



Product Information

LEICA VARIO-ELMARIT-R 28–90 mm f/2.8–4.5 ASPH.



The use of zoom lenses brings great advantages: The variable focal length means that you can adapt to the most diverse of subjects and realize all of your picture ideas without having to change lenses. Your camera is also ready to use much more quickly: With subjects and situations that are changing rapidly, this can even be the difference between being able to take the photo or not.

With the LEICA VARIO-ELMARIT-R 28–90 mm f/2.8–4.5 ASPH. Leica is presenting a “normal” zoom with more than a 3x focal length range. As a result, it is a lens which – with only a slightly higher weight and larger dimensions – offers considerably improved versatility for practical photography, both in the telephoto and wide-angle range, when compared to the previous Leica zoom lenses in the standard focal length range. With an angle of view around 10° larger at 28 mm and around 7° smaller at 90 mm (diagonally,

compared to a 35–70 mm lens), it is able to record a significantly larger area and to achieve noticeably smaller trimming.

At the same time, it has outstanding reproduction characteristics. Distortion and vignetting have been significantly reduced compared to the LEICA VARIO-ELMAR-R 28–70 mm f/3.5–4.5, so that they will only become apparent in the wide-angle range or for critical subjects in this area (e.g. architecture). The sharpness, resolution, and contrast are also excellent, even at full stop. Overall, the LEICA VARIO-ELMARIT-R 28–90 mm f/2.8–4.5 ASPH. achieves a picture quality comparable with corresponding fixed focal length lenses.

The performance of the LEICA VARIO-ELMARIT-R 28–90 mm f/2.8–4.5 ASPH. is based on an optical design consisting of 2 groups with 11 lens elements in 8 components. The first group is used for focusing. The focal length is changed by simultaneously moving both

groups, with a sub-group of the 2nd group – including the diaphragm – also moving independently of the other components.

The use of two aspherical lens surfaces, two lens elements of highly refractive glass, and three elements with anomalous partial dispersion results in extraordinary lens performance across the entire range of focal lengths with a comparatively high initial aperture, combined with a compact design. The aspherical surface of the front lens is produced using a state of the art “precision grinding and polishing process”.

To achieve the large focal length range, the optical components need to be able to move relatively large distances within the lens body, both overall and in relation to one another, in some cases including reversal of the direction of movement. In addition to this task, which would be complex in any case, the mechanical system, i.e. the corresponding tubes and



guides, must ensure that all optical elements remain permanently aligned with one another in every position, and at the same time that they can be adjusted easily and with a consistent amount of effort. On the LEICA VARIO-ELMARIT-R 28-90mm f/2.8-4.5 ASPH. the latest generation of modern CNC machines are used, with tools and tool drive mechanisms specially developed for Leica. As a result, the above requirements are all met in full and, at the same time, a relatively compact design has been achieved.

Like the other Leica zoom lenses, the LEICA VARIO-ELMARIT-R 28-90mm f/2.8-4.5 ASPH. is a two-ring zoom, on which the focus – front – and the focal length – back – are set using separate rings. This design provides reliable protection against accidental adjustments. However, this principle also rules out the use of a clearly legible depth of field scale. The instructions for the lens therefore contains

tables for the four most important focal lengths – 28, 35, 50 and 90mm.

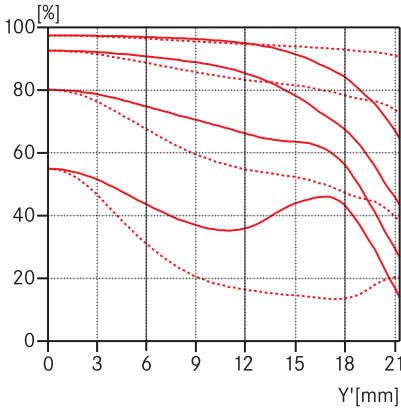
For optimum convenience of use, the LEICA VARIO-ELMARIT-R 28-90mm f/2.8-4.5 ASPH. is equipped with a built-in pull-out lens hood. This is optimally co-ordinated to the path of the rays thanks to the petal shaped sections. For optimum protection against mechanical stress on the front mount mechanism situated behind the lens hood, as well as to prevent dust and sand from getting into the lens, in addition to the snap-on cap, a slip-on cap is also supplied, which encloses the focusing ring. This cap should always be used if you are not using the lens for a long period of time.

The LEICA VARIO-ELMARIT-R 28-90mm f/2.8-4.5 ASPH. can be used with E67 screw-in filters. Corresponding UVa and circular polarizing filters are available from Leica.

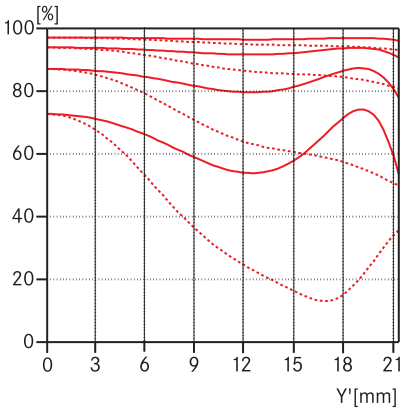
Summary:

Even though it is merely about 20mm longer and 200g heavier than the LEICA VARIO-ELMAR-R 35-70mm f/4, the LEICA VARIO-ELMARIT-R 28-90mm f/2.8-4.5 ASPH. has a significantly extended focal length range, which allows you to handle the vast majority of photographic situations and subjects without having to carry any other lenses with you. Its performance matches that of fixed focal length lenses. As a result, the combination of a camera and this lens gives you a compact Leica R system, suitable for most subjects and situations.

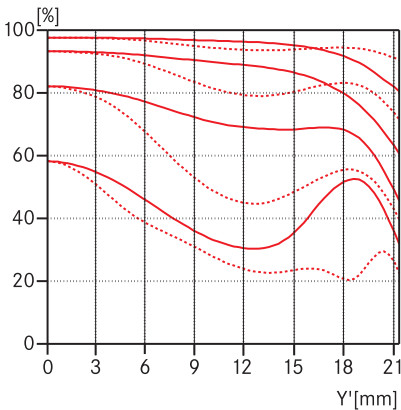
28mm (f/2.8)



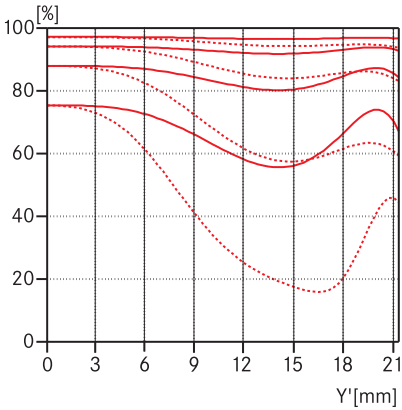
(f/8.0)



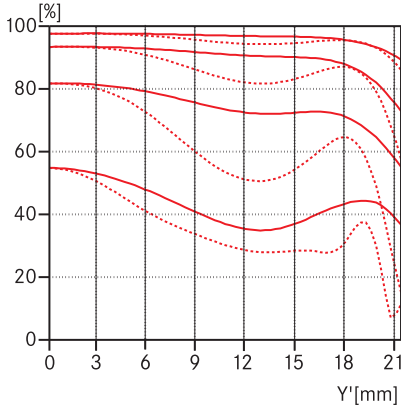
35mm (f/3.1)



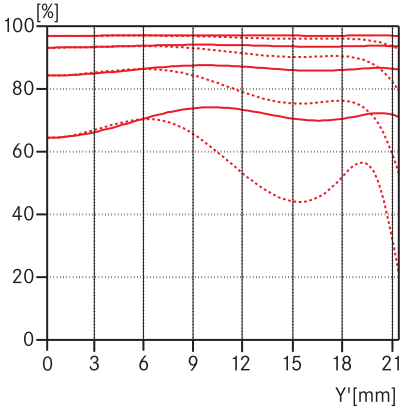
(f/8.0)



50mm (f/3.4)

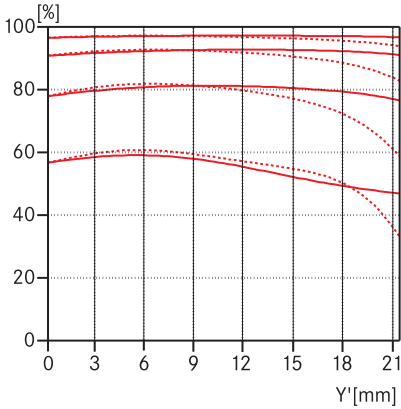


(f/8.0)

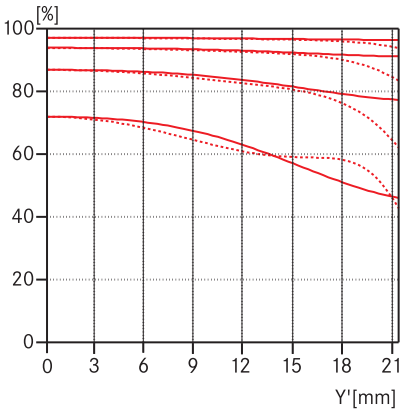


The MTF is indicated both at full stop and at f/8 at long taking distances (infinity). Shown is the contrast in percentage for 5, 10, 20, and 40 lp/mm across the height of the 35 mm film format, for tangential (dotted line) and sagittal (solid line) structures, in white light. The 5 and 10 lp/mm will give an indication regarding the contrast ratio for large object structures. The 20 and 40 lp/mm records the resolution of finer and finest object structures.

90mm (f/4.5)



(f/8.0)





my point of view

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Technical Data

Angle of view (diagonal, horizontal, vertical)

at 28 mm: 73.4°, 63.6°, 44.9°,
at 90 mm: 27.6°, 23.1°, 15.5°

Optical design

Number of elements/groups: 11/8
Aspherical surfaces: 2
Front group focusing

Distance setting

Focusing range: 0.6 m to infinity
Scale: Combined meter/feet-increments
Smallest object field: at 28 mm: 400 x 600 mm,
at 90 mm: 133 x 200 mm
Highest reproduction ratio: at 28 mm: 1:16.7,
at 90 mm: 1:5.5

Diaphragm

Setting: Preset diaphragm with click-stops (including half values)
Type: Fully automatic diaphragm
Smallest aperture: f/22

Bayonet: Leica R quick-change bayonet for LEICA R3 to LEICA R9 with mechanical,
and, for LEICA R8/R9, additional electronic exposure control

Focusing mount: Non-rotating

Filter (type): internal thread for screw-in type filters, size E67

Lens hood: built-in, extensible, scalloped

Finish: Black anodized

Dimensions and weight

Length from bayonet flange: 99 mm
Largest diameter: 80 mm
Weight: approx. 740 g

LEICA VARIO-ELMARIT-R

28–90 mm f/2.8–4.5 ASPH.

black anodized
Order No. 11 365

Scope of Delivery

LEICA VARIO-ELMARIT-R
28–90 mm f/2.8–4.5 ASPH. with front
and rear lens caps and slip-on front lens
cap, in a soft leather case

Accessories

LEICA UVa Filter E 67
Order No. 13 386
LEICA Circular Polarizing Filter E 67
Order No. 13 407

Replacements

Slip-on front lens cap
Order No. 422-502.006-000
Front lens cap
Order No. 14 291
Rear lens cap
Order No. 14 162
Soft leather case
Order No. 439-399.087-000



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