OPTO ENGINEERING
THE TELECENTRIC COMPANY

LTSP SERIES

LED spot illuminators

LT SP focusable Spot LED illuminators are among the most advanced products in the field of imaging illumination.
Developed by means of Opto Engineering's expertise in the field of show lighting, LT SP illuminators can generate incredibily bright, homogeneus and sharp light spots.

Once the illuminator is positioned, the focus can be adjusted in order to obtain a very evenly illuminated spot with a very sharp circular edge.

Built-in micro-switching electronics ensures an active control of illumination stabiity and current limitation; the LED source and electronics can be easily replaced or interchanged by the user.

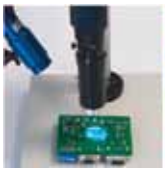
UV and versions available IR

part number	light color, wavelenght peak	Illuminance (Irradiance) @ 100 mm	Illuminance (Irradiance) @ 200 mm	Illuminance (Irradiance) @ 300 mm
1W type VIS SPOT ILLUMINATORS				
LTSP36/R	red, 630 nm	8 klux	2 klux	1 klux
LTSP36/G	green, 520 nm	10 klux	3 klux	1,5 klux
LTSP36/B	blue, 460 nm	5 klux	1 klux	0,5 klux
LTSP36/W	white	9 klux	2klux	1 klux
3W type VIS SPOT ILLUMINATORS				
LTSP3W/R	red, 630 nm	17 klux	5 klux	2 kluk
LTSP3W/G	green, 520 nm	23 klux	7 klux	3 klux
LTSP3W/B	blue, 460 nm	11 klux	2 klux	1 klux
LTSP3W/W	white	24 klux	6 klux	3 klux
IR SPOT ILLUMINATORS				
LTSP36/IR890	IR, 890 nm	7,6 mW/cm^2	1,8 mW/cm^2	0,8 mW/cm^2
LTSP36/IR940	IR, 940 nm	7,6 mW/cm^2	1,8 mW/cm^2	0,8 mW/cm^2
UV SPOT ILLUMINATORS				
LTSP36/UV365	UV, 365 nm	1,6 mW/cm^2	0,4 mW/cm^2	0,2 mW/cm^2
LTSP36/UV385	UV, 385 nm	4,8 mW/cm^2	1,2 mW/cm^2	0,5 mW/cm^2
LTSP36/UV405	UV, 405 nm	6,7 mW/cm^2	1,7 mW/cm^2	0,7 mW/cm^2

KEY ADVANTAGES

1. **Superior illuminance homogeneity.**
2. **High target illuminance.**
3. **Precise lighting of the targeted area.**
4. **Long distance spot projection.**

Succesful applications


Industrial Microscopy Illumination

Inclusions in glass and liquids

Print and colour measurement

Fluorescence imaging

Labels and Barcode reading

Surface defects enhancement

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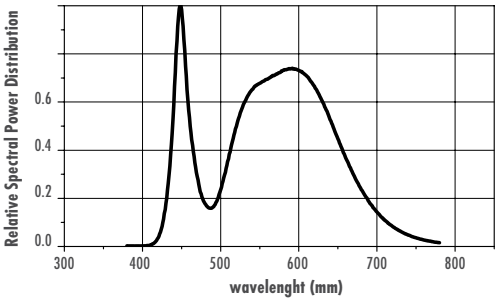
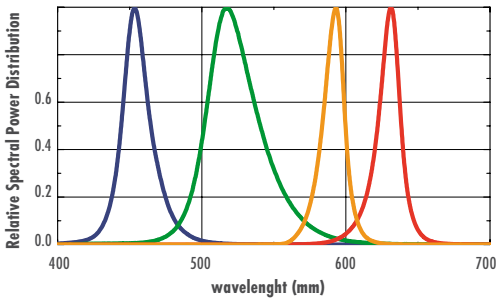
LED Typical Spectrum



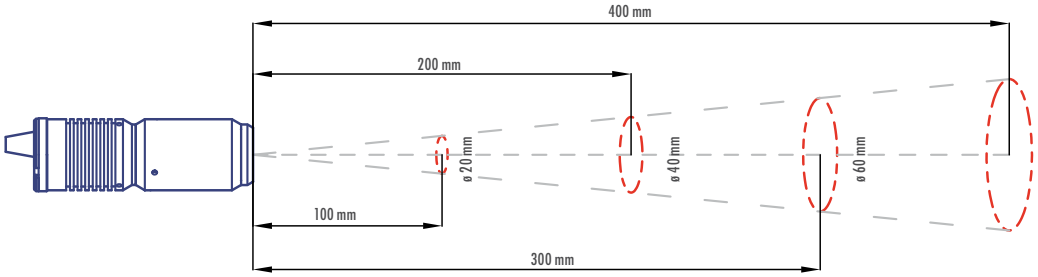


/UVxxx and /IRxxx versions:

peak emission wavelength: xxx nm

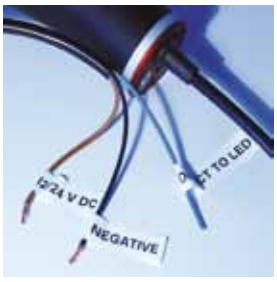
optical bandpass:
+/- 20 nm FWHM

class:
IIIb LED product



Devices can be driven with flexibility

These LED devices integrate built-in switching electronics which control the current flow through the LED and which can be easily tuned by the user. This ensures both high light stability and a longer lifetime of the product.



The inner circuitry can be bypassed in order to directly drive the LED. Simply connect the black and blue wires to your power supply instead of the black and brown ones, ensuring that the maximum rates are not exceeded.

part number	device power rating: minimum DC voltage (volt)	device power rating: maximum DC voltage (volt)	device power rating: power consumption (watt)	LED power rating: forward voltage (volt)	LED power rating: forward current (mA)	LED power rating: pulse ratings @0,1 duty/1kHz (mA)
1W type VIS SPOT ILLUMINATORS						
LTSP36/R	12	24	< 2	2,3	350	< 1800
LTSP36/G	12	24	< 2	3,5	350	< 1800
LTSP36/B	12	24	< 2	3,5	350	< 1800
LTSP36/W	12	24	< 2	3,5	300	< 1800
3W type VIS SPOT ILLUMINATORS						
LTSP3W/R	12	24	< 3	2,6	700	< 1800
LTSP3W/G	12	24	< 3	3,8	700	< 1800
LTSP3W/B	12	24	< 3	3,8	700	< 1800
LTSP3W/W	12	24	< 3	3,8	700	< 1800
IR SPOT ILLUMINATORS						
LTSP36/IR890	12	24	< 2	1,6	500	n.a.
LTSP36/IR940	12	24	< 2	1,6	500	n.a.
UV SPOT ILLUMINATORS						
LTSP36/UV365	12	24	< 2	3,7	350	n.a.
LTSP36/UV385	12	24	< 2	3,7	350	n.a.
LTSP36/UV405	12	24	< 2	3,7	350	n.a.