

# SPRAI LUMINAIRE TEST SYSTEM



## TEST SPECIFICATION

CENELEC specification **EN 60598-1 (LUMINAIRES - PART 1: GENERAL REQUIREMENTS AND TESTS)** has been issued to the purpose of establishing quality and safety requirements for lighting devices. It rules that in ordinary usage, consisting from the point of view of the temperature, of subsequent periods of heating up and cooling down, the device does not stop working and does not constitute a risk for the user. A duration test is specified to simulate the ordinary usage. Furthermore a heating test is called up intended to check in normal and abnormal conditions that in no point of the luminaire (DUT), including the lamp, the temperature becomes excessive for the safety of the users.

## PRODUCT

**SPRAI** is an acronym in Italian language that stands for "luminaire heating test stand". SPRAI offers a global solution, made of hardware and software, for the automatic execution of accurate measurements in accordance with EN 60598-1. It has been developed for the Italian Institute in charge of the certification of lighting devices (IMQ).

The major advantages the use of SPRAI offers are:

- ▶ full compliance with the test specification
- ▶ up to six tests at once
- ▶ minimal intervention by the operator
- ▶ accurate measurements
- ▶ automatic generation of reports
- ▶ archiving of test results

## HARDWARE

The standard configuration has a capability of 3 tests at the same time. It is formed of a CONTROL UNIT and a separate ACQUISITION UNIT. The expanded configuration, with a 6 tests capability, is achieved by the addition of an AUXILIARY CONTROL UNIT and a second ACQUISITION UNIT.

The CONTROL UNIT is a 19" cabinet containing:

- ▶ DUT power supply
- ▶ measurement instrumentation
- ▶ ancillary equipment

The temperature measuring instruments are housed instead in the ACQUISITION UNIT for an easier connection to the DUT: the ACQUISITION UNIT is typically located in the test room close to the DUT.

The AUXILIARY CONTROL UNIT is similar to the CONTROL UNIT, the major difference being the absence of some circuitry that does not need to be redundant. In the standard configuration the ACQUISITION UNIT includes two temperature acquisition instruments for a total of 40 thermocouples, three terminal areas on the front panel for the connections of the thermocouples and three more for the supply of the DUT's. The thermocouples, type K and T, are not part of the supply; they are selected and provided by the user. Different configurations can be provided subject to negotiation and TESEO ad-hoc quotation. In particular the standard 3 channel configuration can be simplified and reduced up to 1 test only capability.

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