

# USE IN CASE OF A MALFUNCTION

## – LIGHT TEST PROTOCOL – MEASURED ELECTRICAL VALUES

### Why is this test protocol now shipped with the lights?

Our goal is to ensure that product claims are processed as quickly and accurately as possible. Therefore, in the event of a malfunction on one of our lights, we ask you to have the electrician complete this protocol immediately after installation. Doing so will save you time and money, because when you discover and report a malfunction to us, in most cases we require a completed test protocol, which means you have to send the electrician to the installation site a second time if they have already left.

### Why do we require a completed test protocol?

A correctly completed test protocol helps us determine the cause of the malfunction on the light and reveal defects that may occur due to the following:

- a) improper wiring of the light at the installation site;
- b) possible damage to individual components;
- c) possible shipment of defective components.

### What advantage do I gain by sending the test protocol?

By helping us determine the cause of a malfunction, your product claim will be processed faster. Moreover, it can eliminate the need to recall a light back to BROKIS, which takes much longer and exposes the glass and other components to the risk of damage during shipping.

This same procedure is used when you send a light back to us. Our specialized technician works with our product claims department to determine the nature of the malfunction by conducting these measurements, which can easily be carried out on your end by a qualified electrician.

### TESTING MUST BE CONDUCTED BY A QUALIFIED ELECTRICIAN ONLY

### RISK OF ELECTRICAL SHOCK! TESTING IS CONDUCTED ON THE LIVE PARTS OF THE LIGHT

- 1) Measuring input voltage to LED driver:** This measurement uses a voltmeter to determine the voltage from the building wiring to the LED driver in the light – see Diagram 1 in the test protocol.
- 2) Measuring output voltage from LED driver:** This measurement uses a voltmeter to determine whether the LED driver in the light is working properly – see Diagram 2 in the test protocol.
- 3) Measuring output voltage from dimmer:** This measurement uses a voltmeter to determine the output voltage of the dimmer – see Diagram 3 in the test protocol.
- 4) Measuring voltage at the light source:** This measurement uses a voltmeter on the light source terminals to determine the voltage at the light source – see Diagram 4 in the test protocol.
- 5) Measuring current at the light source:** This measurement determines the current at the light source by connecting an ammeter to the circuit – see Diagram 5 in the test protocol.

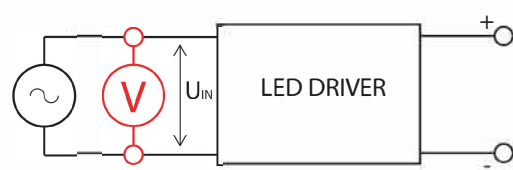
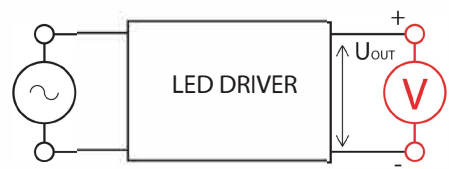
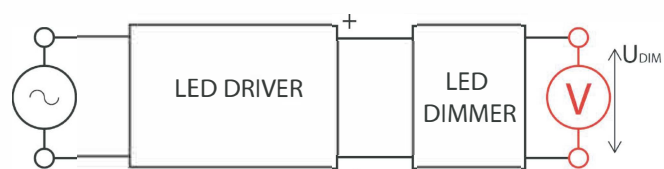
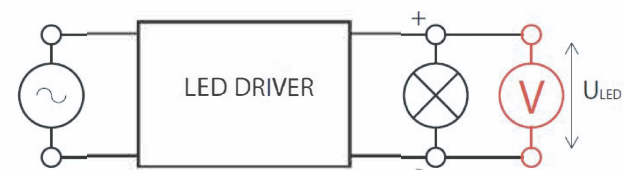
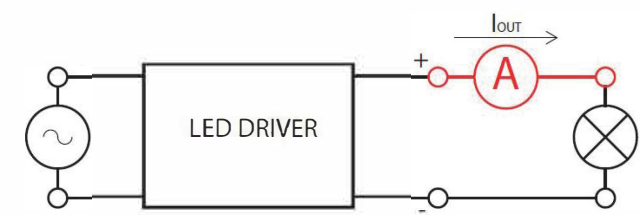
LIGHT TEST PROTOCOL – MEASURED ELECTRICAL VALUES

The light must be switched on for testing!  
Testing must be conducted by a qualified electrician only!

Light type (PC)

Light serial number (ICSCO)

Dimming system

	EXAMPLE	EXISTING MODEL
<b>1) Input voltage (UIN) into voltage/current supply:</b>	<div>230V</div>	<input type="text"/>
		
<b>2) Output voltage (UOUT) from voltage/current supply:</b>	<div>24V</div>	<input type="text"/>
		
<b>3) Output voltage (UDIM) from dimmer:</b> (if the light is equipped with a dimmer)	<div>24V</div>	<input type="text"/>
		
<b>4) Input voltage (ULED) into light source:</b> (measured on light source terminals)	<div>24V</div>	<input type="text"/>
		
<b>5) Input current (IOUT) into light source:</b> (measured at light source)	<div>0,29A</div>	<input type="text"/>
		

**EXPLANATION OF LIGHT TEST PROTOCOL RESULTS**

## 1) Input voltage to power source (LED driver) = 0 V

- switch in off position
- breaker switch in off position
- damaged input wire
- damaged or disconnected power cable terminals
- LED driver short circuit = damaged wire between driver output and dimmer or the light itself (light source)

## 2) Output voltage from power source (LED driver) = 0 V

- damaged power source (LED driver)

## 3) Dimmer output voltage = 0 V

- damaged or disconnected dimmer input terminals
- damaged dimmer
- dimmer is set to zero

## 4) Input voltage to light source (LED module) = 0 V or LED does not light up with voltage in wires

- damaged input wire to light source
- disconnected terminals in light source
- damaged terminals in light source
- reversed polarity on terminals when there is voltage in the wires but the LED does not light up
- damaged light source when there is voltage in the wires but the LED does not light up

## 5) Input voltage to light source (LED module) = 0 V

- damaged input wire to light source
- disconnected terminals in light source
- damaged terminals in light source
- damaged light source