



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
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**Technical Specifications of Large Area Solar Simulator and Electrical Characterization
RFx No. 6100001080 (Reference No. 1000024095)**

- Light Source:**
- (a) Class ABB or AAA
 - (b) Illumination area 20cm X 20cm
 - (c) Irradiance should be controlled between 700 to 1200 W/m²
 - (d) Irradiance uniformity: Class A as per the IEC standard.
 - (e) Lifetime: 20,000 hrs or more
 - (f) Stability, light soaking and power determination test should be as per the IEC norms
 - (g) No spectrum shift or light flux reduction over longer operation time
- Sample stage:**
- (a) Should be as a retractable drawer under the light source
 - (b) The sample stage should be thermostated under illumination that can maintain constant temperature (+/- 2°C) and can be varied between 20°C and 50°C.
 - (c) Needed temperature controller and accessories for the temperature control should be provided.
 - (d) Vacuum chuck for the sample holder with the pump should be provided.
- Measurement:**
- (a) standard SMU based system with needed software for I-V characterization and maximum power point tracking. Current range: nA to 1A; Voltage range: microvolt to 20V; GPIB//USB interface.
 - (b) Pt100 based temperature probe alongside the system with USB interface should be provided.
 - (c) Standard desktop/laptop computer should be provided for data acquisition.

The system should come with a standard Si reference cell (NREL calibrated) with 2cm X 2cm size. The said system should be self-sustained and floor standing. Users' manual should be provided and installation should be done on site by the trained personnel. Additional desktop or laptop computer should be provided for offline/online data and process analysis. Needed power requirements should be compatible for Indian standard, 220V AC.

Training for 3 people for 5 days. Preferably at buyer's location or may be online. Installation, Commissioning, Testing, Configuration, (if any is applicable) is to be carried out by OEM / OEM Certified resource or OEM authorised Reseller at buyer's location without any additional cost.

Warranty period of the supplied products/instruments shall be 1 years from the date of final acceptance of goods.