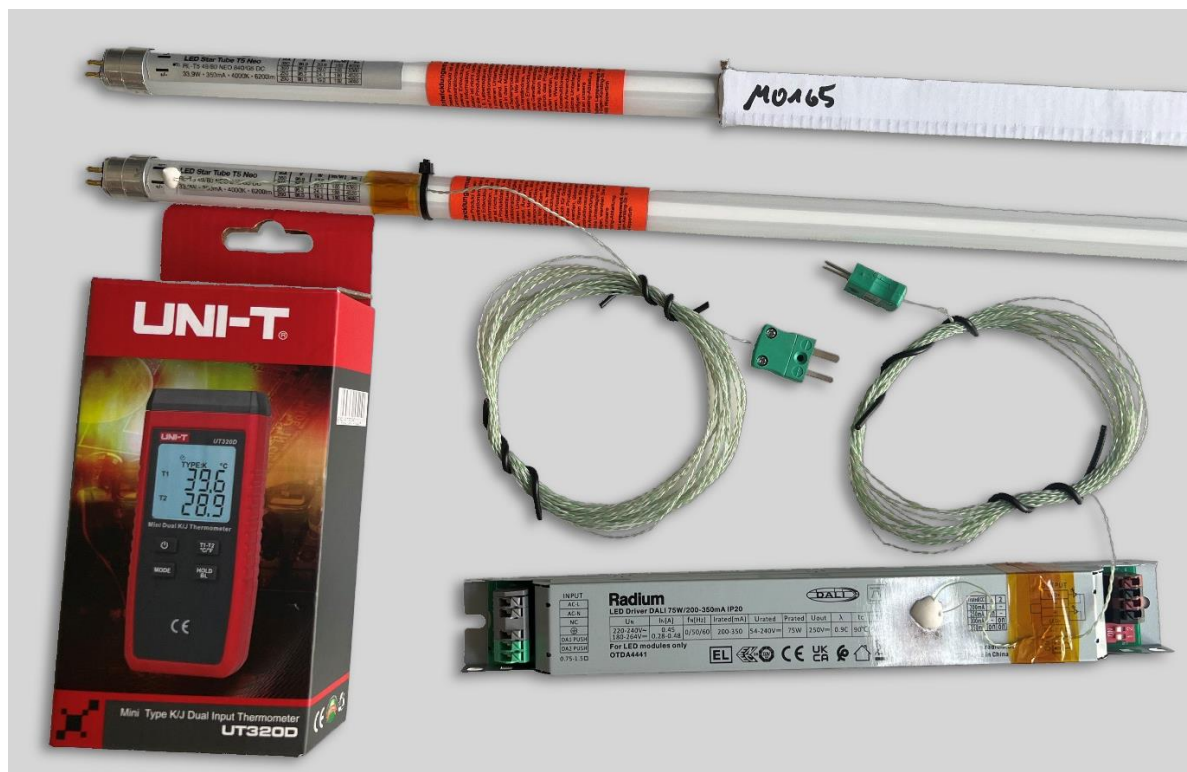


# Example measurement of the $T_c$ temperature. With Radium LED T5 Neo.

## Products used

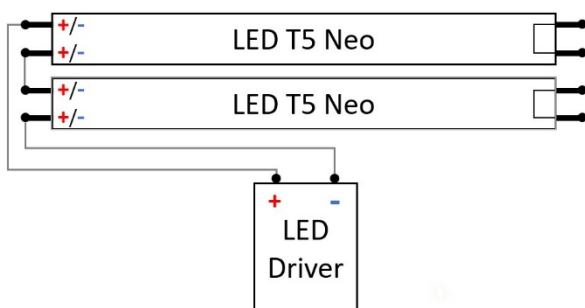
- 1x RL-T5 49/80 NEO 840/G5 DC
- 1x RL-T5 49/80 NEO 840/G5 DC prepared with a thermocouple at the  $T_c$  point
- 1x LED Driver DALI 75W/200-350mA prepared with a thermocouple at the  $T_c$  point
- 1x temperature measuring device



## Other conditions

- Individual luminaire at the respective place of use (converted to LED Neo operation)
- Individual ambient temperature under real operating conditions (here: 26°C)

## LED T5 Neo wiring diagram



Due to the thermal conditions, only one of the two Neo lamps is connected to a thermocouple, as both lamps become equally warm during operation. When inserting the lamps, care must be taken not to tear off the thermocouples. A cable tie is sufficient for strain relief. Our driver is set to the highest current setting to measure the greatest possible heat generation. A functional test must then be carried out.

## Temperature measurement

The lamps must remain in the switched-on state for at least 2.5 hours. After this time, the temperature is in the steady state and remains constant. Now the temperature can be measured – for this, of course, the lamp must remain switched on. The terminals of the thermocouples can be plugged into the sockets of the hand-held meter at the same time.

As soon as both thermocouples are connected to the measuring instrument, it must be switched on. Subsequently, the steady-state final temperatures can be read directly. The labels on the sockets of the thermocouples make it easy to assign which temperature belongs to the driver and which to the lamp.

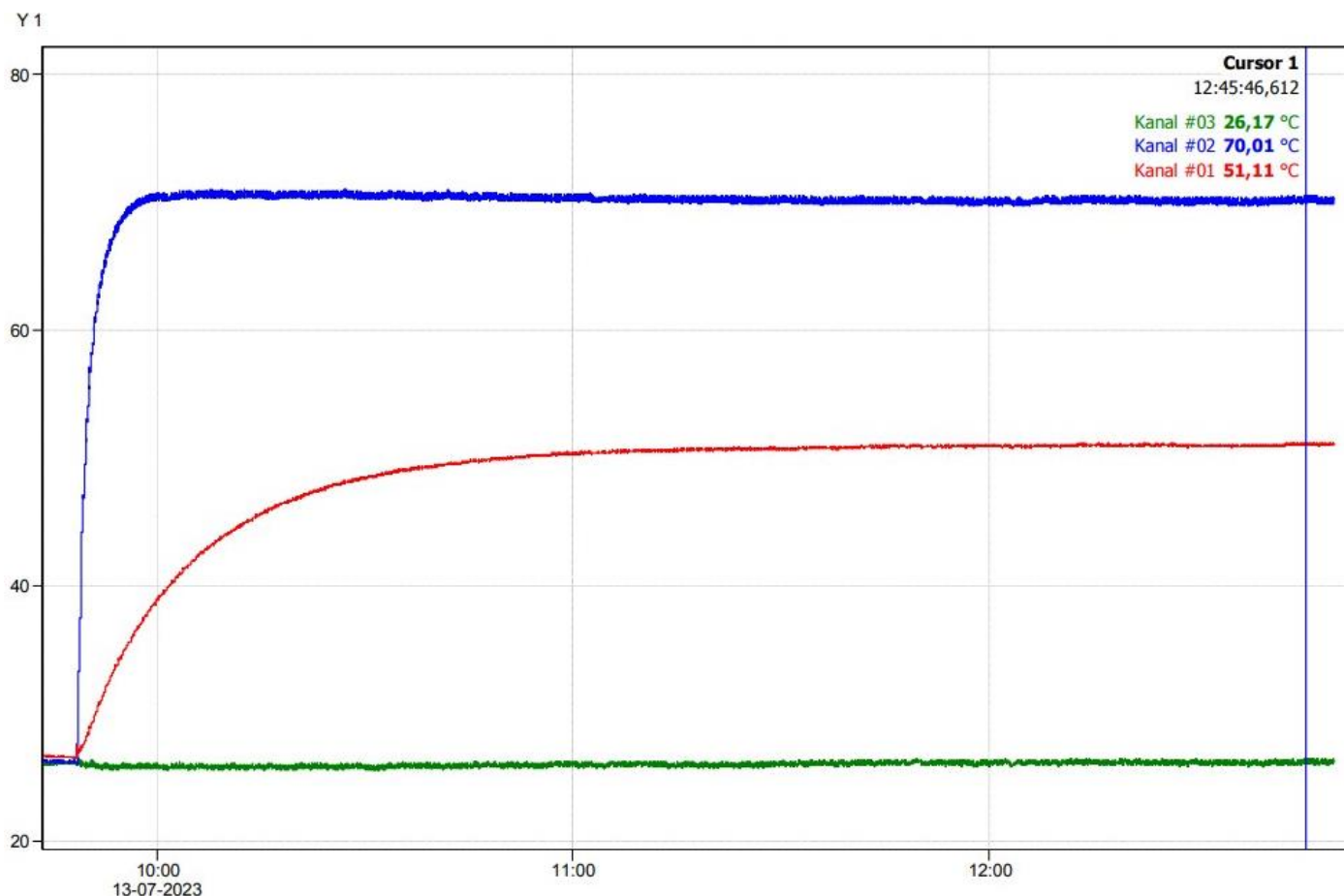
**The displayed temperatures should not exceed the following values:**

$T_c$  lamp: 90°C

$T_c$  driver: 90°C

## Measurement results of the example measurement

To illustrate this, our graph shows the development of the temperature over time from the switch-on moment to the steady state, as well as the final temperature. Our measurement was carried out in an open luminaire and at a room temperature of 26°C as an example.



Channel #01: LED driver

Channel #02: LED T5 Neo tube

Channel #03: Room temperature