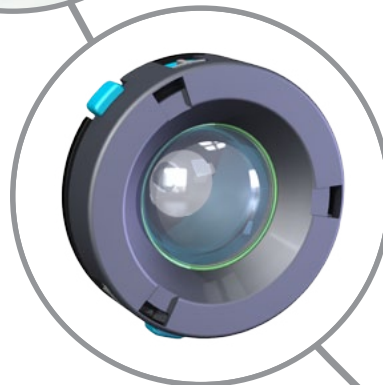




variable spot - no light loss

### Manually tunable condenser lens

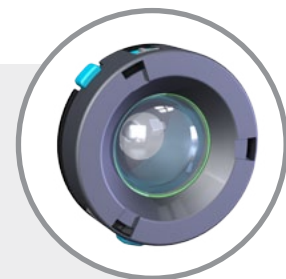
The shape of our manually tunable condenser lens is varied from flat to strongly convex



# Manually tunable condenser lens

**ML-25-50 Lumilens**

**ML-55-106 Lumilens**



## Control the spot size of your LED light

A tunable condenser lens is the ideal choice for illumination systems based on LEDs. In combination with secondary optics (TIR lens or reflector), large illumination angle variations can be achieved while maintaining an excellent spot quality and a very high optical efficiency. The low-dispersion lens material prevents color errors from spoiling the spot quality.

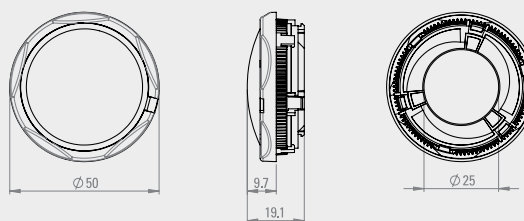
There is not a more elegant way to flexibly adapt the lighting angle of your illumination system than with a tunable condenser lens. Traditionally, lighting angles are adjusted by axially shifting a fixed lens. Yet, axial shifting of fixed focus lenses produces spherical aberrations that manifest themselves in undesired intensity rings and bad illumination spots. Furthermore the optical efficiency significantly drops when the fixed lens is moved away from the light source. These disadvantages can be overcome by using a tunable condenser lens.

### Advantages

- > One spot light suits various applications
- > Excellent spot quality for all tuning states (no intensity rings as in fixed lens shifting).
- > No color errors due to low-dispersion lens material
- > Highest optical efficiency (low light loss)
- > Easy to motorize

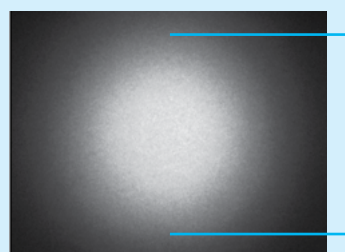
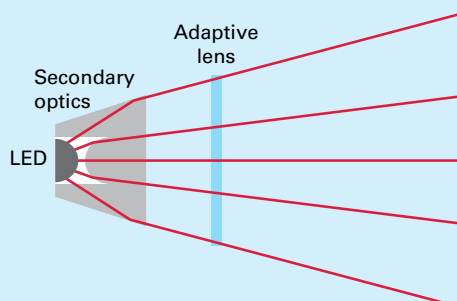
### Applications

- > Shop lighting
- > Architectural lighting
- > Museum lighting
- > Machine vision lighting
- > Microscopy lighting

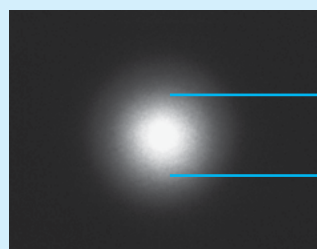
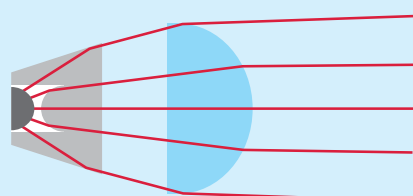


Specifications	ML-25-50	ML-55-106
Dimensions (ø x thickness)	50 x 19 mm	106 x 50 mm
Clear aperture	25 mm	55 mm
Focal length range (EFL)	+37 mm to ∞	+72 mm to ∞
Central deflection range	0 to 65 %	0 to 90 %
Actuation type	manual	manual
Transmission (visible)	>90%	>95%
Refractive index $n_D$	1.300 or 1.382	1.300 or 1.382
Abbe number $V_d$	100 or 71	100 or 71
Operating temperature	-20 to 85 °C	-20 to 85 °C

## Adaptive lighting principle using a tunable condenser lens



Flood angle



Spot angle