laboratories as well as in production lines.

In particular the CAS 140D provides some essential attributes for display characterization:

- ▲ The optical design results in outstanding sensitivity and allows measurement of extremely small luminance values e.g. OLED.

The broad dynamic range of the instrument can easily measure low and high light intensities.

- ▲ The excellent stray light properties ensure accurate spectral measurement.
- ▲ Color accuracy of +/- 0.0015 guaranteed by our DIN EN ISO 17025 accredited laboratories.

Technical specifications

Spectroradiometer	VIS (CAS140D151U1A) ¹⁾		
Spectral range	360-830 nm		
Spectral resolution	2.2 nm ²⁾		
Integration time	4 ms - 65 s		
Sensor dynamic range	37,000 : 1		
Non-Linearity	±0.5%		
Cooling	-10°C		
Polarization sensitivity	< 1%		
Sensitivity			
Measuring range luminance	0.001cd/m ² – 1000 kcd/m ²		
Accuracy and precision³⁾			
	Luminance	Color coordinates (x,y)⁴⁾	Dominant wavelength
Instrumental precision (single system)	±0.1%	±0.0001	0.02 nm
Accuracy	±3%	±0.0015	0.5 nm
Stray light			
Broadband for Illuminant A radiation	5x10E ⁻⁴		
for LED	1x10E ⁻⁴		

¹⁾ Other models on request.

²⁾ Spectral range of DMS 803 is limited to 360-800 nm by DMS Software.

³⁾ Minimum achievable, extended relative measuring uncertainty applied to a twofold standard deviation.

Only applies to the measuring and ambient conditions used for calibration (e.g. without density filter, optimum spectral range, sufficient signal level, etc.).

⁴⁾ For white LEDs.