



# LEICA **ELMARIT-S** 45MM F/2.8 ASPH./CS

Technical data.



Display scale 1:2

## TECHNICAL DATA

<b>Order number</b>	11077 (CS: 11078)
<b>Angle of view</b> (diagonal, horizontal, vertical)	~ 62°, 53°, 37°, equivalent to approx. 36 mm in 35 mm format
<b>Optical design</b>	
Number of lenses / groups	12 / 9
Position of entrance pupil:	at infinity: 83.95 mm (in light impingement direction in front of the bayonet flange) at closest focusing distance: 83.95 mm (in light impingement direction in front of the bayonet flange)
Focusing range	0.6 m to infinity
<b>Distance settings</b>	
Scale	Combined metre/feet graduation
Smallest object field	456 mm × 304 mm
Largest reproduction ratio	1 : 10.1
<b>Aperture</b>	
Setting / function	Electronically controlled iris, setting with the camera clickwheel control, half-stop settings possible
Smallest aperture	22
<b>Bayonet</b>	Leica S quick-change bayonet with contact strip for Leica S-Models
<b>Filter mount / lens hood</b>	Outer bayonet mount for lens hood (included), inner threaded mount for E82 filters, non-rotating filter mount
<b>Dimensions and weight</b>	
Length to bayonet flange	ca. 136/163 mm (with / without lens hood)
Largest diameter	ca. 88/132 mm (with / without lens hood)
Gewicht	ca. 1030/1110 g (with / without lens hood)



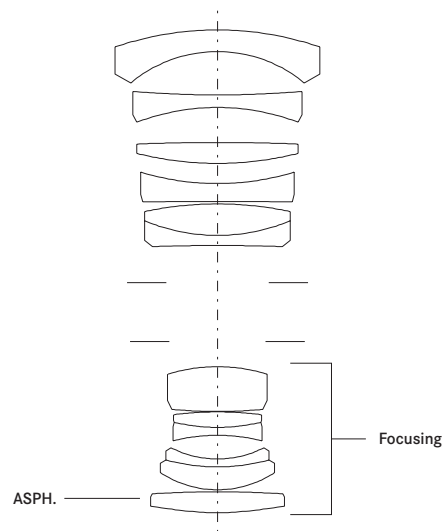
# LEICA **ELMARIT-S** 45MM F/2.8 ASPH./CS

TECHNICAL DIAGRAM



Display scale 1:2

OPTICAL CONSTRUCTION



The Leica Elmarit-S 45 mm f/2.8 ASPH./CS offers the same angle of view as a 35 mm lens in 35 mm format and thus adds a true classic focal length to the Leica S system portfolio. With its moderate wide-angle character and simultaneously natural rendition of perspectives, it is particularly suitable for universal use in fields ranging from photojournalism to architectural photography and studio applications. The highly sophisticated construction of this lens, which is also available in a version with a central shutter, guarantees extremely high performance at all distances and aperture settings.

Three of its twelve elements are manufactured from glasses with anomalous partial dispersion and two further elements from glasses with high refractive indices and especially low dispersion properties for the correction of chromatic aberrations. Monochromatic aberrations are prevented by an element with one aspherical surface. Rear-group focusing guarantees consistently outstanding imaging properties from infinity to its closest focusing distance.

The enormous effort invested in the design and construction of this lens guarantees its excellent optical performance: The contrast is exceptionally high even when shooting wide open and down to its closest focusing distance, and stopping down very slightly is sufficient to ensure this already superior performance into the extreme corners of the image. The distortion value of only 1% is remarkably low for a wide-angle lens and satisfies even the most stringent demands. In the case of the Leica Elmarit-S 45 mm f/2.8 ASPH./CS, monochromatic aberration is practically non-existent and chromatic aberrations have been reduced to a minimum that is negligible in practical circumstances.



# LEICA **ELMARIT-S** 45MM F/2.8 ASPH./CS



Lens with lens hood, display scale 1:2



Lens hood mounted for carrying, display scale 1:2

## PACKAGE INCLUDES

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Rear lens cap (order no. 16 020), front lens cap (order no. 16 019),  
Soft lens pouch (order no. 439-606.099-000), lens hood (order no. 12 400)

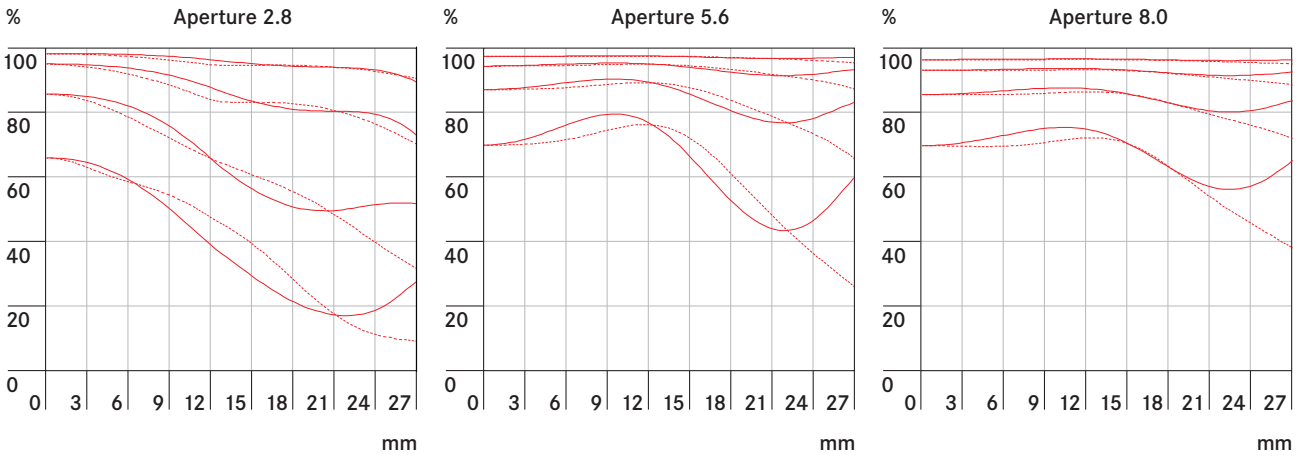
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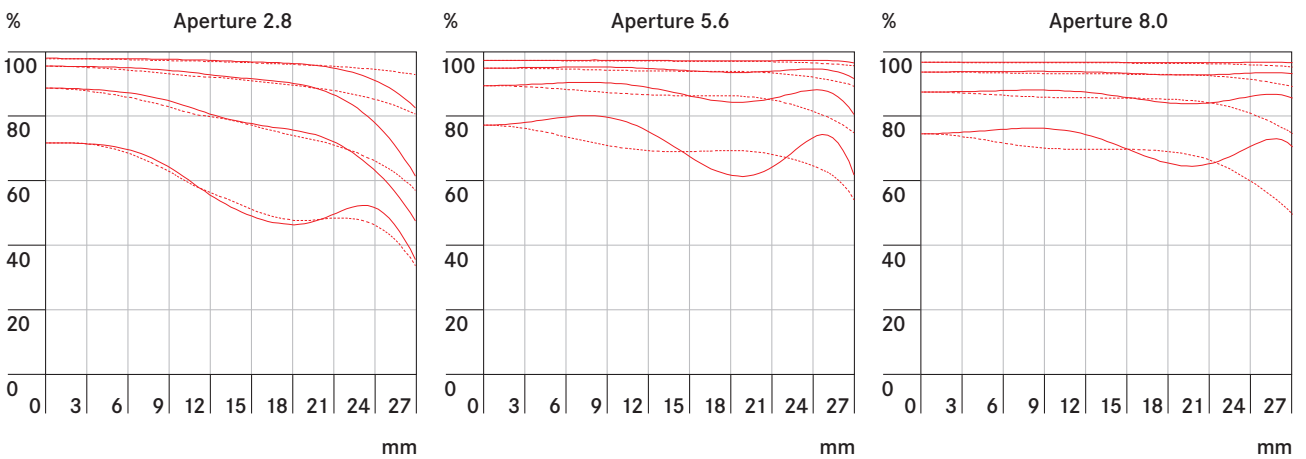
# LEICA **ELMARIT-S** 45MM F/2.8 ASPH./CS

## MTF CHARTS

### Minimum focus distance



### Infinity ( $\infty$ )



— Sagittal structures  
- - - Tangential structures

## MTF CURVES

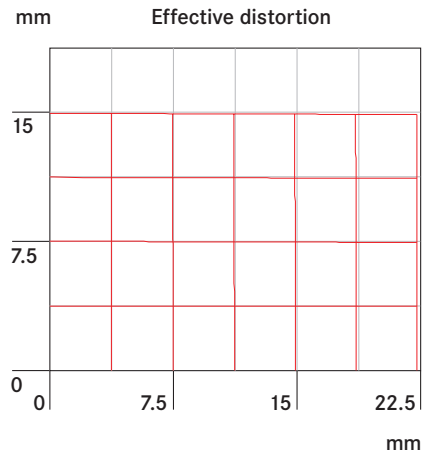
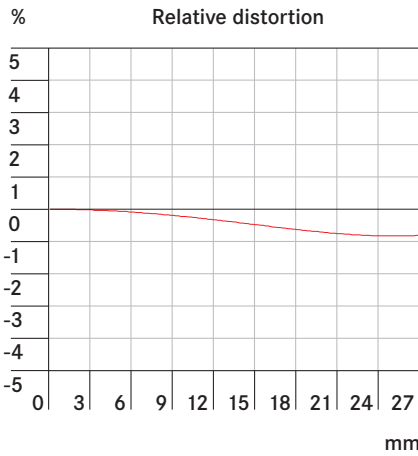
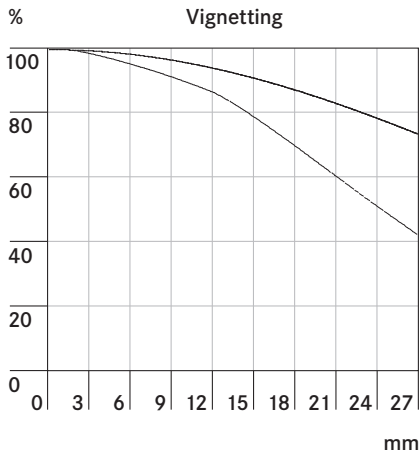
The MTF is shown in each case for the maximum aperture and the aperture values 5.6 and 8.0 for long focusing distances (infinity). The contrast is plotted for 5, 10, 20, 40 lp/mm for the height of the format for tangential (dashed line) and sagittal structures (continuous line) for white light. The 5 and 10 lp/mm lines provide an impression of the contrast performance for coarser object structures and the 20 and 40 lp/mm lines document the resolving power for fine and finest object structures.



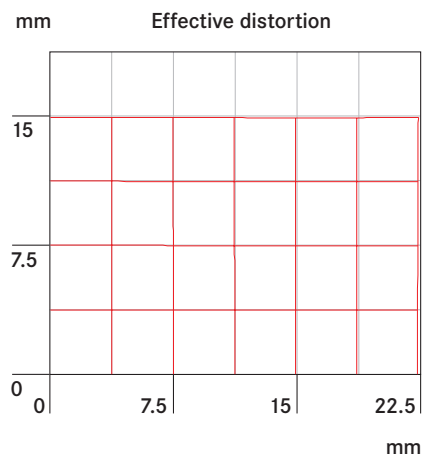
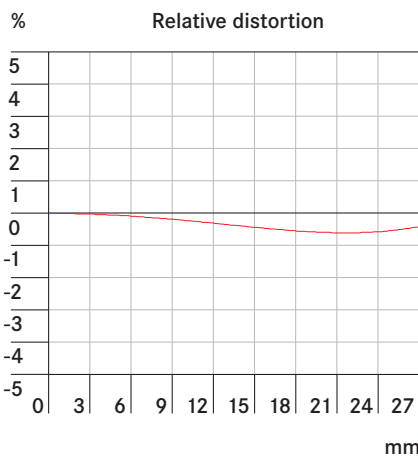
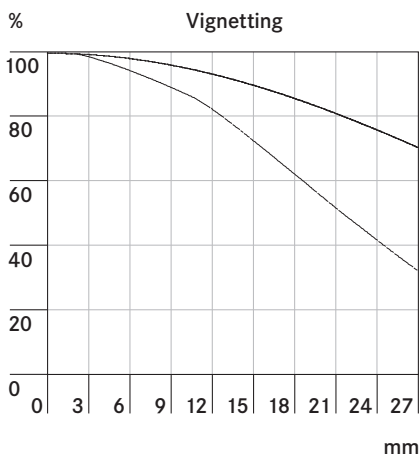
# LEICA **ELMARIT-S** 45MM F/2.8 ASPH./CS

## VIGNETTING/DISTORTION CHARTS

### Minimum focus distance



### Infinity ( $\infty$ )



- ..... 2.8
- ..... 5.6
- ..... 8.0

### DISTORTION & VIGNETTING

Distortion describes the deviation of the actual from the ideal image height, whereby the ideal image height is a function of the object height and the reproduction ratio. The relative distortion value reflects the deviation of the actual image height from the ideal object height as a percentage. The image height 27.04 mm is the radial distance of one corner of the image field from the centre of the image (image format 30 mm × 45 mm). The graphic display of effective distortion reveals the actual linearity (or curvature) of horizontal and vertical lines in the image plane.

Vignetting describes the continuous fall-off of image brightness (luminance) from the centre to the edges of the image (edge fall-off, corner shading). The chart shows the fall-off of brightness for the image height plotted as a percentage. The value of 100% indicates zero vignetting.



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DEPTH OF FOCUS TABLE

	Aperture							Magnification
	2.8	4	5.6	8	11	16	22	
0.6	0.590 - 0.611	0.586 - 0.615	0.580 - 0.622	0.572 - 0.631	0.563 - 0.644	0.548 - 0.667	0.531 - 0.698	1/10.1
0.7	0.685 - 0.716	0.679 - 0.723	0.671 - 0.732	0.660 - 0.747	0.646 - 0.767	0.625 - 0.803	0.601 - 0.852	1/12.4
0.8	0.780 - 0.822	0.771 - 0.832	0.760 - 0.845	0.745 - 0.866	0.726 - 0.895	0.698 - 0.947	0.668 - 1.021	1/14.7
1	0.966 - 1.037	0.952 - 1.054	0.934 - 1.078	0.909 - 1.116	0.879 - 1.167	0.835 - 1.267	0.788 - 1.415	1/19.3
1.5	1.42 - 1.60	1.38 - 1.64	1.34 - 1.70	1.29 - 1.81	1.22 - 1.97	1.13 - 2.31	1.04 - 2.9315	1/30.6
3	2.66 - 3.45	2.53 - 3.70	2.39 - 4.08	2.20 - 4.84	2.00 - 6.33	1.74 - 13.2	1.52 - ∞	1/64.7
5	4.08 - 6.47	3.79 - 7.41	3.46 - 9.22	3.06 - 14.6	2.68 - 55.6	2.23 - ∞	1.86 - ∞	1/110.2
∞	21.1 - ∞	14.8 - ∞	10.6 - ∞	7.47 - ∞	5.47 - ∞	3.80 - ∞	2.80 - ∞	1/∞



Distance setting [m]