

TESTING AND MEASURING EQUIPMENT/ALLOWED SUBCONTRACTING
IEC 60969:2016, Edition 2.0
Self-ballasted compact fluorescent lamps for general lighting services
Performance requirements

"R"	Required
"S"	May be subcontracted, see OD 2012
"SP"	Specialized Facility, see IECEE 02-2
"W"	Witness testing in the categories "MED" and "MEAS"
"3PPS"	Three Phase Power Supply required

Clause	Measurement/testing	Testing / measuring equipment / material needed	Equipment Classification
Annex A	General conditions and equipment for measurement	Stabilized room, Stabilised power supply, Voltage meter, Current meter, Power meter, Temperature/humidity measuring system	GDJS-015B
6 row 2 & 3, Annex I	Displacement factor, Distortion factor (harmonics)	Power analyzer or Harmonic distortion measurement system	LS2050
6 row 5 & 6	Beam angle, Centre beam intensity	Stabilized room, Goniophotometer with measuring system, Calibrated lamps	LSG-6000
6 row 7 & 8	Chromaticity coordinates, CRI	Integrating sphere with spectral measurement system	LPCE-2(LMS-9000)
6 row 16	Dimensions	Caliper	
Annex B, Annex C	Test for starting time, Test for run-up time	Stabilized room/cabinet ± 1 °C, Test set-up for starting and run-up time, luminous flux over time recorder (time accuracy according to A.6)	LSRF-3
Annex D	Initial luminous efficacy and lumen maintenance	Stabilized room, Stabilised power supply $\pm 2\%$, Goniophotometer or Integrating sphere with measuring system, Calibrated lamps, Temperature measuring system	LEDLM-84PL
Annex E	Low temperature and low supply voltage starting	Chamber min. $-10^{\circ}\text{C} \pm 1^{\circ}\text{C}$, Test set-up for start time, luminous flux over time recorder (time accuracy according to A.6)	
Annex F	Switching withstand	Lamp test rack, Cycling device (1min ON /3 min OFF)	SY2036
Annex G	Lamp life	Lamp test rack, Cycling device (2h45min ON /15 min OFF)	
Annex H	Compatibility with dimmers and switches	Oscilloscope, wave form generator Fig. H.3	