LEICA **SUMMARIT-M** 75 mm f/2.4

Technical Data.

Illustration 1:1

Lens	**Leica Summarit-M 75 mm f/2.4**
Order number	Black anodized: 11 682 Silver anodized: 11 683
Angle of view (diagonal, horizontal, vertical)	For 35 mm (24 x 36 mm): 32°/27°/18°; for M8 (18 x 27 mm): 24°/20°/14°, equivalent focal length of approx. 100 mm
Optical design	Number of elements/groups: 6/4 Position of entrance pupil in front of the bayonet: 25.26 mm Focusing range: 0,7 m to infinity
Distance setting	Scala: combined meter/feet-increments Smallest object field: for 35 mm: 173 x 260 mm, for M8: 178 x 268 mm Largest reproduction ratio: 1:7.2
Aperture	Setting/type: click stops, half steps Smallest aperture: f/16 Number of aperture blades: 11
Bayonet	Leica M quick-change bayonet
Filter thread	E46
Lens hood	Screw-on
Dimensions and weight	Length: approx. 60.5 mm (without lens hood) Diameter: approx. 55 mm/59 mm (without/with lens hood) Weight: approx. 325 g/350 g (without/with lens hood)

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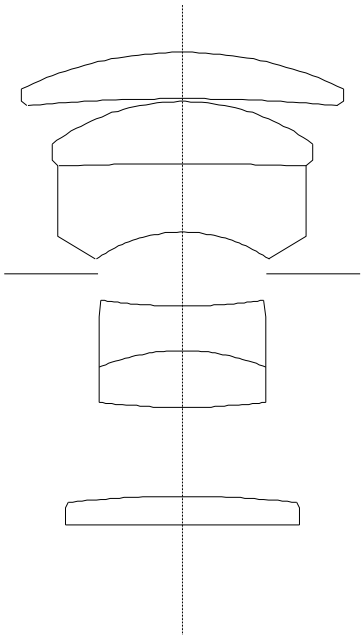
ENGINEERING DRAWING

LENS SHAPE



Illustrations 1:1

The Leica Summarit-M 75 mm f/2.4 is a new „short telephoto“ lens that is significantly smaller and lighter than Summicron lenses with the same focal length, but still offers the image quality that is the hallmark of Leica M lenses. Combined with the 35 mm Summarit-M, it makes up an ideal shooting outfit with a useful lens speed that opens up fascinating composition options for Leica M photographers.
The lens is a double Gauss lens incorporating six lenses in four groups. There are three lenses each placed on the front and the back the aperture, with the lens reducing the field curvature arranged closely to the image plane. Four lenses are made of special glass types with anomalous partial dispersion, two of which have a very high refractive power.

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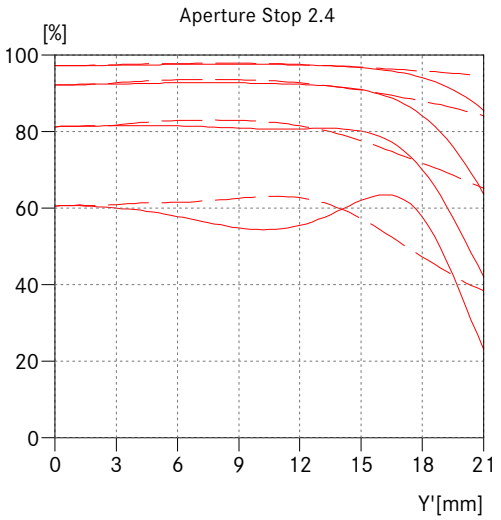
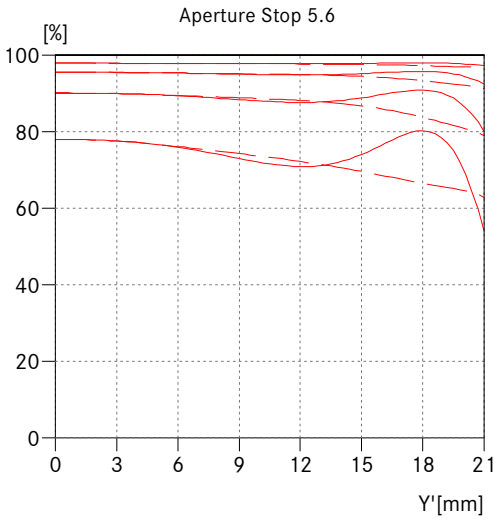
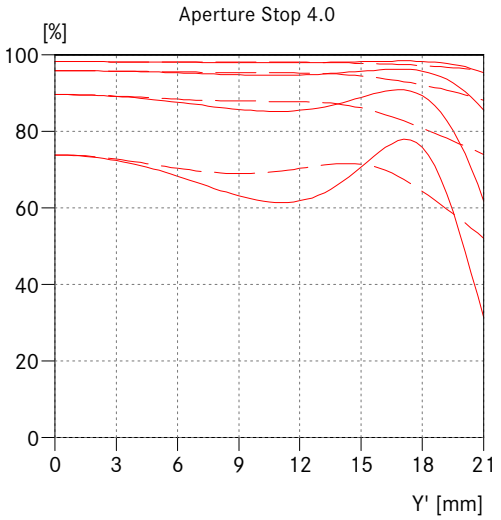
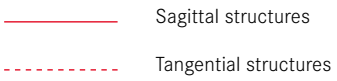
MTF DIAGRAMS









MTF GRAPHS The MTF is shown in each case for the maximum aperture and the aperture value 4.0 and 5.6 for long focusing distances (infinity). The contrast is plotted for 5, 10, 20, 40 lines/mm for the height of the format for tangential (dashed line) and sagittal structures (continuous line) for white light. The plots for 5 and 10 lines/mm provide an impression of the contrast performance for coarser object structures and the 20 and 40 lines/mm plots document the resolving power for fine and finest object structures.

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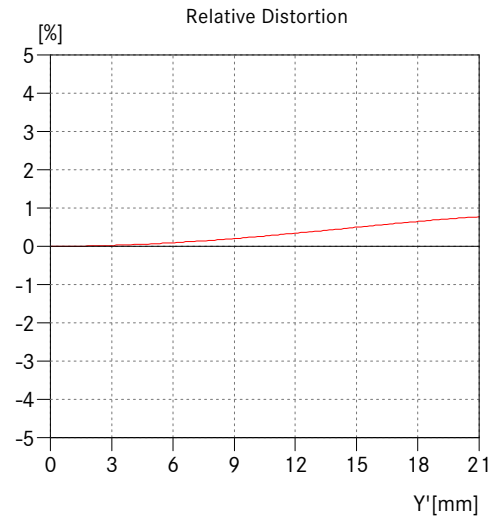
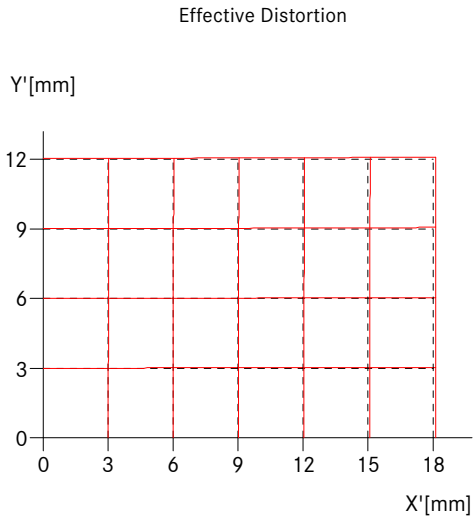
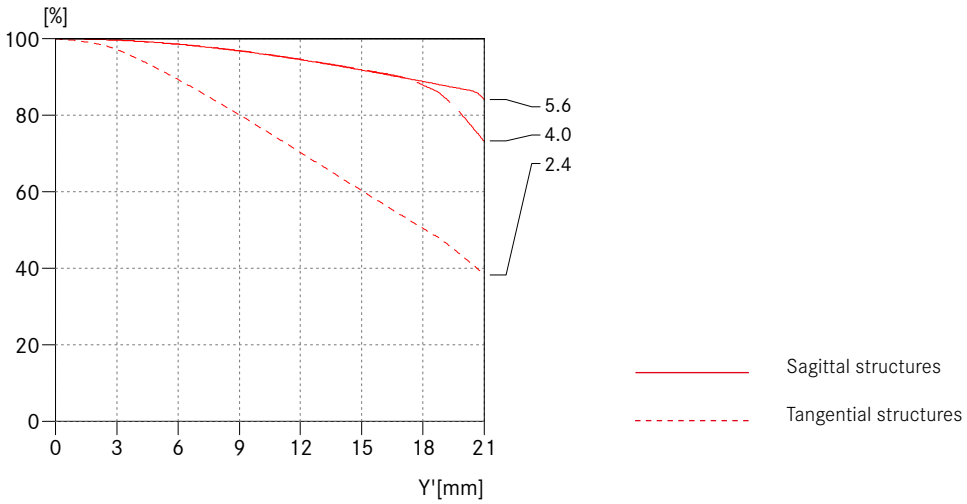
DISTORTION





VIGNETTING



DISTORTION 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 21.6 mm is the radial distance between the edge and the middle of the image field for the format 24 mm x 36 mm. The graph of the effective distortion illustrates the appearance of straight horizontal and vertical lines in the picture.

VIGNETTING 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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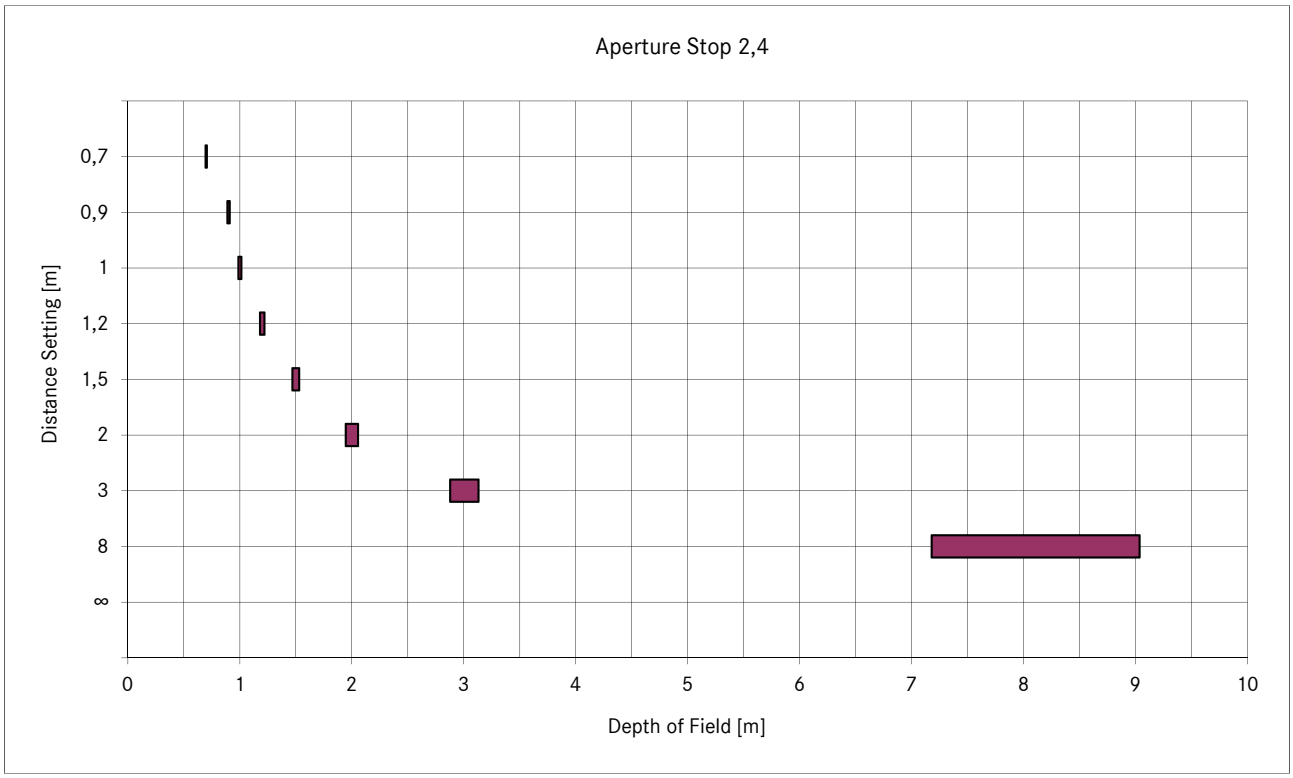
DEPTH OF FIELD TABLE

Distance Setting [m]	Aperture Stop 2.4	2.8	4.0	5.6	8.0	11.0	16.0	Magnification
0.7	0.694 - 0.706	0.693 - 0.707	0.691 - 0.710	0.687 - 0.714	0.682 - 0.720	0.675 - 0.727	0.664 - 0.740	1/7.2
0.9	0.890 - 0.910	0.889 - 0.912	0.884 - 0.917	0.878 - 0.924	0.868 - 0.934	0.857 - 0.948	0.839 - 0.972	1/9.9
1	0.987 - 1.01	0.986 - 1.01	0.980 - 1.02	0.972 - 1.03	0.960 - 1.04	0.946 - 1.06	0.924 - 1.09	1/11.3
1.2	1.18 - 1.22	1.18 - 1.22	1.17 - 1.23	1.16 - 1.24	1.14 - 1.26	1.12 - 1.29	1.09 - 1.34	1/13.9
1.5	1.47 - 1.53	1.47 - 1.53	1.45 - 1.55	1.43 - 1.57	1.41 - 1.60	1.38 - 1.65	1.33 - 1.73	1/18
2	1.95 - 2.06	1.94 - 2.06	1.92 - 2.09	1.88 - 2.13	1.84 - 2.20	1.78 - 2.28	1.70 - 2.43	1/24.6
3	2.88 - 3.13	2.86 - 3.15	2.81 - 3.22	2.74 - 3.32	2.64 - 3.47	2.53 - 3.69	2.36 - 4.12	1/38
8	7.18 - 9.04	7.08 - 9.19	6.75 - 9.82	6.36 - 10.8	5.84 - 12.7	5.31 - 16.4	4.60 - 31.3	1/104.7
∞	69.0 - ∞	60.9 - ∞	42.7 - ∞	30.5 - ∞	21.4 - ∞	15.5 - ∞	10.7 - ∞	1/∞



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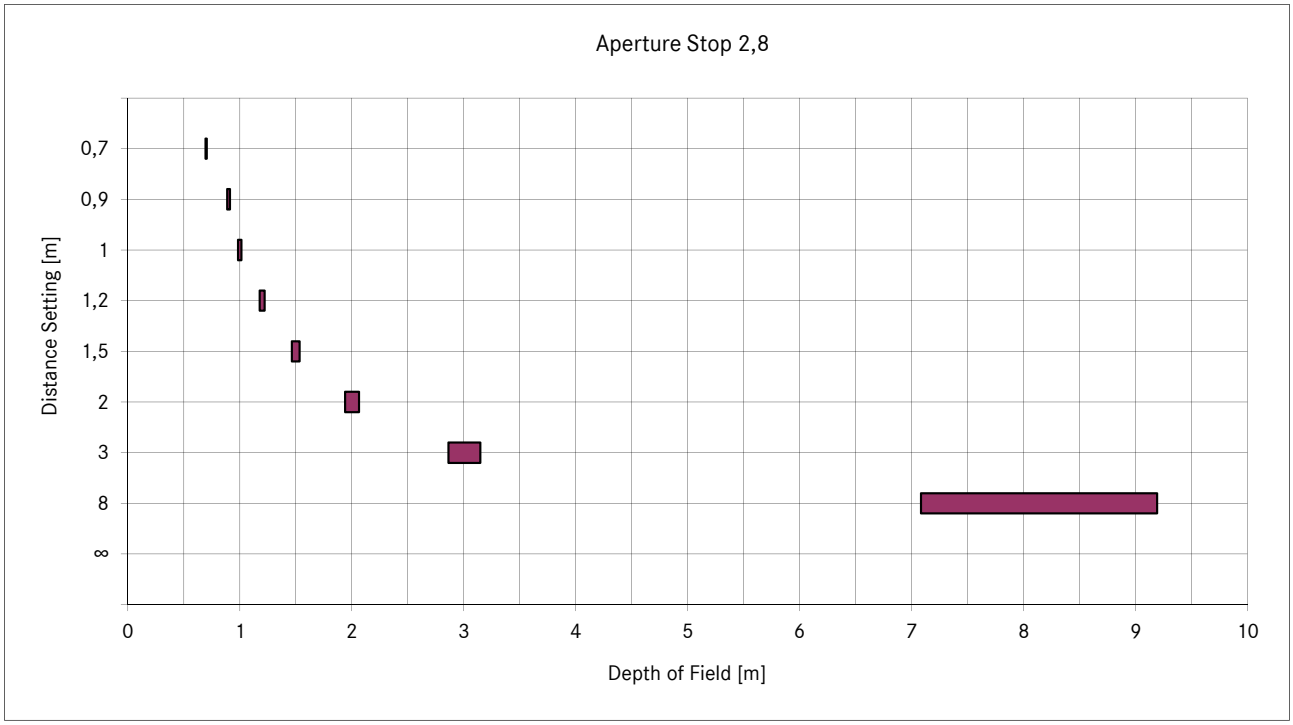

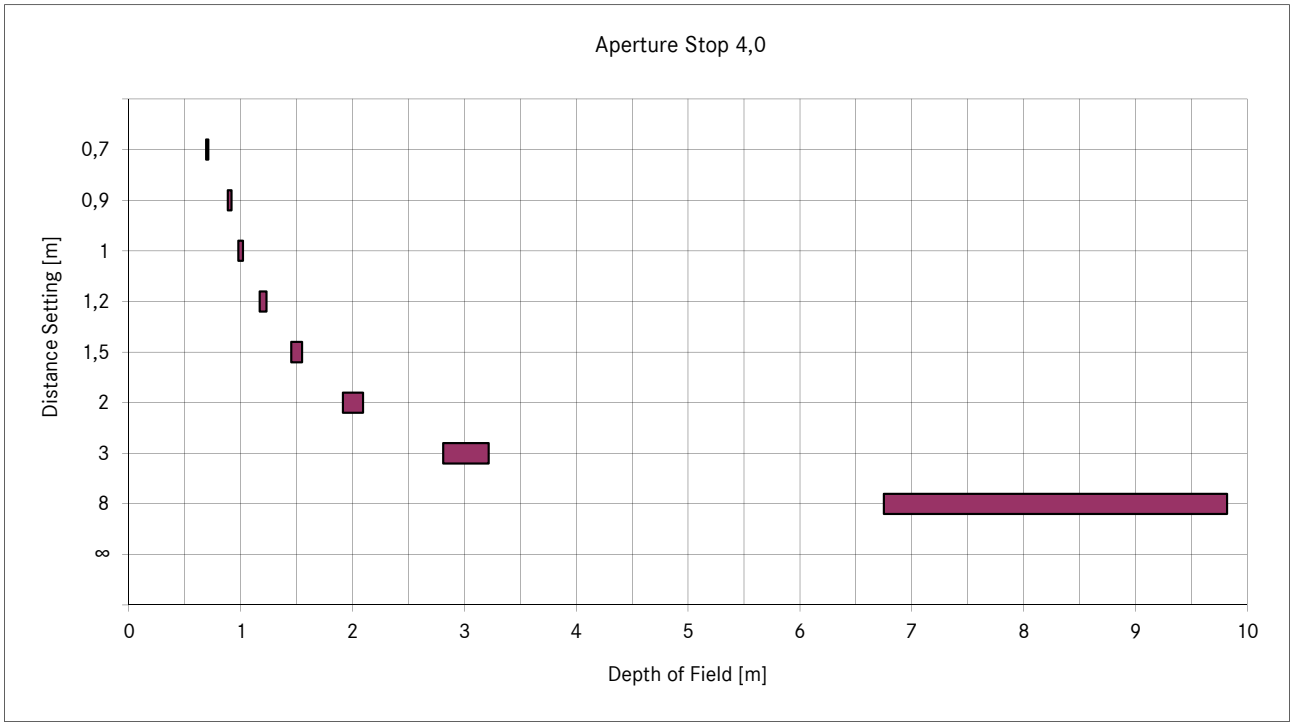

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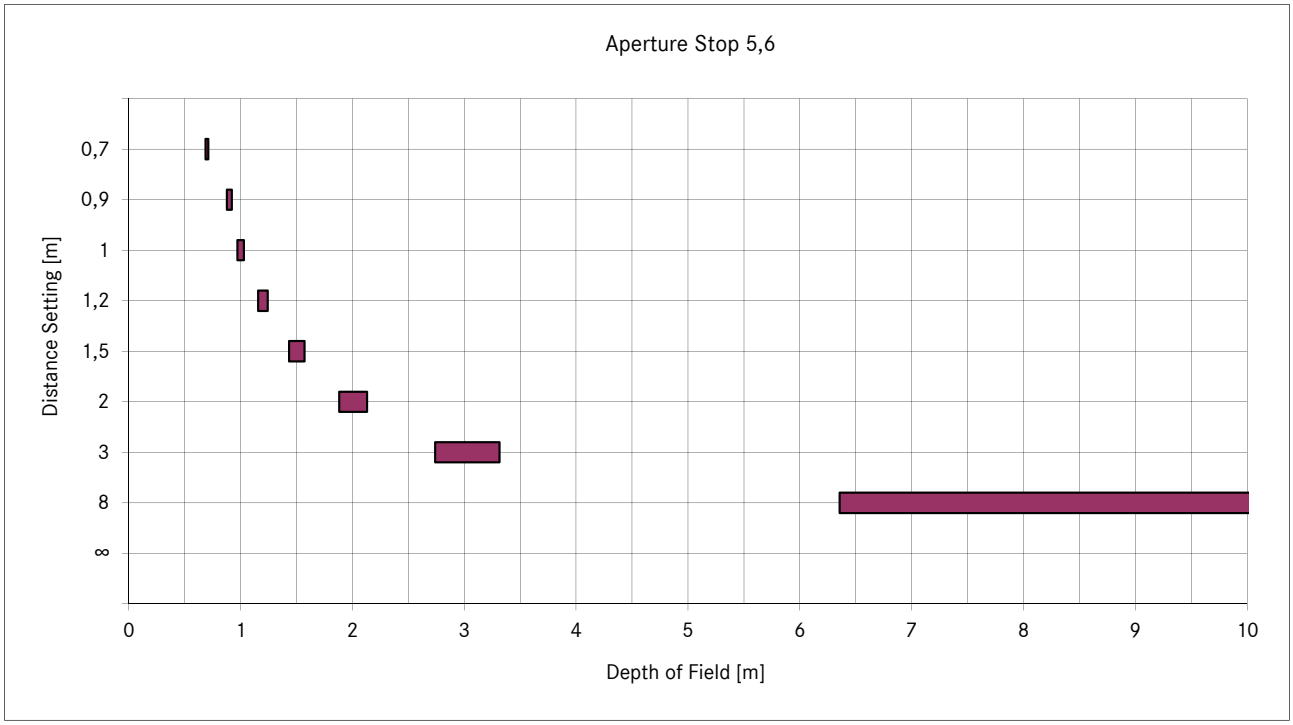

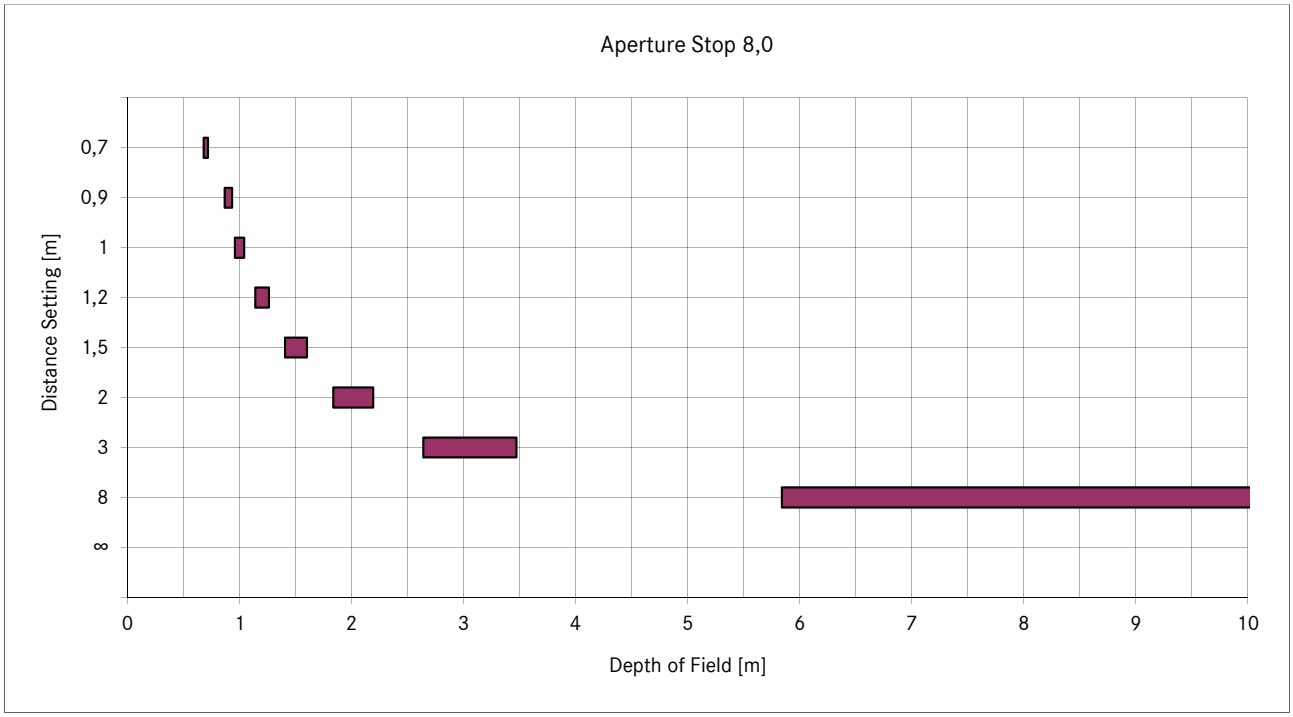

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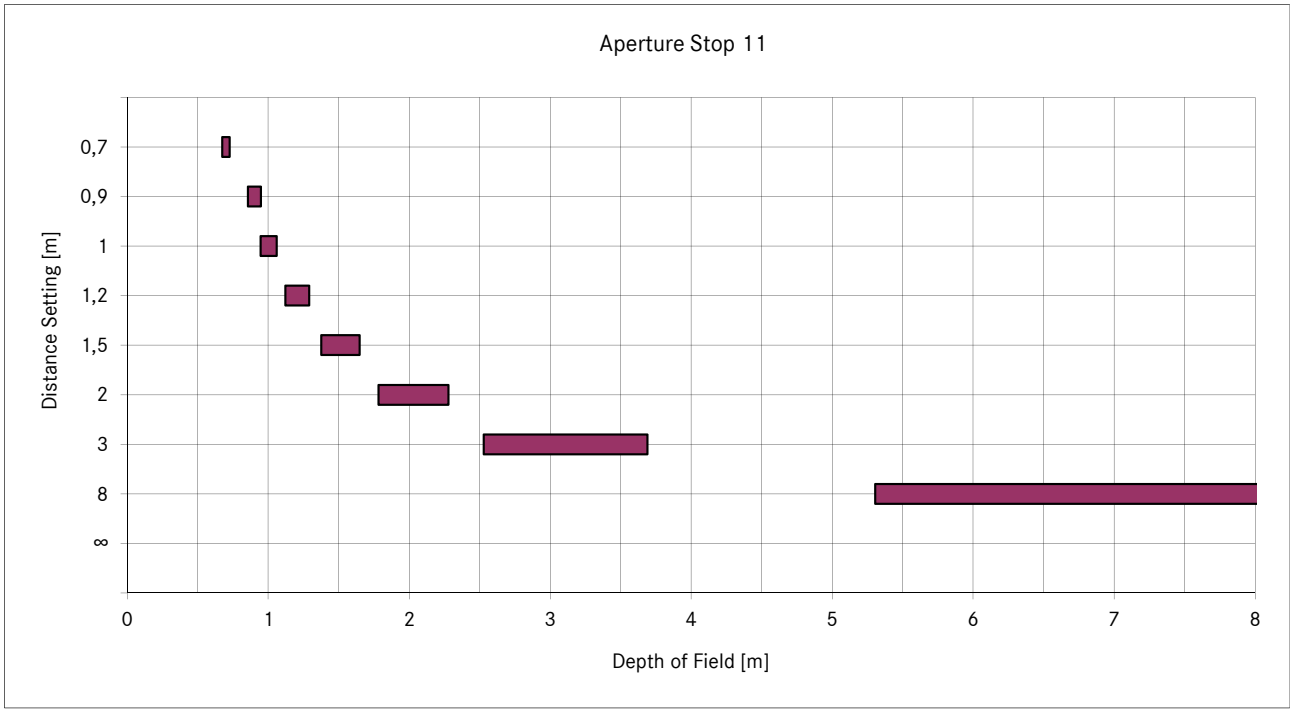

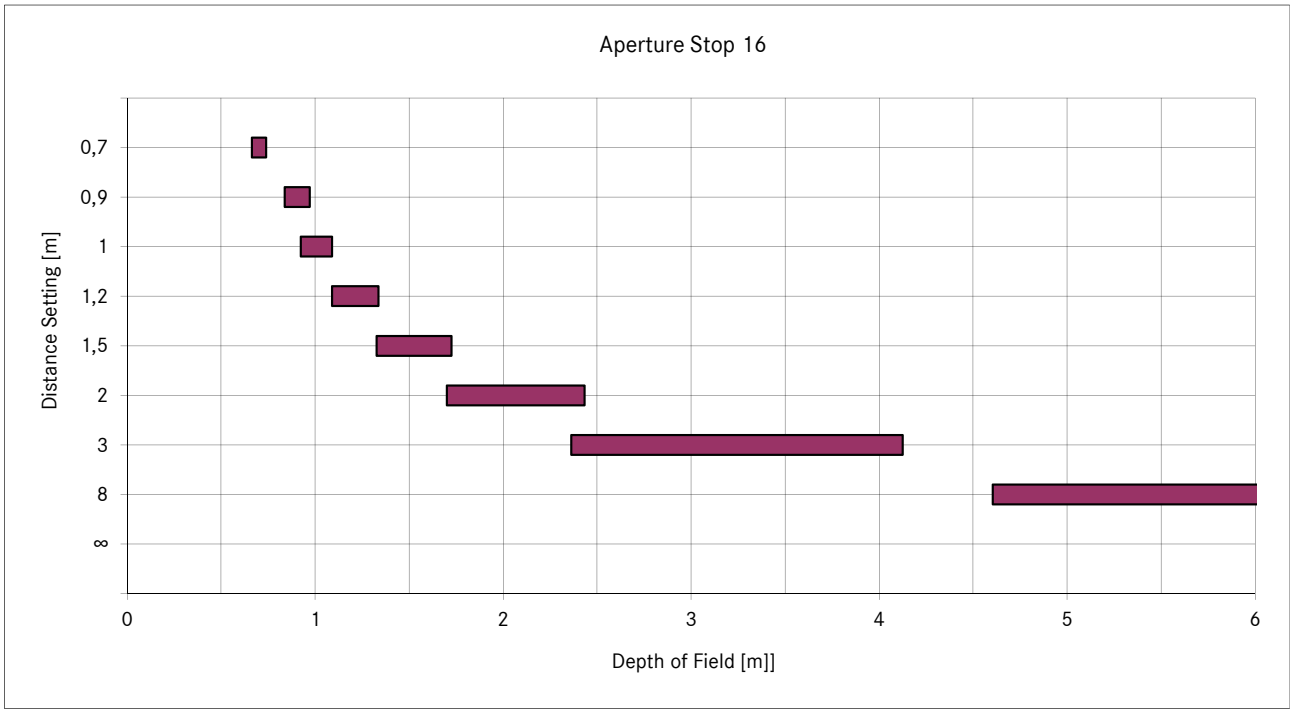

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