

SSL LightTester Product Family

TURN-KEY SYSTEM FOR QUALITY CONTROL OF LIGHTING FIXTURES



SSL LightTester

Introduction

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.PLE	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	Yes	Yes	Yes
SSL LT-280.ST	Standalone LightTester 280	2.7m	500 kcd	Yes	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 lights or tube adapter for park lights.

SSL LightTester Introduction

TESTING PARAMETERS

- ✓ Ground bond (GB)
- ✓ Insulation resistance (IR)
- ✓ Luminous flux (Phi)
- ✓ Color temperature (CCT)
- ✓ Electrical parameters (Pin, Vf, If, PF)
- ✓ Color rendering index (CRI)
- ✓ Color consistency (SDCM)
- ✓ Photosynthetic photon flux (PPF) in different wavelength regions
- ✓ Flicker (MI, FI)
- ✓ Dimming (DALI, 0-10V, Manual)
- ✓ ...

CONTROLS

- ✓ Integrated Type label editor
- ✓ Sticker printer for Type labels
- ✓ Serial number
- ✓ Project specific database
- ✓ DC / AC power sources / Dimming
- ✓ Operator safety through the light curtains



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
- ✓ Spectroradiometer SPEKTRI 80
- ✓ SafetyPlexer

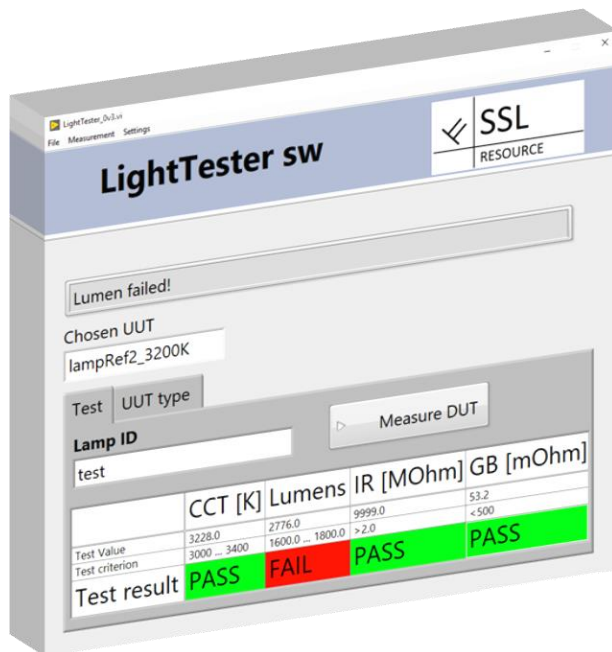
Optional:

- ✓ Spectroradiometer S-680
- ✓ Tristimulus colorimeter C-400
- ✓ Luminance camera
- ✓ Flicker photometer
- ✓ AC and DC power supply
- ✓ Sticker printer
- ✓ DALI test

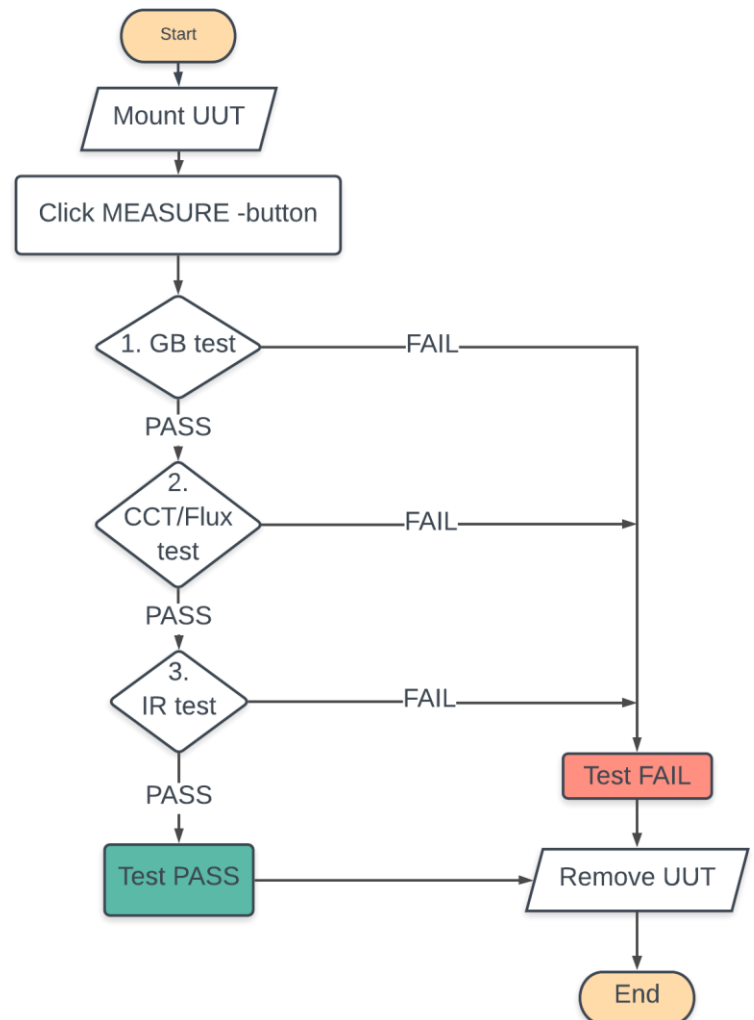
SSL LightTester - Testing process



Connect the cable to SSL SafetyPlexer and ground wire to DUT.



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 may be increased dependent on light level.



LightTester sw. Test sequence

SSL LightTester –sw

- Engineer view (Password required)

Set Criteria

	Luminaire	Warmup [ms]	Ln/Lx	min CCT [K]	max CCT [K]	min Flux [lm]	max Flux [lm]	max GB [mOhm]	min IR [MOhm]	min Ra	max Ra	max SDCM	min PPF-UV [umol/s]	max PPF-UV [umol/s]	min PPF-B [umol/s]	max PPF-B [umol/s]	min [um]
1: Dim-1kpl	Dim-1kpl	1000	1														
2: a	a	0	0														
3: ggh	ggh	1000	1														
4: acPoltin	acPoltin	1000	1	2700	2800	600	700										
5: AC lamp2	AC lamp2	1919	12.56745	2700	2800	900	1100			70	90						
6: AC Lamp2 lin-DIM	AC Lamp2 lin-DIM	1637	0.3	2700	2800	900	1100		2	70	90						
7: OSram_800mA	OSram_800mA	2403	0.122325	2700	2800	900	1100			70	90						
8: lamp2	lamp2	1546	0.00003	2700	2800	900	1100		2	70	90	6	100			200	
9: OSram7LED_700mA	OSram7LED_700mA	2402	5.460625	2700	2800	900	1100			70	90						
10: OSramOslo7LED	OSramOslo7LED	2404	5.998471	2700	2800	900	1100		2	70	90						
11: lamp24V	lamp24V	0	0	2700													
12: dclamppu-1A	dclamppu-1A	0	0	2700	5000	500	10000			70							
13: acc	acc	0	0	2500	3000	650	1050	500	2	80	85						

Save & Close Cancel & Close Add row Delete row Recalib

Engineer view: Adjustment of Pass/Fail tolerances of the chosen lamp type.

Setup Calibration by reference light source

Add new lamp type

Load LDT

Load spectral file .txt

Load Spectral file .csv

Lamp type

Measure lux of the reference lamp

Lamp delay [ms] 2

2403

lm-to-lx factor

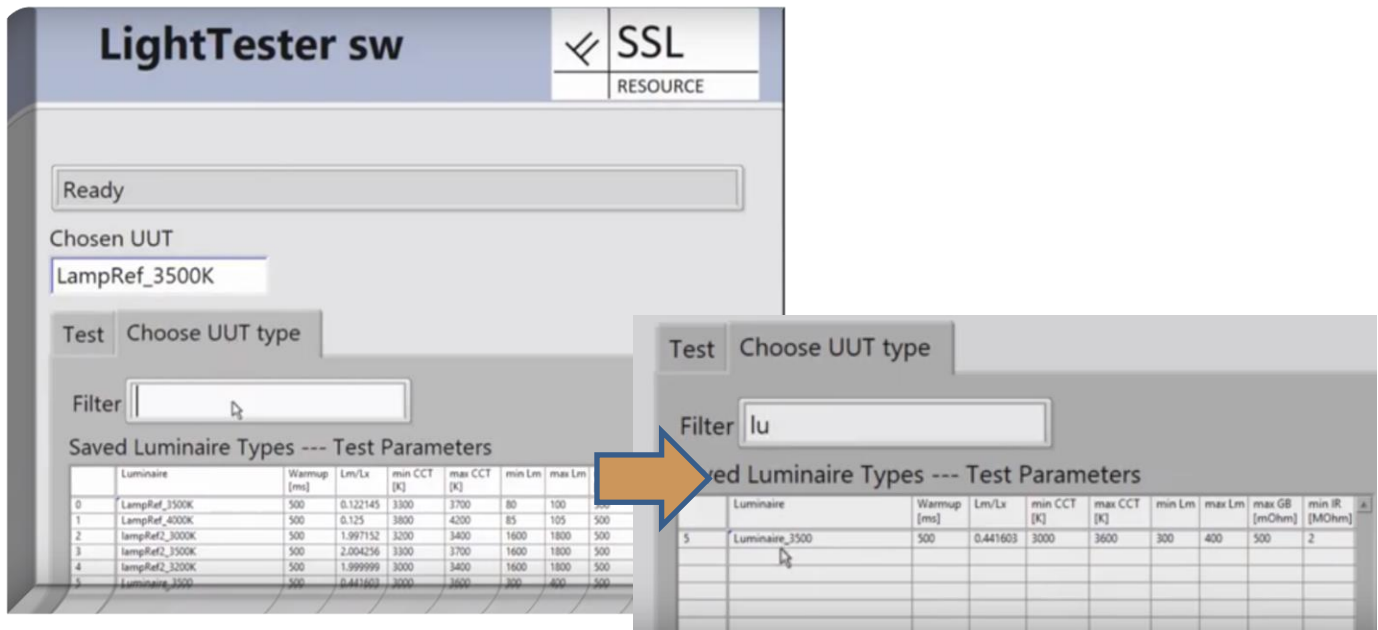
0

Add lamp & Close Cancel & Close Settings

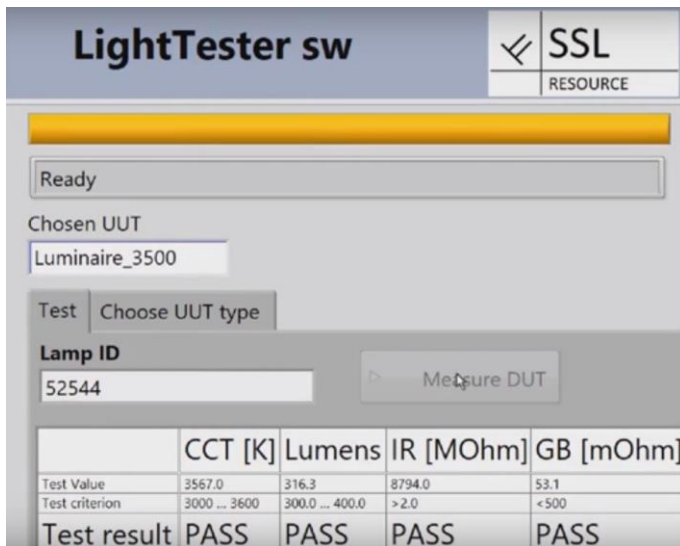
Engineer view: Adding a new lamp type.

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

SSL LightTester –sw - Operator view



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.

Product Line

LightTester 160

LightTesters for Product Assembly Lines

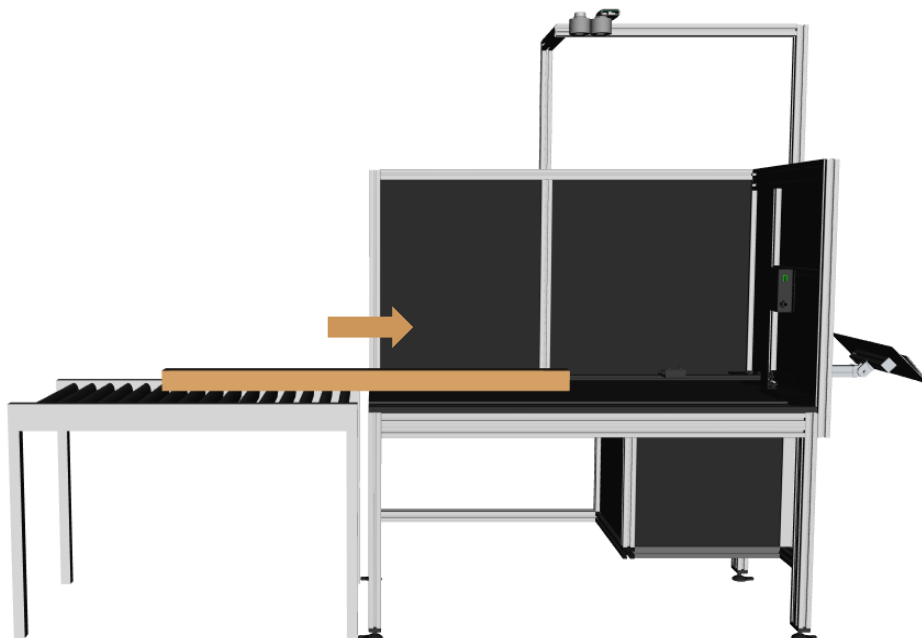
- Two variants: LT-160.PL and LT-160.PL.E
- Long Adjustable Foot for height range of $\pm 65\text{mm}$
- Special sample holder system based on profiles around the wooden area for different types of Luminaires
- For large lighting fixtures



LT-160.PL.
LightTester



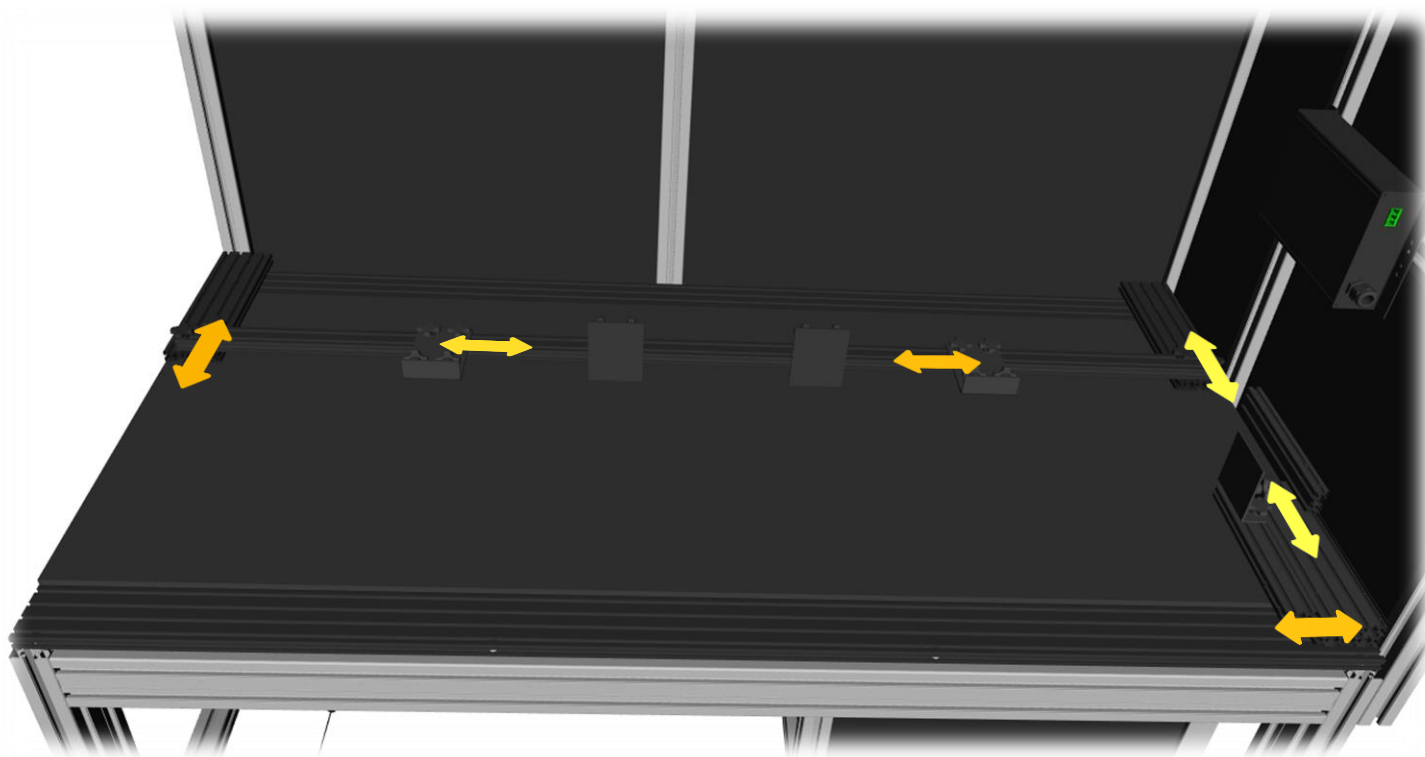
LT-160.PL.E.
Extended LightTester



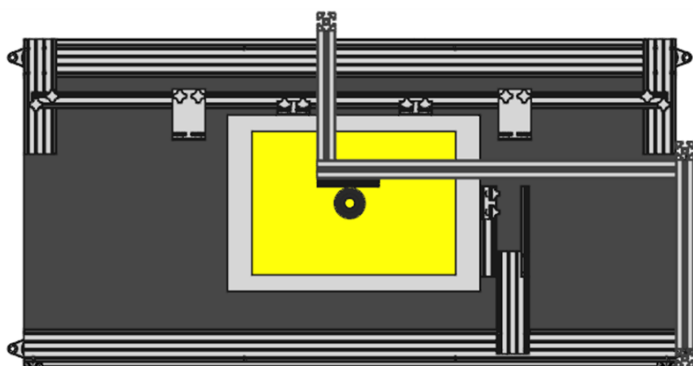
Integration to an assembly line. The final step in the final assembly of luminaires is often a check of functionality and electrical safety. The LightTesters LT-160.PL and LT-160.PL.E can be fitted to the end of the production line by utilizing its height adjustment of $\pm 6\text{cm}$. In this way,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

Product Line LightTester 160

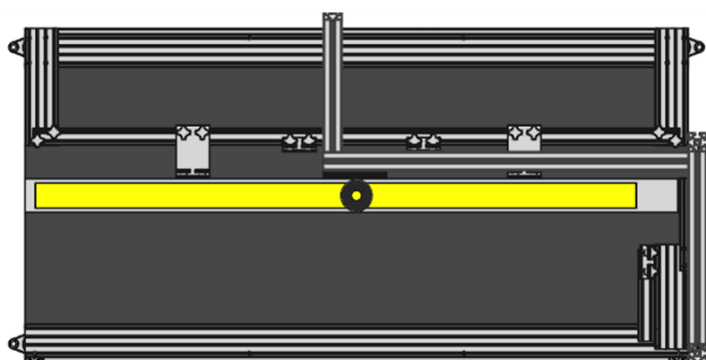
Mounting of different lighting fixtures



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



Measurement position of a flood light.



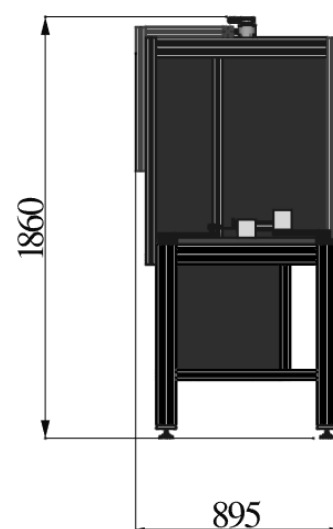
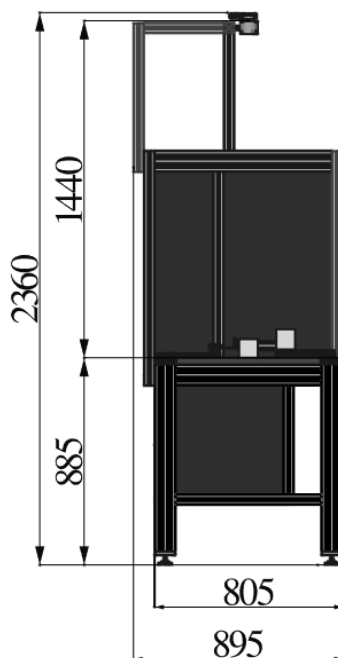
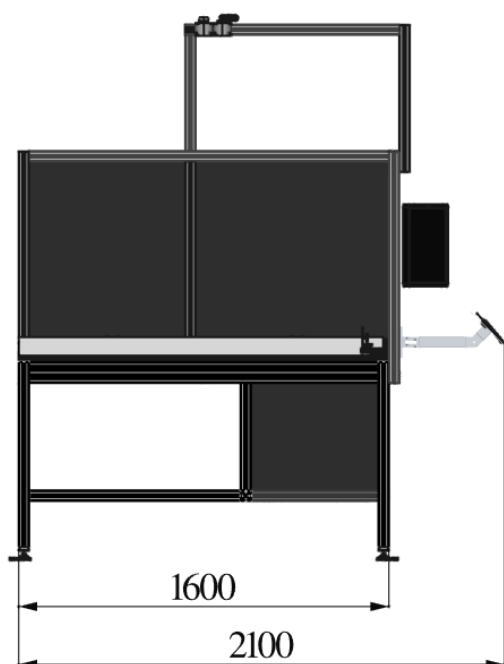
Measurement position of a linear light.

Product Line LightTester 160

SSL LT-160.PL



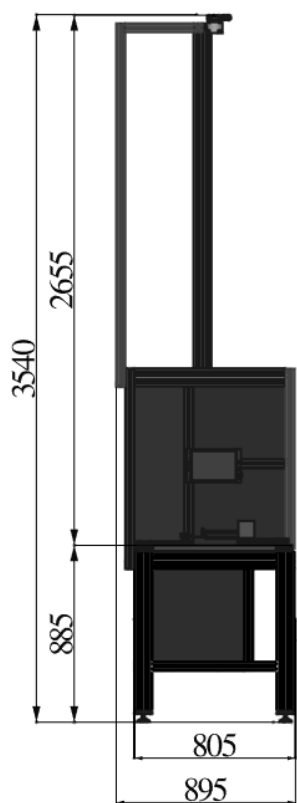
- ❖ Test distance 1.45m
- ❖ Maximum luminaire size: 1.6m x 0.75m
- ❖ For large lighting fixtures with
 - Beam angle $> 60^\circ$ in the direction of its length axis (when length is $\sim 1.5\text{m}$)
 - luminous intensity $< 100\text{ kcd}$



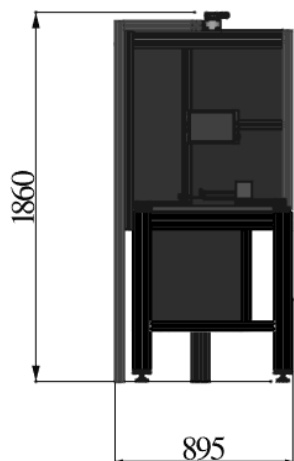
LT-160.PL.
Transportation dimensions

LT-160.PL. Dimensions.

Product Line LightTester 160 (Extended) SSL LT-160.PL.E



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



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 $> 20^\circ$ in the direction of its length axis (when length is appr. 1.5m)
 - luminous intensity < 500 kcd



Standalone LightTester 160



Standalone LightTesters

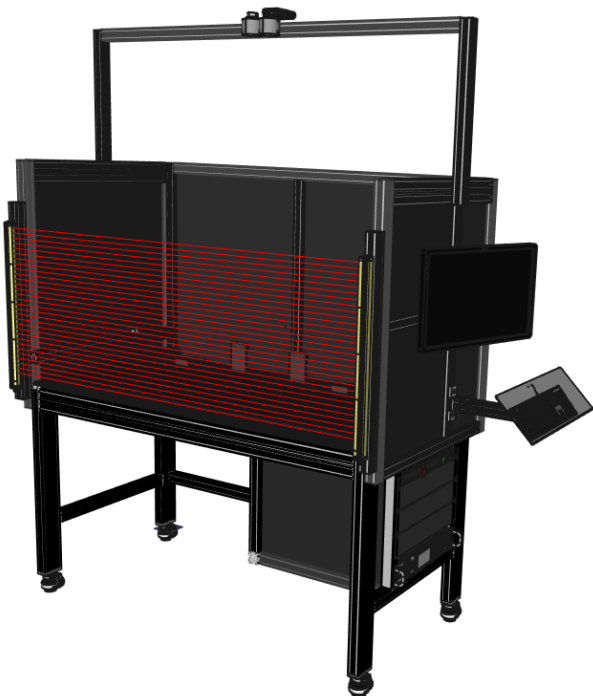
- Two variants: LT-160.ST and LT-160.ST.E
- equipped by castors with built-in locking foot, lift range of 6mm
- Special profile based sample holder system around the wooden area for different types of Luminaires
- For large lighting fixtures

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)



Standalone LightTester 160

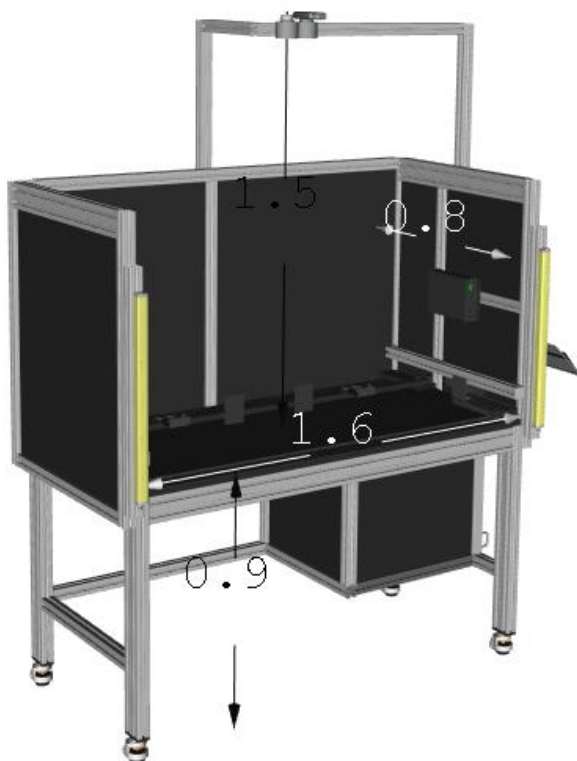
SSL LT-160.ST

Mounting of luminaires



Platform for mounting luminaires. **The sample holder can be equipped by custom-sized holed plates for down lights or luminaire-specific jigs for linear lights**

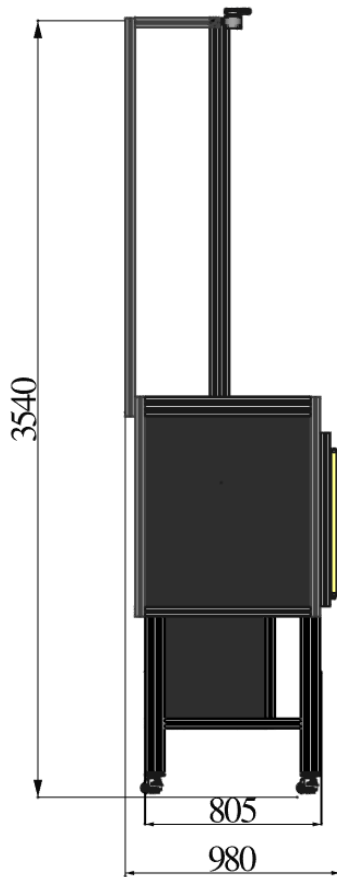
SSL LT-160.ST



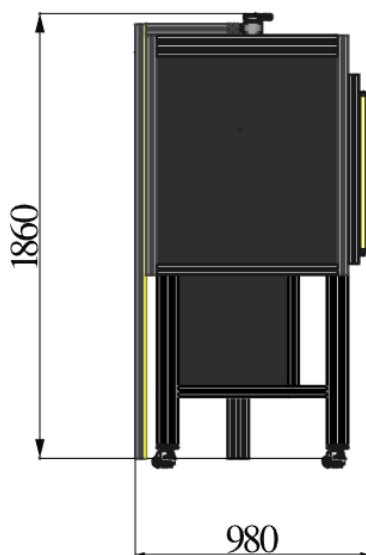
LT-160.ST. Standalone LightTester.

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

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



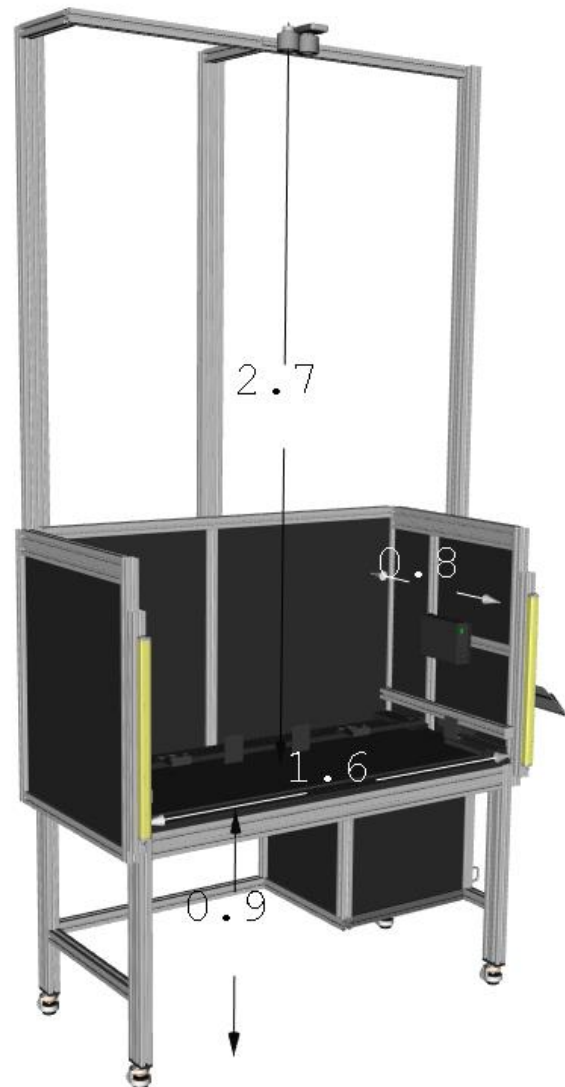
LT-160.ST.E. Dimensions.



LT-160.ST.E.
Transportation dimensions

LT-160.ST.E. Extended LightTester

- ❖ Test distance 2.65m
- ❖ Maximum luminaire size: 1.5m x 0.75m
- ❖ For large lighting fixtures with
 - Beam angle $> 20^\circ$ in the direction of its length axis (when the length is around 1.5m)
 - luminous intensity < 500 kcd



Standalone LightTester 100

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



LT-100.ST. Standalone LightTester.

- ❖ Test distance 0.8m
- ❖ Size 1 m x 0.7m x 1.82m (height)
- ❖ Maximum luminaire size: 0.9m x 0.6m
- ❖ For large lighting fixtures with
 - Beam angle $> 60^\circ$ in the direction of its length axis (length $\sim 0.9\text{m}$)
 - Luminous intensity $< 50 \text{ kcd}$

LightTester 100

TESTING OF PARK LIGHTS

- ✓ Mounting adapter for park lights with 60mm tube mount
- ✓ Easy and repeatable mounting

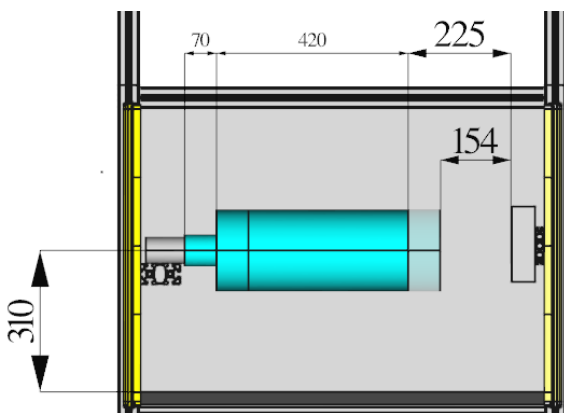
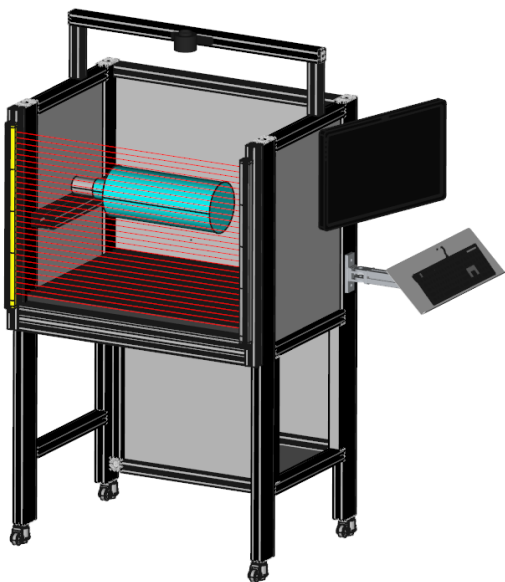
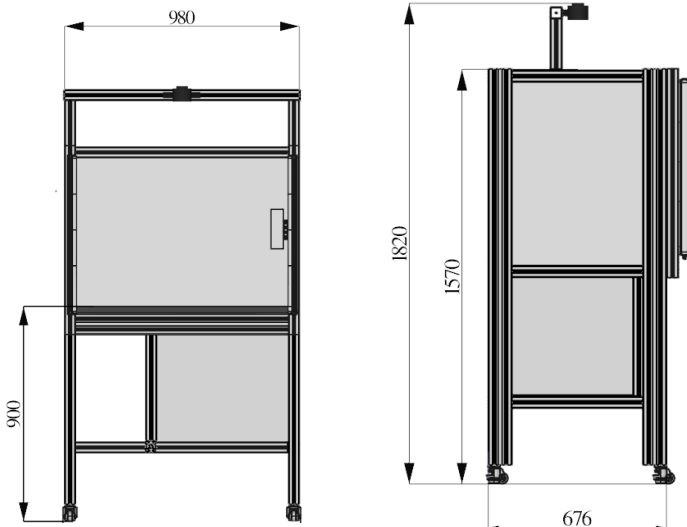
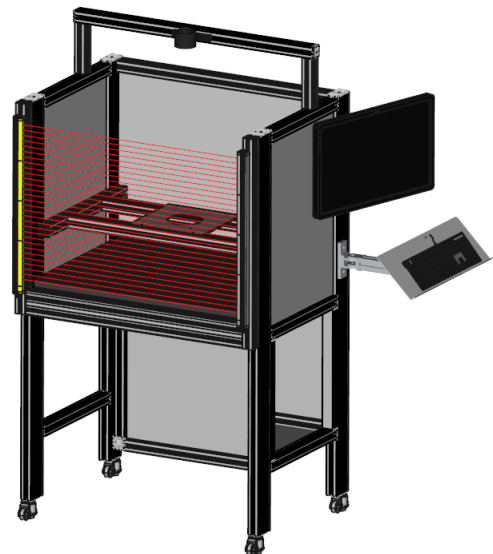


Fig. Mounting space for park-lights

TESTING OF DOWN /LINEAR LIGHTS

- ✓ Platform with changeable plastic plates for different sizes of downlights
- ✓ Adjustment mounts for linear lights



Standalone LightTester 280 SSL LT-280.ST

TURN-KEY SYSTEM for QUALITY CONTROL of up to VERY LONG LUMINAIRES



LT-280.ST. Standalone LightTester.

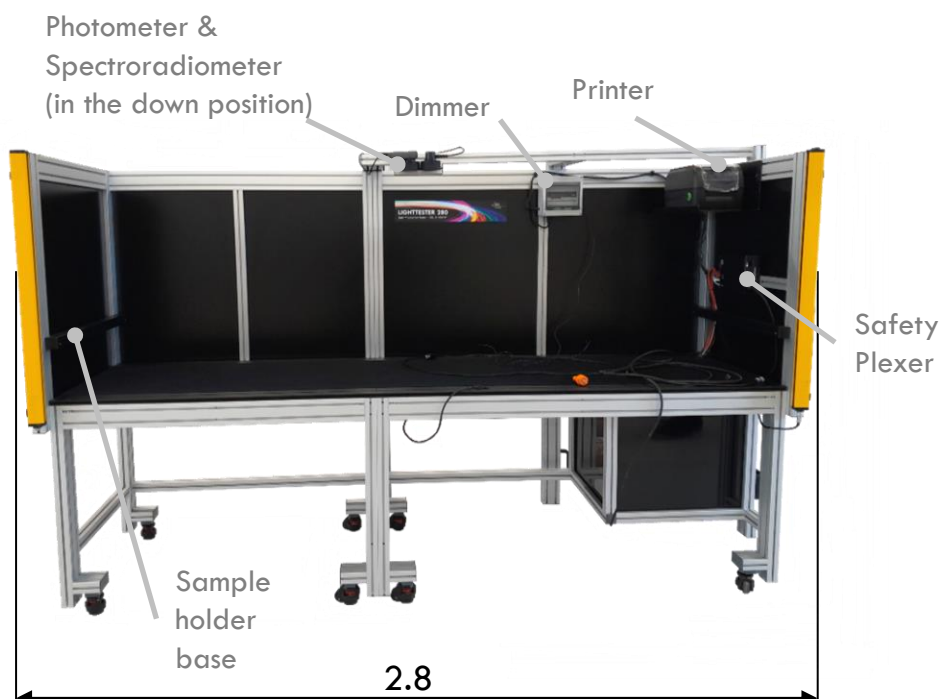
- ❖ Test distance 2.65m
- ❖ Maximum luminaire size: 2.7 x 0.75m
- ❖ For large lighting fixtures with
 - Beam angle $> 20^\circ$ in the direction of its length axis (length $\sim 1.5\text{m}$)
- ❖ For very long linear lighting fixtures with
 - Beam angle $> 60^\circ$ in the direction of its length axis (length $\sim 2.6\text{m}$)

Standalone LightTester 280

SSL LT-280.ST

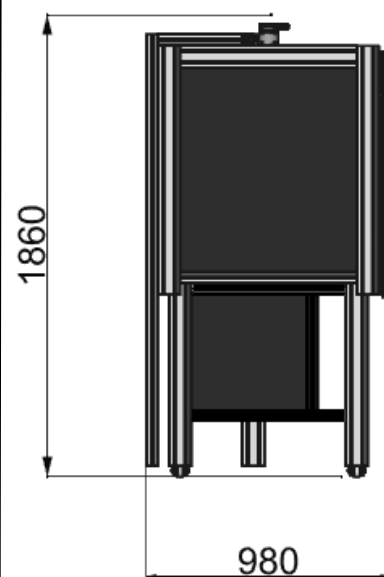
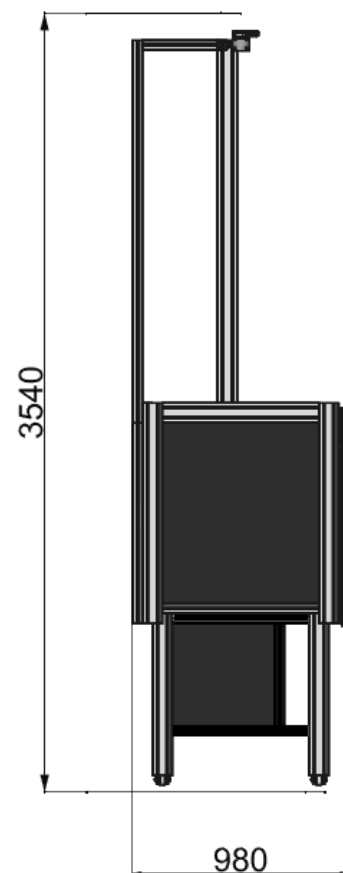
Long LightTester

- 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 very long and 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.
- ✓ Two separate table attached together for easier moving.



LT-280.ST. Transportation dimensions

ORDERING Information - LightTester

Light Testers

SSL LT-160.PL	Product Line LightTester 160, GB & IR tester, S-80, Tube-55-42/24. Test distance 1.45m, foot with adjustable height of $\pm 65\text{mm}$
SSL LT-160.PLE	Product Line LightTester 160 (Extended), GB & IR tester, S-80, Tube-55-34/18. Test distance 2.65m, foot with adjustable height of $\pm 65\text{mm}$
SSL LT-100.ST	Standalone LightTester 100, GB & IR tester, S-80, Tube-55-42/24. Test distance 0.8m, equipped by castors with built-in locking foot, lift range of 6mm, Light curtain integrated
SSL LT-160.ST	Standalone LightTester 160, GB & IR tester, S-80, 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, S-80, Tube-55-34/18. Test distance 2.65m, equipped by castors with built-in locking foot, lift range of 6mm, Light curtain integrated
SSL LT-280.ST	Standalone LightTester 280, GB & IR tester, S-80, Tube-55-42/24. Test distance 2.65m, equipped by castors with built-in locking foot, lift range of 6mm, Light curtain integrated.

Options

SSL LT.L50	L-50 & LH22.2-f10, Photometer with stray light tube and LightTester sw add-on for measuring low lights levels, and flicker
SSL LT.C400	C-400 & CH22-3 Tristimulus colorimeter with stray light tube and LightTester sw add-on for measuring low lights levels, flicker parameters, CCT.
SSL LT.S680	S-680.VRW 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 with Type Label editor sw add-on.
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



SSL Resource - Contact information



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