LEICA **ELMARIT-S** 30 mm f/2.8 ASPH. / CS

Technical Data.

Illustration 1:2

TECHNICAL DATA

Order no.	11073 (CS: 11074)
Image angle (diagonal, horizontal, vertical)	approx. 83° / 73° / 52°, corresponds to approx. 24 mm focal length in 35 mm format
Optical design Number of lenses/groups	13 / 9
Entrance pupil	infinity: 92.19 mm (in front of bayonet in incident light direction), close focus limit: 92.19 mm (in front of bayonet in incident light direction)
Focusing range	0,5 m to ∞
Distance setting Scales	Combined meter/feet graduation
Smallest object field	338 mm × 508 mm
Largest reproduction ratio	1 : 11,3
Aperture Setting / Function	Electronically controlled diaphragm, set using setting/ selection dial on camera, including half values
Lowest value	22
Bayonet	Leica S bayonet
Filter mount / Lens hood	External bayonet for lens hood (included), internal thread for E82 filter, filter mount does not rotate
Dimensions and weight Length to bayonet mount	approx. 128 / 156 mm (without / with lens hood)
Largest diameter	approx. 88 / 132 mm (without / with lens hood)
Weight	approx. 1060 / 1140 g (without / with central shutter)

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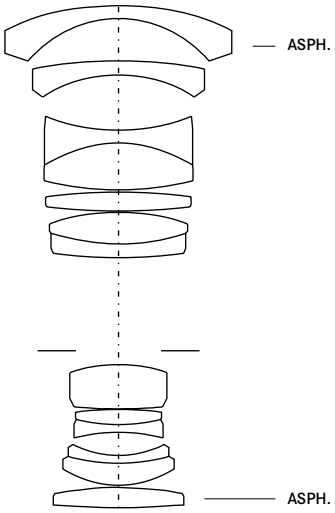
ENGINEERING DRAWING

Illustration 1:2

LENS SHAPE



The Elmarit-S 30 mm f/2.8 ASPH. is equivalent, in 35 mm format, to a 24 mm super-wide-angle lens with a correspondingly expansive field of view. This, and its very fast initial aperture, makes it an ideal lens for exploring the enormous creative potentials of unusual perspectives and selective planes of focus.

When constructing super-wide lenses, immense effort must be invested to keep aberrations such as distortion or vignetting as low as possible. Five of the thirteen lenses arranged in nine groups have anomalous partial dispersion, and three of these are fluoride lenses with particularly low dispersion (colour scattering) characteristics for the correction of chromatic aberration. Two lenses are also elaborately manufactured with aspherical surfaces.

Rear-group focusing ensures consistently outstanding image performance throughout the entire focusing range and no change in the length of the lens when focusing. On top of this, its special construction provides effective protection against water droplets and dust.

Just like all other S-Lenses, the Elmarit-S 30 mm f/2.8 ASPH. is designed and constructed for maximum contrast rendition at maximum aperture, an attribute that can only be increased very slightly, and only in the extreme corners of images, by stopping down. For a lens with such a wide angle of view, its very low vignetting of only 1.5 stops and distortion of only 2.8 % (both at infinity) is negligible in practical use. Thanks to its superior imaging qualities, the creative potential offered by this super-wide-angle lens can be exploited to the full without compromise.

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Lens with lens hood, illustration 1:2

Lens hood in transport position, illustration 1:2

SCOPE OF DELIVERY

	Lens cover S E82 (Order no. 16019), Rear lens cover S (Order no. 16020), Lens pouch (Order no. 439-606.099-000), Lens hood (Order no. 12400)

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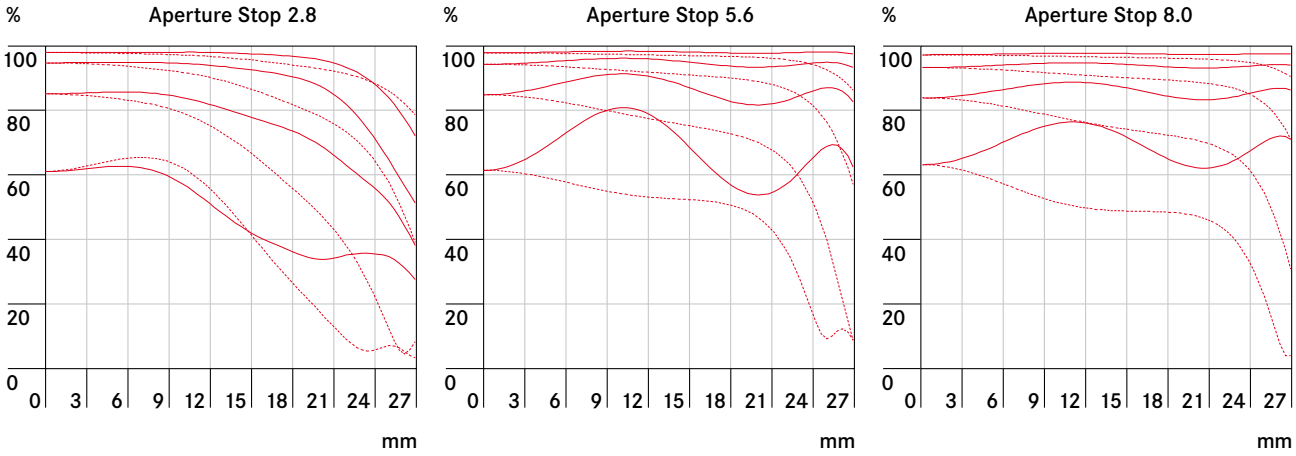
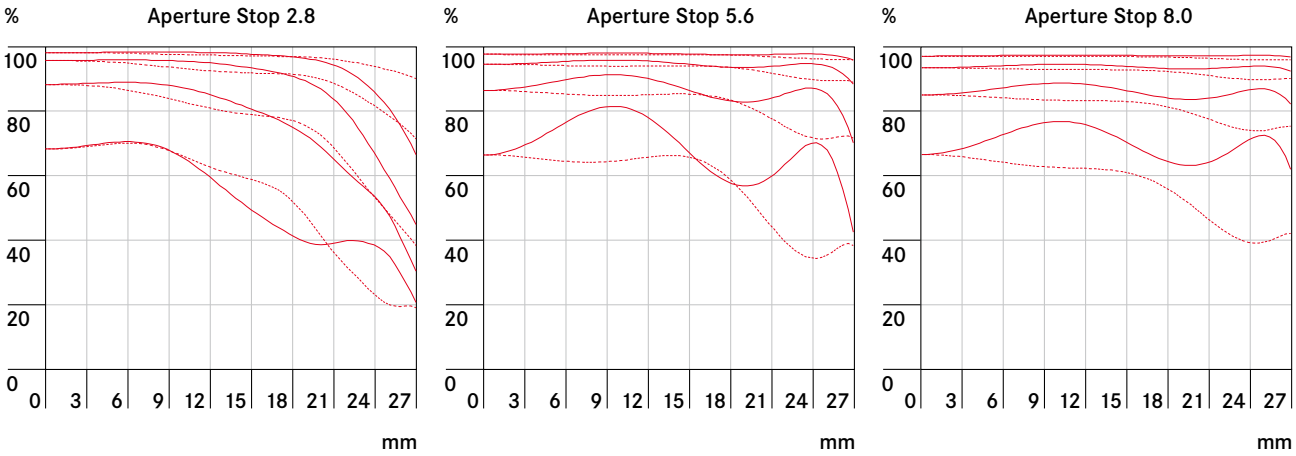
MTF DIAGRAMS

Focusing distance



Infinity (∞)



Sagittal structures

Tangential structures

MTF GRAPHS

The MTF is indicated both at full aperture and at f/5.6 and 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.

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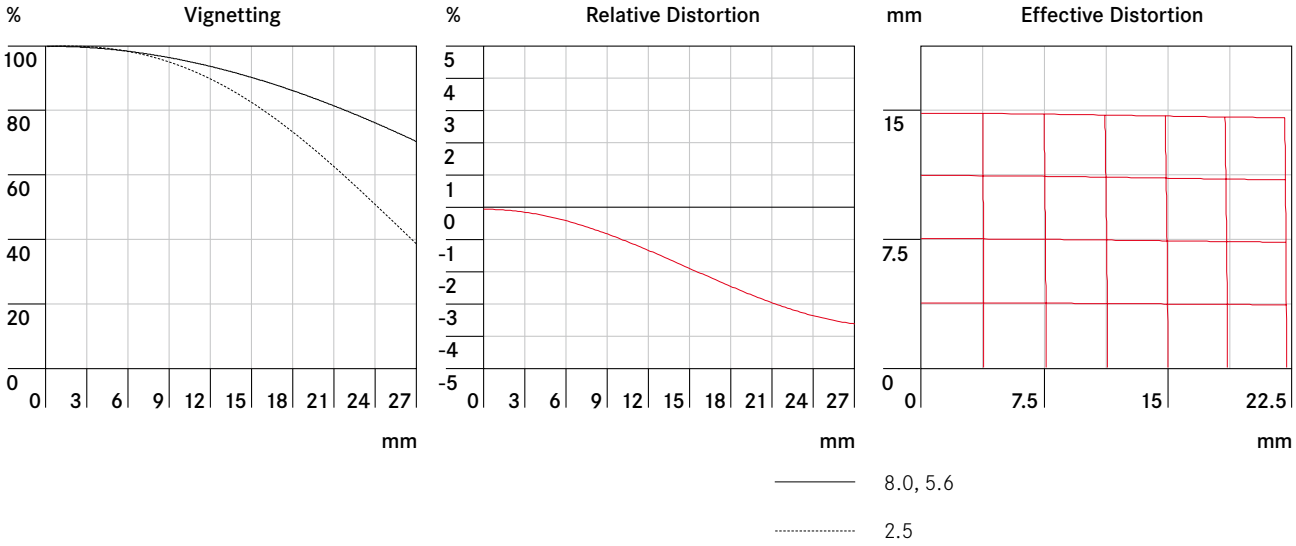
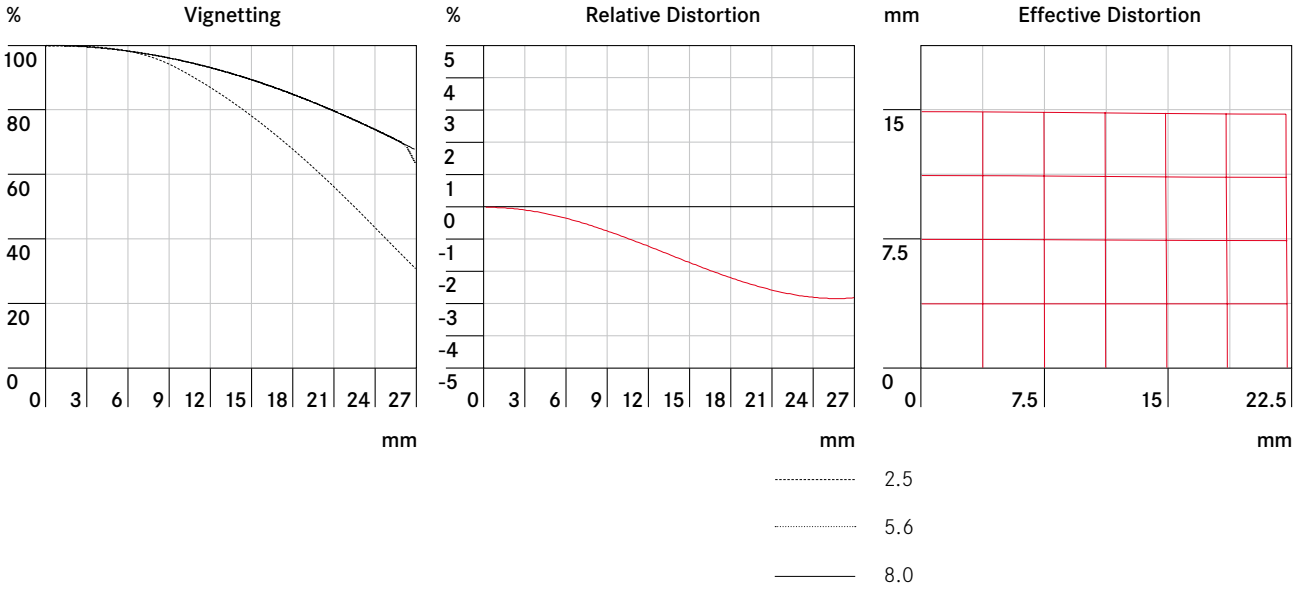
VIGNETTING-/DISTORTION DIAGRAM

Focusing distance



Infinity (∞)



DISTORTION & VIGNETTING

Distortion is the deviation of the real image height (in the picture) from the ideal image height. The relative distortion is the percentage deviation. The ideal image height results from the object height and the magnification. The image height of 27.04 mm is the radial distance between the edge and the middle of the image field for the format 30 mm × 45 mm. The graph of the effective distortion illustrates the appearance of straight horizontal and vertical lines in the picture.

Vignetting is a continous decrease of the illumination to the edges of the image field. The graph shows the percentage loss of illumination over the image height. 100 % means no vignetting.

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DEPTH OF FIELD TABLE

∞ feet ∞ m	Aperture Stop							Magnification
	2,8	4	5,6	8	11	16	22	
0,5	0,488 – 0,513	0,483 – 0,519	0,477 – 0,527	0,468 – 0,539	0,457 – 0,557	0,441 – 0,589	0,424 – 0,635	1/11,3
0,7	0,671 – 0,732	0,660 – 0,747	0,645 – 0,768	0,625 – 0,803	0,602 – 0,852	0,568 – 0,952	0,533 – 1,118	1/17,8
0,8	0,760 – 0,845	0,745 – 0,867	0,725 – 0,897	0,698 – 0,948	0,668 – 1,022	0,624 – 1,182	0,580 – 1,473	1/21,1
1	0,934 – 1,079	0,908 – 1,117	0,877 – 1,173	0,834 – 1,271	0,788 – 1,423	0,722 – 1,793	0,660 – 2,672	1/27,6
1,5	1,34 – 1,71	1,28 – 1,82	1,21 – 1,99	1,13 – 2,33	1,03 – 2,99	0,91 – 5,85	0,81 – ∞	1/43,9
2	1,71 – 2,41	1,62 – 2,65	1,50 – 3,07	1,36 – 4,02	1,23 – 6,71	1,05 – ∞	0,91 – ∞	1/60,3
3	2,37 – 4,12	2,18 – 4,91	1,97 – 6,66	1,73 – 14,6	1,50 – ∞	1,24 – ∞	1,04 – ∞	1/92,9
5	3,43 – 9,44	3,03 – 15,4	2,63 – 110	2,20 – ∞	1,83 – ∞	1,45 – ∞	1,17 – ∞	1/158,2
∞	10,3 – ∞	7,26 – ∞	5,23 – ∞	3,70 – ∞	2,73 – ∞	1,92 – ∞	1,44 – ∞	1/∞

∞ feet ∞ m Set distance [m]

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