SSL LightTester Product Family

TURN-KEY SYSTEM FOR QUALITY CONTROL OF LIGHTING FIXTURES

Testing parameters:

- ✓ Ground bond (GB)
- ✓ Insulation resistance (IR)
- ✓ Luminous flux (Phi)
- ✓ Color temperature (CCT)
- ✓ Input power (Pin)
- ✓ Power factor (PF)
- ✓ Color rendering index (CRI)
- ✓ Color consistency (SDCM)
- ✓ Photosynthetic photon flux (PPF)
- ✓ Flicker (MI, FI)
- ✓ …

- ✓ Test sequence even < 10 seconds
- ✓ Operator safety: Light curtain integrated
- ✓ Automatic sticker printout
- ✓ DALI dimming test

PRODUCT VARIANTS

Product code	LightTester type	Max DUT size	Max Iv	Rectangular Sample[1]	Non-rectangular Sample[2]	Light Curtain
SSL LT-160.PL	Product Line LightTester 160	1.6m	100 kcd	Yes	No	No
SSL LT-160.PL.E	Product Line LightTester 160 (Extended)	1.6m	500 kcd	Yes	No	No
SSL LT-160.ST	Standalone LightTester 160	1.5m	100 kcd	Yes	Yes	Yes
SSL LT-160.ST.E	Standalone LightTester 160 (Extended)	1.5m	500 kcd	Yes	Yes	Yes
SSL LT-100.ST	Standalone LightTester 100	0.9m	50 kcd	No	Yes	Yes

1) **Rectangular Sample** = Sample holder system based on profiles mostly meant for rectangular lights
2) **Non-rectangular Sample** = Platform for Sample holder system of nonrectangular light sources enables usage of e.g. custom plastic holed plates for down lighs or tube adapter for park lights.

SSL LightTester
Introduction

LightTester product family includes versatile test stations for quality control of luminaires during production. The verification of most important photometric values (Phi, CCT) and mandatory electrical safety (GB, IR) has been integrated into one single test unit. The testing sequence time is even < 10 seconds, so the LightTester products are suitable for 100% testing scheme. The LightTester is delivered as a ready-made package, including everything you need, such as a test station table, test computer with software and measuring equipment.

Included software allows individual pass-fail criteria and measurement parameters for different luminaires. Measured values are stored in a database.

The LightTester can be a stand-alone setup or integrated as a part of the production assembly line.

TEST TABLE
- ✓ Wooden table top
- ✓ Display and keyboard holder
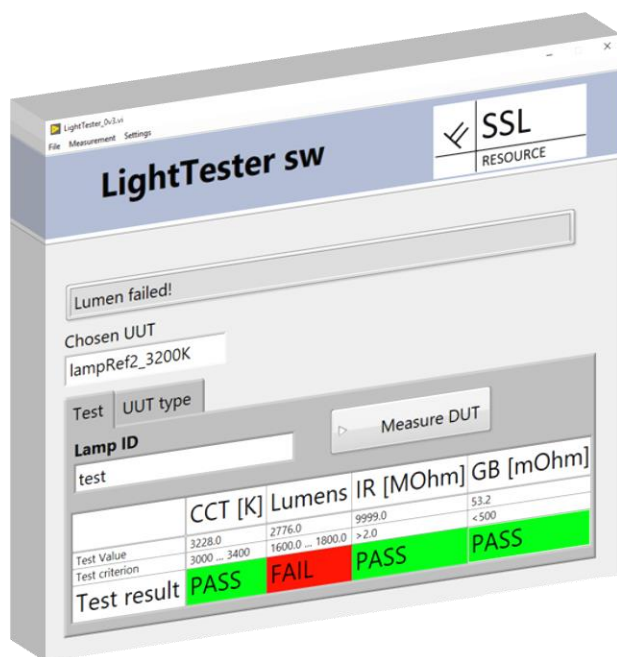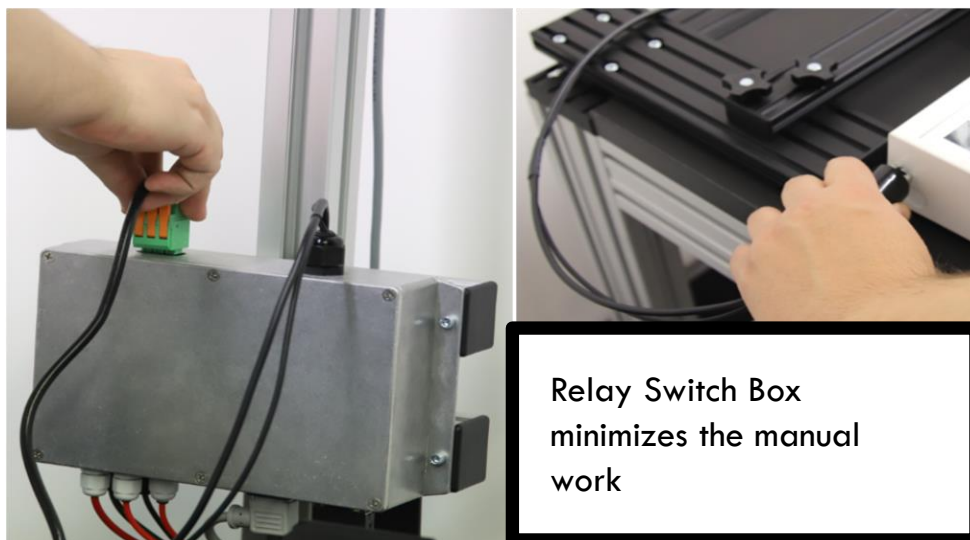- ✓ 19" inch rack integration for DC and AC power supply equipment

TESTING EQUIPMENT
- ✓ IR & GB Safety test equipment
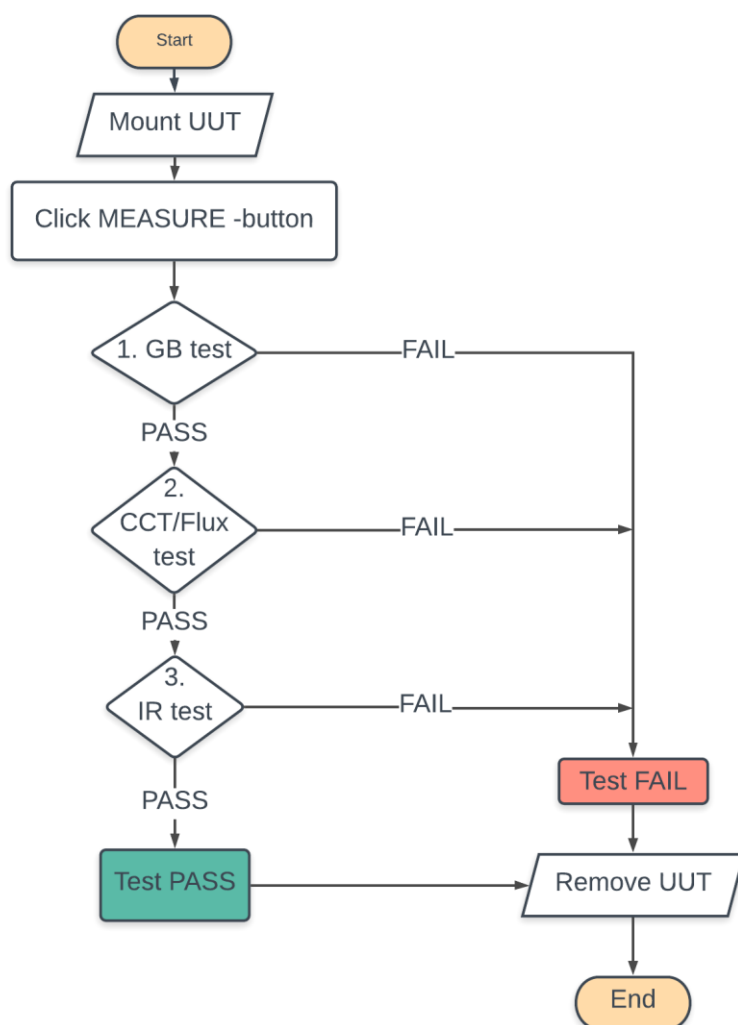- ✓ Tristimulus colorimeter SSL C-400
- ✓ Relay matrix

Optional:
- ✓ Spectroradiometer SPEKTRI 80
- ✓ Luminance camera
- ✓ AC and DC power supply
- ✓ Secondary photometer
- ✓ Sticker printer
- ✓ DALI test

Relay Switch Box minimizes the manual work

LightTester sw

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Lumen failed!

Chosen UUT
lampRef2_3200K

Test | UUT type

Measure DUT

Lamp ID

test

	CCT [K]	Lumens	IR [MOhm]	GB [mOhm]
			9999.0	53.2
Test Value	3228.0	2776.0	>2.0	<500
Test criterion	3000 ... 3400	1600.0 ... 1800.0		
Test result	PASS	FAIL	PASS	PASS

Intuitive user interface. Just click the Measure DUT –button, and the test is ready in 10 seconds (C-400). In case of Spektri 80 testing time is increased and dependent of light level.

Start

Mount UUT

Click MEASURE -button

1. GB test —— FAIL

PASS

2. CCT/Flux test —— FAIL

PASS

3. IR test —— FAIL

PASS

Test PASS

Test FAIL

Remove UUT

End

LightTester sw. Test sequence

LightTesters for Product Assembly Lines

- Two variants: LT-160.PL and LT-160.PL.E
- Long Adjustable Foot for height range of ±65mm
- Special sample holder system based on profiles around the wooden area for different types of Luminaires
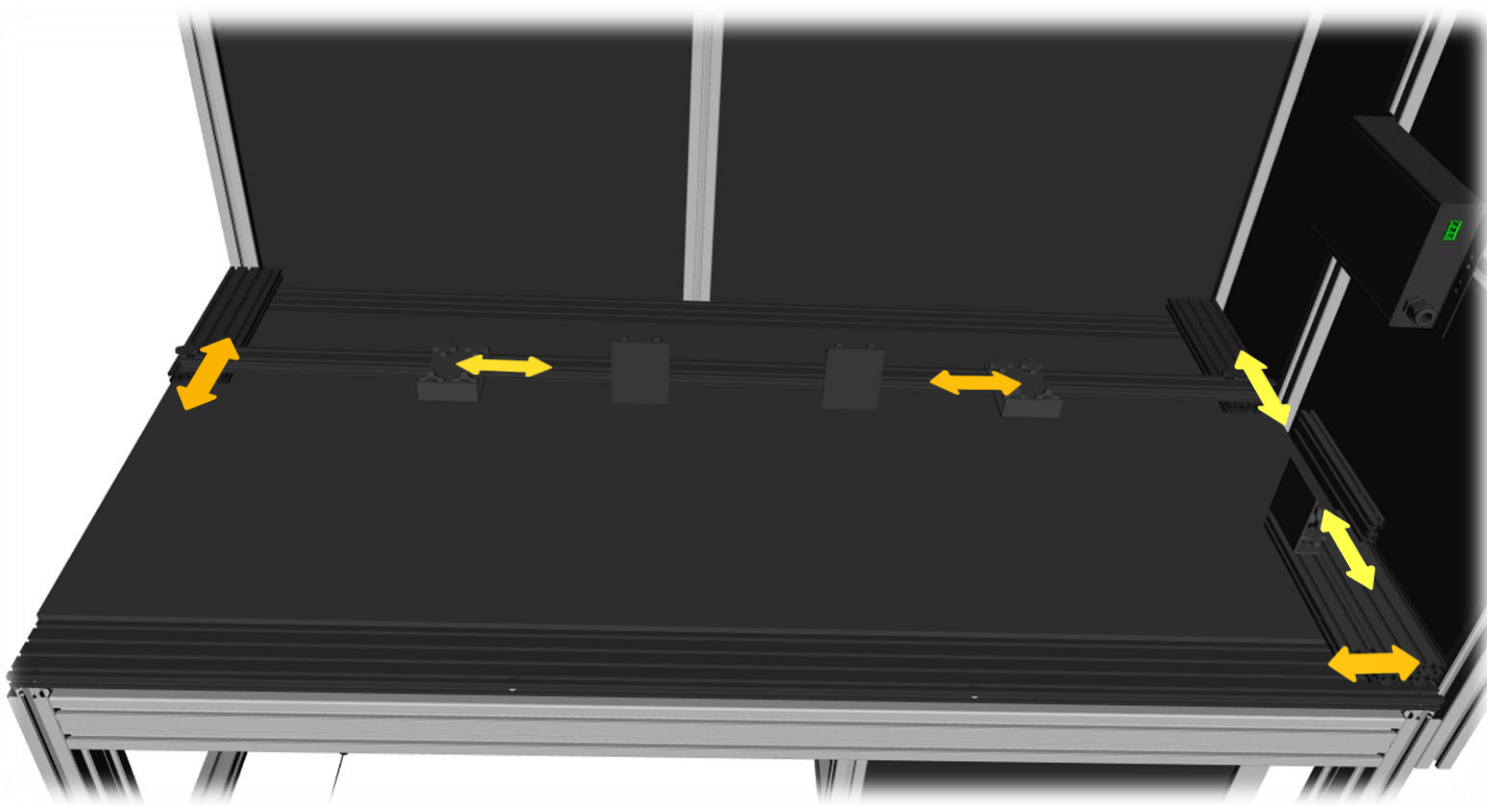- For large lighting fixtures

LT-160.PL.
LightTester
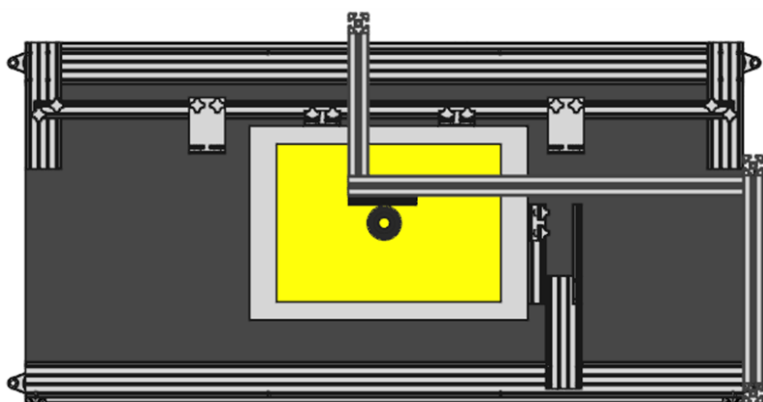
LT-160.PL.E.
Extended LightTester

Integration to an assembly line. The final step in the final assembly of luminaires is often a check of functionality and electrical safety. The LightTesters LT-160.PL and LT-160.PL.E can be fitted to the end of the production line by utilizing its height adjustment of ±6cm. In this way, the luminaire to be tested can be easily transferred to the test table.
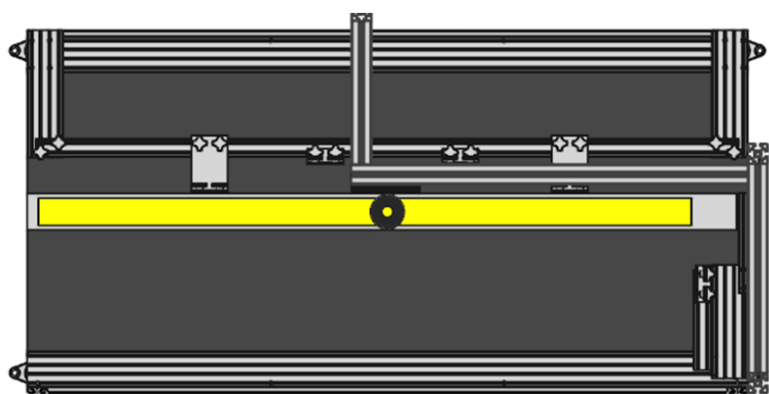
Mounting of different lighting fixtures

Rectangular sample holder. **Different lamp types can be measured using a single LightTester table.**

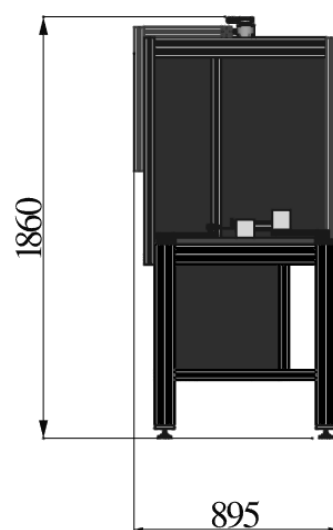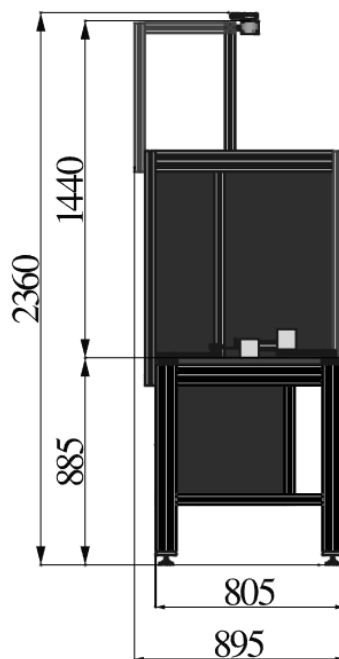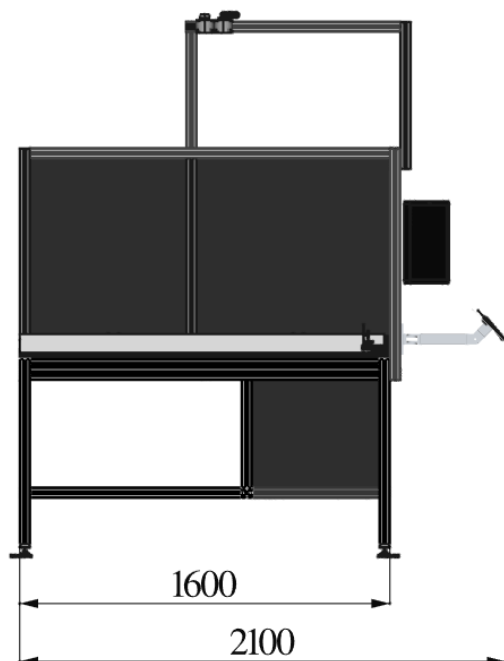**Measurement position of a flood light.**
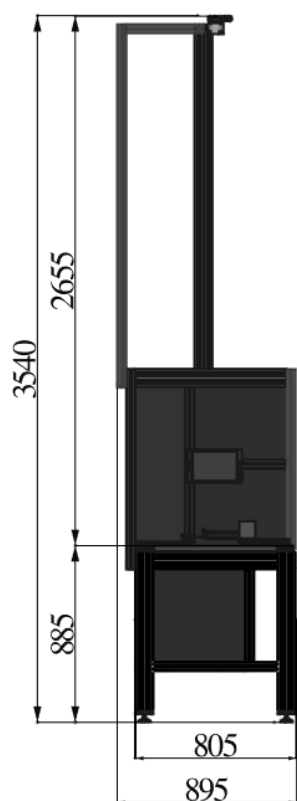

Measurement position of a linear light.

- ❖ Test distance 1.45m
- ❖ Maximum luminaire size: 1.6m x 0.75m
- ❖ For large lighting fixtures with
  - o Beam angle > 60° in the direction of its length axis (when length is appr. 1.5m)
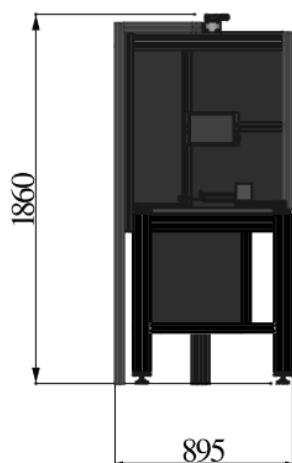 - o luminous intensity < 100 kcd

LT-160.PL. Dimensions.

LT-160.PL.
Transportation dimensions

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LT-160.PL.E. Dimensions.
Adjustable height ±65mm.

LT-160.PL.E.
Transportation dimensions

- ❖ Test distance 2.65m
- ❖ Maximum luminaire size: 1.6m x 0.75m
- ❖ For large lighting fixtures with
  - ○ Beam angle > 20° in the direction of its length axis (when length is appr. 1.5m)
  - ○ luminous intensity < 500 kcd

Light Testers

SSL LT-160.PL	Product Line LightTester 160, GB & IR tester, C-400 (Phi & CCT), SSL Tube-55-42/24. Test distance 1.45m, foot with adjustable height of ±65mm
SSL LT-160.PL.E	Product Line LightTester 160 (Extended), GB & IR tester, C-400 (Phi & CCT), SSL Tube-55-34/18. Test distance 2.65m, foot with adjustable height of ±65mm

Options

SSL LT.S80	S-80.USB spectroradiometer with stray light tube and LightTester sw add-on for measuring SDCM, CRI, PPF.
SSL LT.SP-6	Sticker printer Add-on - printer (600 dpi), pre-cut stickers roll (1500pcs), sw/hw integration
SSL LT.SP-2	Sticker printer Add-on - printer (203 dpi), pre-cut stickers roll (1500pcs), sw/hw integration
SSL LT.SP-custom	Sticker printer customer version
SSL LT.GB	Ground bond tester and related relay switch box upgrade. Replaces GB&IR tester.
SSL LT.Dim-custom	Dimmer test with DALI
SSL-service	First installation and basic training including example measurements on customer site (1 day)

Power meter and power sources

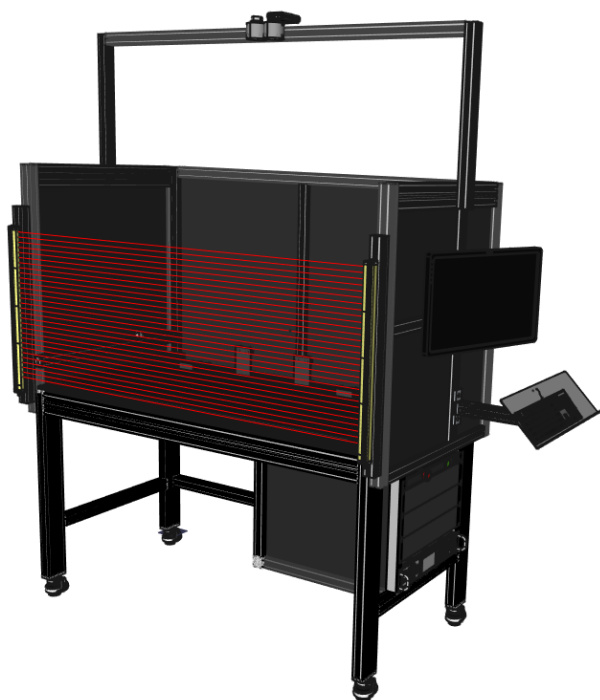|	
SSL LT.ACM-8213	Measurement of input power and power factor in LT software - GW Instek GPM-8213, AC plug adapter, 19" 2U
SSL AC-7050	Measurement of input power and power factor in LT software, stable programmable AC voltage in LT software- GW Instek APS-7050, 500W, 19" 2U
SSL LT.DC-100	Add-on of LightTester sw: Measurement of DC power, voltage and current, programmable DC voltage/current – GW Instek PFR-100, 100W, programmable DC power supply, 19" 1U
SSL LT.DC-750	Add-on of LightTester sw: Measurement of DC power, voltage and current, programmable DC voltage/current - TDK GEN 750W, programmable DC power supply, 19" 1U

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Photometric Testing Efficiency

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Standalone LightTesters

- Two variants: LT-160.ST and LT-160.ST.E
- equipped by castors with built-in locking foot, lift range of 6mm
- Special profile based sample holder system around the wooden area for different types of Luminaires
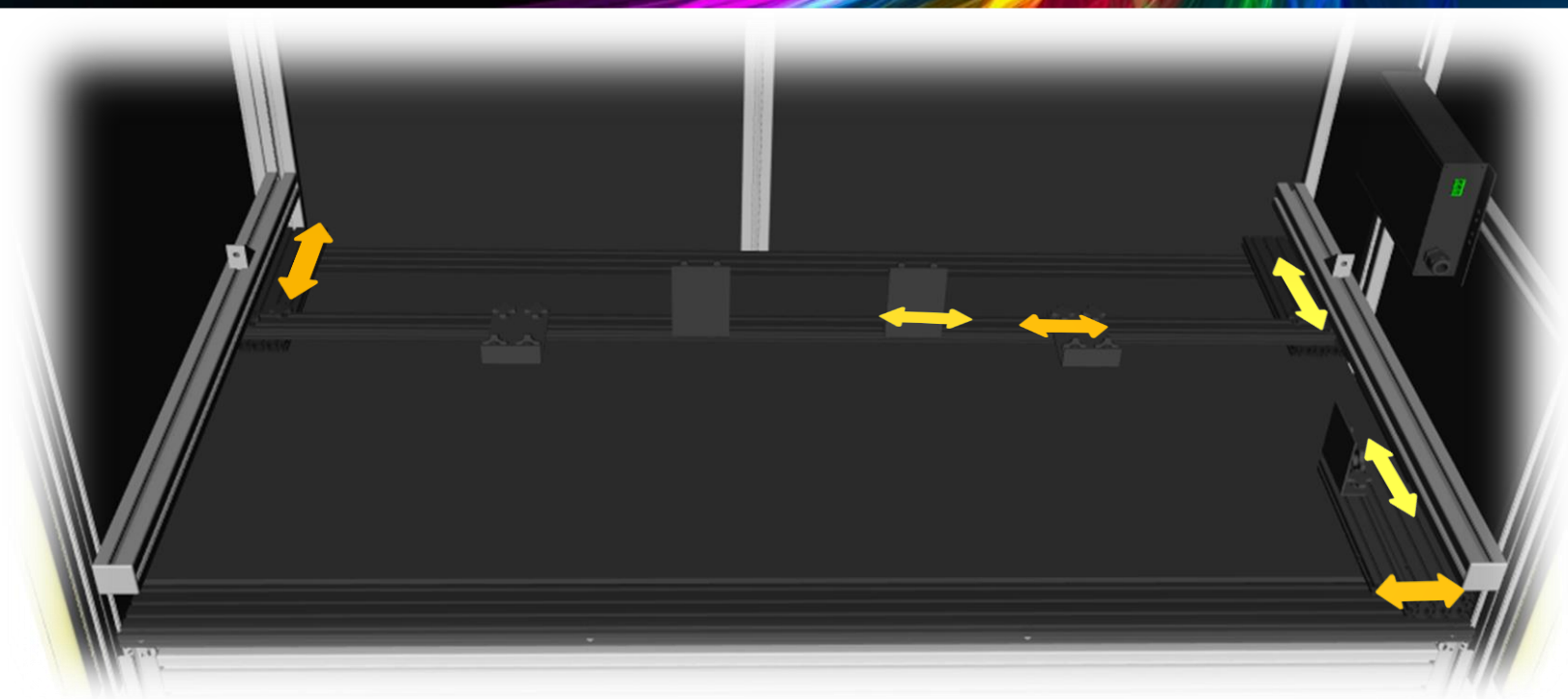- For large lighting fixtures

Features

- ✓ Mobile LightTester table
- ✓ Light Curtain Integrated for operator safety
- ✓ Platform for sample holder of down lights and park lights and other special lights.
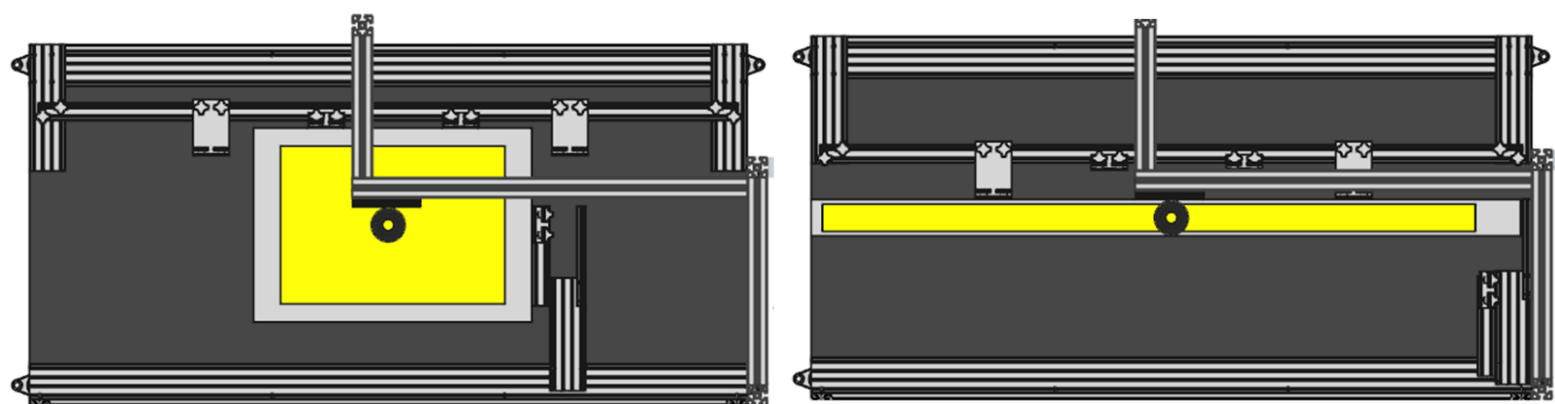
Options

- ✓ Testing of low-power light units when the roof and fabric curtains installed (Light Curtain removed)
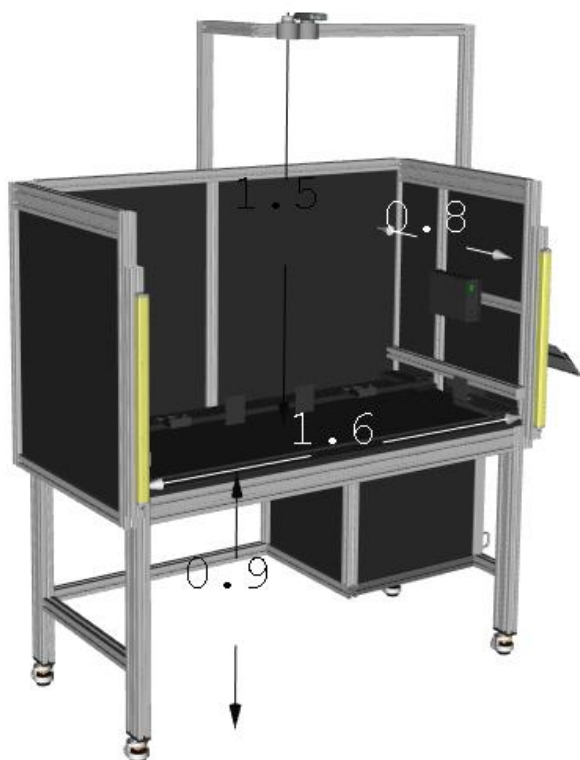
Rectangular sample holder. **Different lamp types can be measured using a single LightTester table.**

Platform for measuring non-rectangular luminaires. **The sample holder can be equipped by custom-sized holed plates for down lights or tube adapter for park-lights**
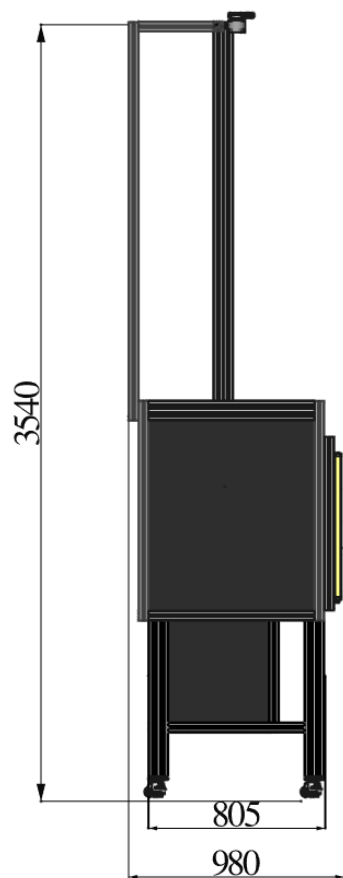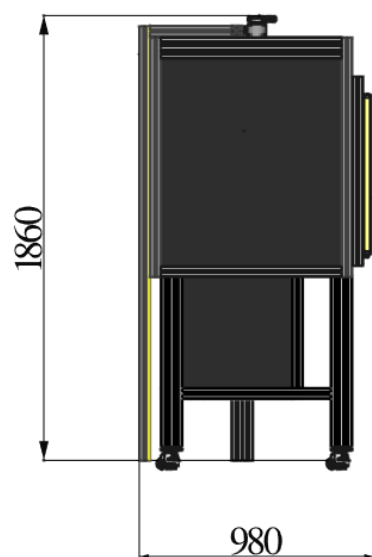
LT-160.ST. Standalone LightTester.

- Test distance 1.45m
- Maximum luminaire size: 1.5m x 0.75m
- For large lighting fixtures with
  o Beam angle > 60° in the direction of its length axis (when length is appr. 1.5m)
  o luminous intensity < 100 kcd

Standalone LightTester 160 (Extended)
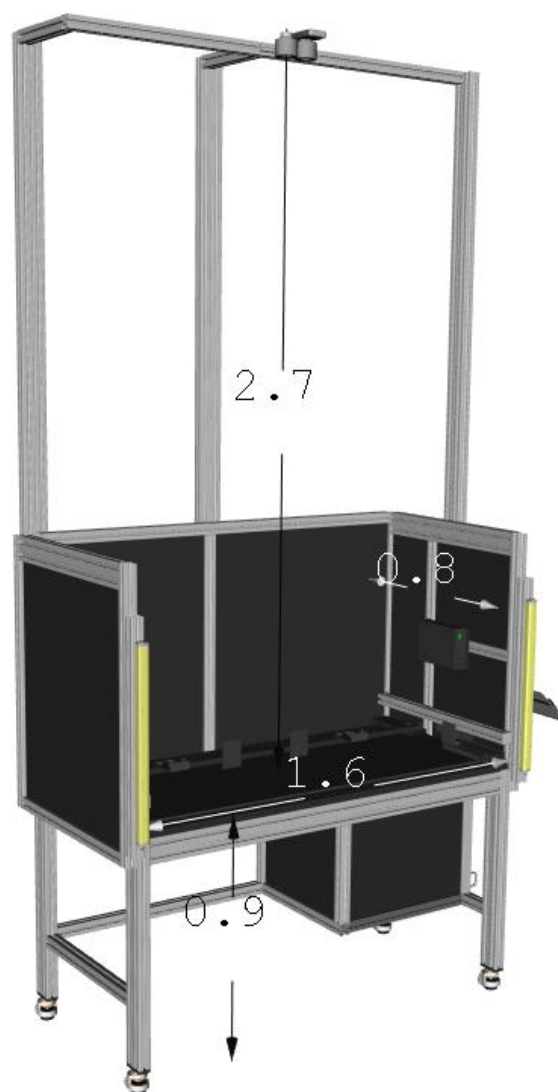# SSL LT-160.ST.E

LT-160.ST.E. Dimensions.

LT-160.ST.E.
Transportation dimensions

LT-160.ST.E. Extended LightTester
- Test distance 2.65m
- For large lighting fixtures with
  - Beam angle > 20° in the direction of its length axis (when the length is around 1.5m)
  - luminous intensity < 500 kcd

Light Testers	
SSL LT-160.ST	Standalone LightTester 160, GB & IR tester, C-400 (Phi & CCT), SSL Tube-55-42/24. Test distance 1.45m, equipped by castors with built-in locking foot, lift range of 6mm, Light curtain integrated
SSL LT-160.ST.E	Standalone LightTester 160 (Extended), GB & IR tester, C-400 (Phi & CCT), SSL Tube-55-34/18. Test distance 2.65m, equipped by castors with built-in locking foot, lift range of 6mm, Light curtain integrated
Options	
SSL LT.S80	S-80.USB spectroradiometer with stray light tube and LightTester sw add-on for measuring CRI, PPF, or wavelength
SSL LT.SP-6	Sticker printer Add-on - printer (600 dpi), pre-cut stickers roll (1500pcs), sw/hw integration
SSL LT.SP-2	Sticker printer Add-on - printer (203 dpi), pre-cut stickers roll (1500pcs), sw/hw integration
SSL LT.SP-custom	Sticker printer customer version
SSL LT-160.ST.CC	Fully closed test table chamber (fabric curtains in front and roof)
SSL LT.GB	Ground bond tester and related relay switch box upgrade. Replaces GB&IR tester.
SSL LT.Dim-custom	Dimmer test with DALI, 0 -10V, triac or Manual dimmer test
SSL-service	First installation and basic training including example measurements on customer site (1 day)
Power meter and power sources	
SSL LT.ACM-8213	Measurement of input power and power factor in LT software - GW Instek GPM-8213, AC plug adapter, 19" 2U
SSL AC-7050	Measurement of input power and power factor in LT software, stable programmable AC voltage in LT software - GW Instek APS-7050, 500W, 19" 2U
SSL LT.DC-100	Add-on of LightTester sw: Measurement of DC power, voltage and current, programmable DC voltage/current – GW Instek PFR-100, 100W, programmable DC power supply, 19" 1U
SSL LT.DC-750	Add-on of LightTester sw: Measurement of DC power, voltage and current, programmable DC voltage/current - TDK GEN 750W, programmable DC power supply, 19" 1U

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Standalone LightTester 100

TURN-KEY SYSTEM for QUALITY CONTROL of SMALL LUMINAIRES and LAMPS

✓ Ground bond (GB) and Insulation resistance (IR)

✓ Luminous flux, Color temperature (CCT)

Features:

✓ Test sequence < 10 seconds

✓ Operator safety: Light curtain integrated

✓ Automatic sticker printout

✓ DALI linearity check

Additional parameters:

✓ Safety Test: AC/DC HiPot

✓ CRI, SDCM, Spectrum, Wavelength, PPFD

✓ Flicker

✓ Input power, Voltage, Current, Power factor, Surge current

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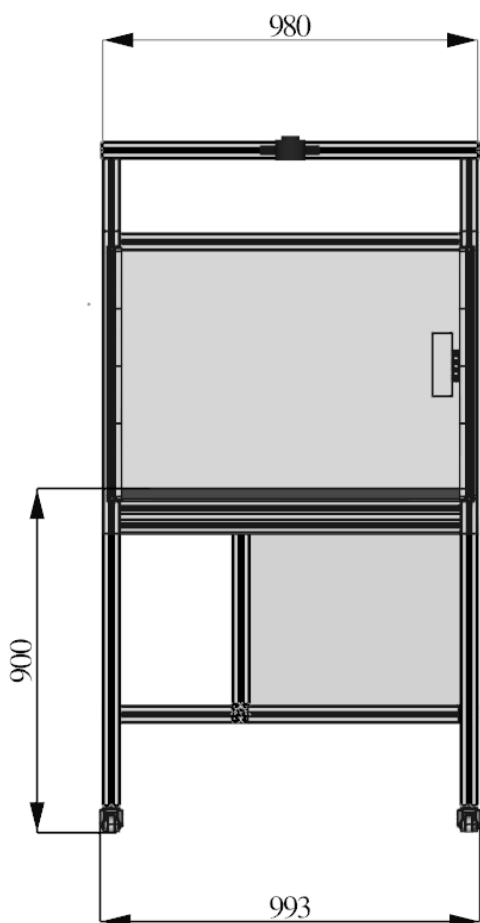Photometric Testing Efficiency

TEST TABLE

- ✓ Wooden table top
- ✓ Display and keyboard holder
- ✓ 19" inch rack integration for DC and AC power supply equipment
- ✓ Mounting adapters for down-lights, park-lights etc.

TESTING EQUIPMENT

- ✓ IR & GB Safety test equipment
- ✓ Tristimulus colorimeter SSL C-400

Optional:

- ✓ Spectroradiometer SPEKTRI 80
- ✓ Luminance camera for checking individual LEDs / Luminance
- ✓ AC and DC power supply
- ✓ 4 in 1 tester for AC/DC Hipot
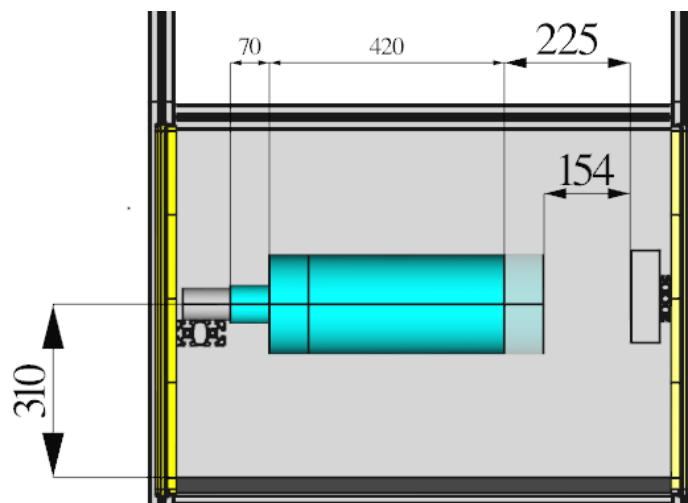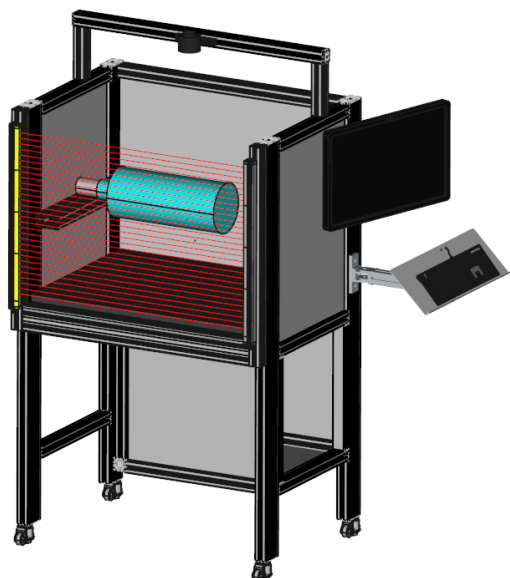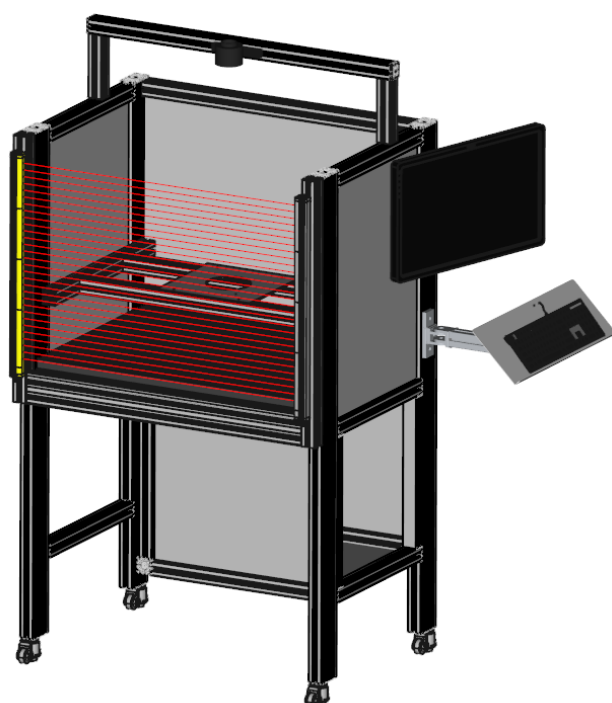
TESTING OF PARK LIGHTS

Fig. Mounting space for park-lights

TESTING OF DOWN /LINEAR LIGHTS

- ✓ Platform with changeable plastic plates for different sizes of downlights

- ✓ Adjustment mounts for linear lights

Light Testers	
SSL LT-100.ST	Standalone LightTester 100, GB & IR tester, C-400 (Phi & CCT), SSL Tube-55-42/24. Test distance 1.45m, equipped by castors with built-in locking foot, lift range of 6mm, Light curtain integrated
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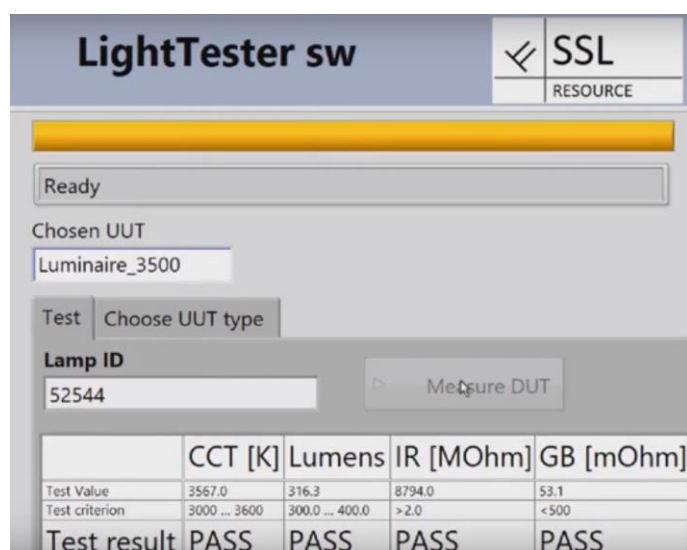**Engineer view:** Adjustment of Pass/Fail tolerances of the chosen lamp type.

Engineer view: Adding a new lamp type.

1. Open the LDT file of the reference lamp by "Load LDT" button.
2. Mount the reference lamp onto the test table using the alignment angles.
3. Click "Measure lux" –button.
   a) Stability of lamp is being monitored.
   b) When ready, the measurement of the reference sample lamp is measured.
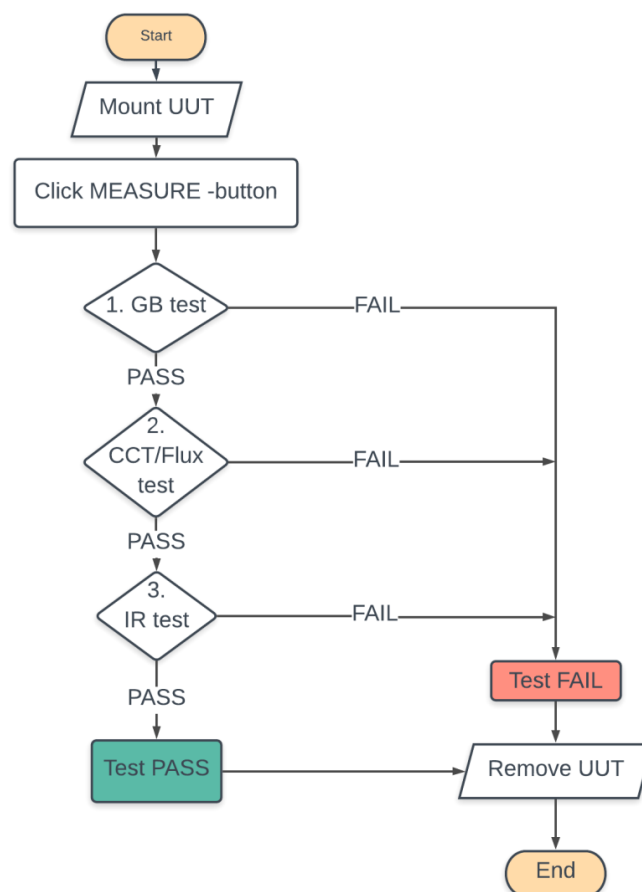   c) lm/lx factor is determined and saved in the database.

Operator view: Choose the lamp type, when the lamp type in the production is changed.

Operator view: Click Measure DUT, when the lamp is mounted onto the test table. After this, the test is processed in 10 seconds.

LightTester sw. Test sequence