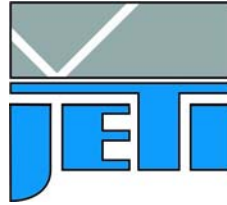


Application Note 5



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Measuring ranges and average measuring times of SCB 1201/ 1301/ 1401

Luminance (specbos 1201, 1301, 1401)							
Value [cd/m ²]	70 000	40 000	10 000	1 000	100	10	2
Integration time [s]	0.007	0.014	0.025	0.65	3	30	60
Measuring time [s]	1.2	1.5	2	5	8	70	130
Illuminance (specbos 1201, 1301, 1401)							
Value [lx]	60 000	10 000	1 000	400	100	50	20
Integration time [s]	0.05	0.4	3.5	8	30	45	60
Measuring time [s]	2	3	10	16	60	100	130
Luminous flux (specbos 1301)							
50 mm BaSO₄ sphere							
Value [lm]	250	100	50	10	2	0.5	0,03
Integration time [s]	0.06	0.15	0.3	1.5	8	35	60
Measuring time [s]	1.2	1.3	1.4	4	20	80	130
150 mm BaSO₄ sphere							
Value [lm]	800	400	200	100	10	2	0,1
Integration time [s]	0.07	0.14	0.3	0.6	6	30	60
Measuring time [s]	1.2	1.3	1.4	1.5	15	70	130

Luminous intensity (specbos 1401)							
CIE 127 Condition A (316 mm)							
Value [cd]	300	100	50	10	2	0.5	
Integration time [s]	0.2	0.5	1	5	25	60	
Measuring time [s]	1	1.5	3	12	52	130	
CIE 127 Condition B (100 mm)							
Value [cd]	100	50	10	2	0.5	0.1	0.03
Integration time [s]	0.05	0.1	0.5	2.5	12	40	60
Measuring time [s]	1	1.5	2	8	30	85	130

The measuring time consists of the adaption period (max. 5 s + 5 s dark measurement), the exposure period (max. 60 s) and the dark measurement (same time as exposure time). Furthermore an additional time of 400 ms for the shutter opening has to be considered. Therefore the maximum measuring time is around 130 s.

All times are approximate values. The exact value depends from the real spectral distribution and differs slightly between instruments. The indicated times for luminance, illuminance and luminous flux are valid for a halogen lamp, the values for luminous intensity are valid for LED spectra.

Measuring times for other intensities between the indicated values can be approximated from the given numbers.

It is possible to shorten the measuring time by three methods:

- Make a dark measurement only before a measurement series and use these data for later dark correction ("dark compensation")
- Use a reduced integration time
- Suppress individual integration time adaption and use a constant value (in case of measuring objects with similar brightness)