



# LEICA **SUMMARIT-M** 50 mm f/2.4

Technical Data.



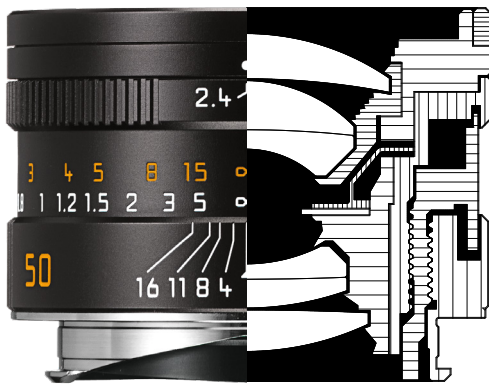
Illustration 1:1

|   |   |
|---|---|
| <b>Lens</b>                                       | <b>Leica Summarit-M 50 mm f/2.4</b>   |
| Order number                                      | Black anodized: 11 680<br>Silver anodized: 11 681   |
| Angle of view<br>(diagonal, horizontal, vertical) | For 35 mm (24 x 36 mm): 47°/40°/27°;<br>for M8 (18 x 27 mm): 36°/30°/20°, equivalent focal length of approx. 67 mm                                  |
| Optical design                                    | Number of elements/groups: 6/4<br>Position of entrance pupil in front of the bayonet: 2.3 mm<br>Focusing range: 0.8 m to infinity                   |
| Distance setting                                  | Scala: combined meter/feet-increments<br>Smallest object field: for 35 mm: 388 x 507 mm, for M8: 253 x 380 mm<br>Largest reproduction ratio: 1:14.1 |
| Aperture  | Setting/type: click stops, half steps<br>Smallest aperture: f/16<br>Number of aperture blades: 9  |
| Bayonet   | Leica M quick-change bayonet  |
| Filter thread                                     | E46   |
| Lens hood   | Screw-on  |
| Dimensions and weight                             | Length: approx. 33 mm (without lens hood)<br>Largest diameter: approx. 52 mm<br>Weight: approx. 105 g/190 g (without/with lens hood)                |



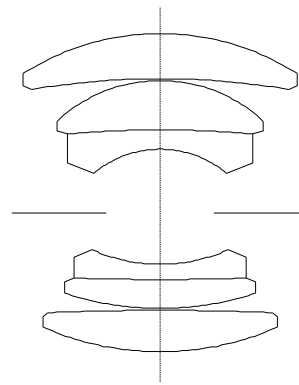
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ENGINEERING DRAWING



Illustrations 1:1

LENS SHAPE



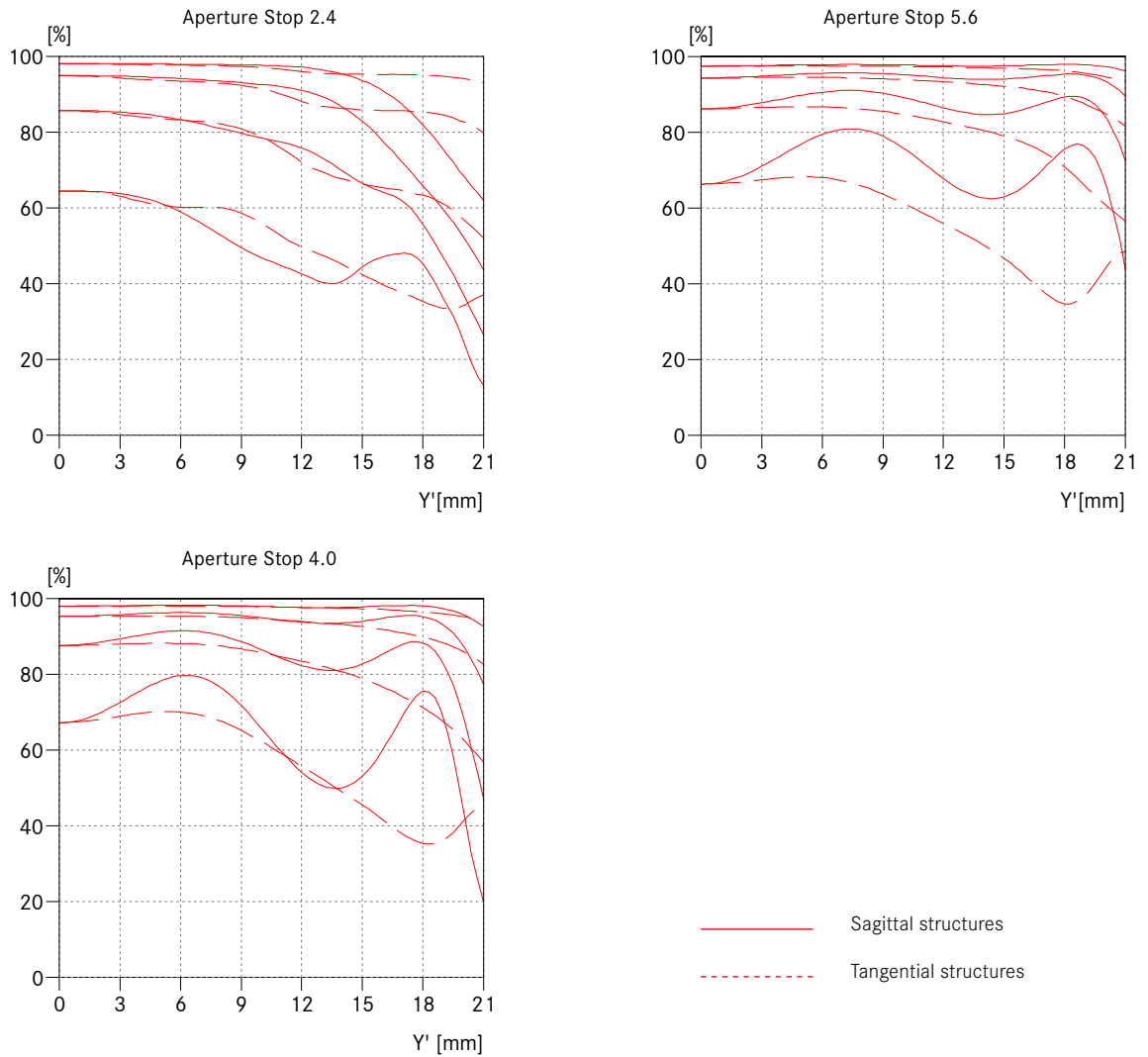
Powerful, lightweight and designed to be easy to operate, the Leica Summarit-M 50 mm f/2.4's applications are as varied as life itself. It corresponds closely to the field of vision and viewing patterns of the human eye and offers an impressively neutral and natural perspective.

The 50 mm Summarit-M is tailor-made for everyday photography. Its lens speed is perfectly adapted for all common applications. It is an updated double-Gauss six-element construction based on our tried and tested design. All of this means that this particular Summarit-M makes the Leica M easier to experience than ever before, without cutting any corners in terms of optical performance.



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## MTF DIAGRAMS



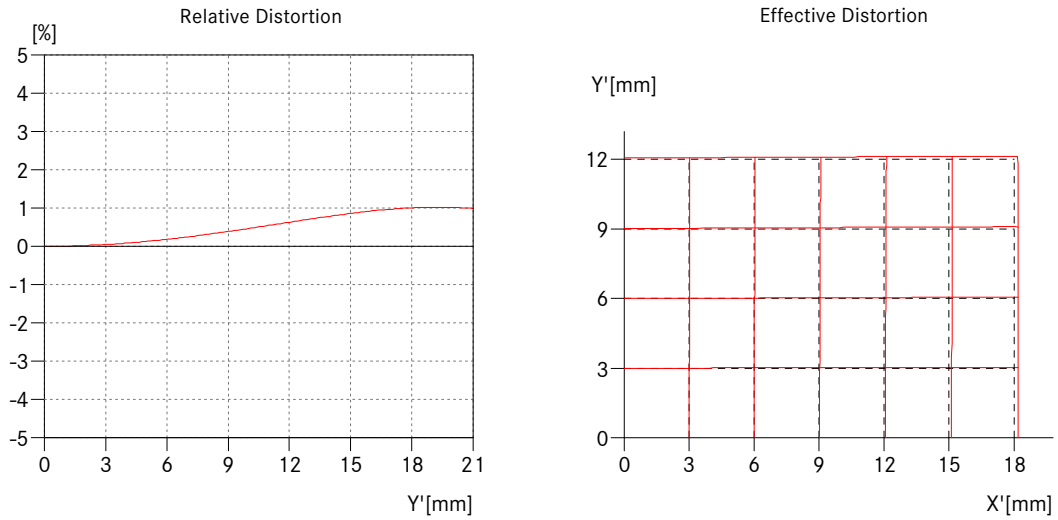
## MTF GRAPHS

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.

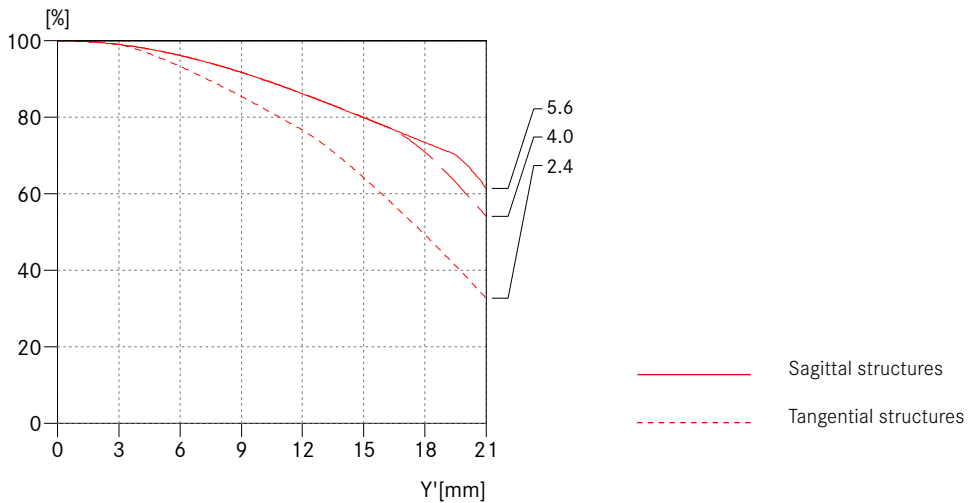


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## DISTORTION



## 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

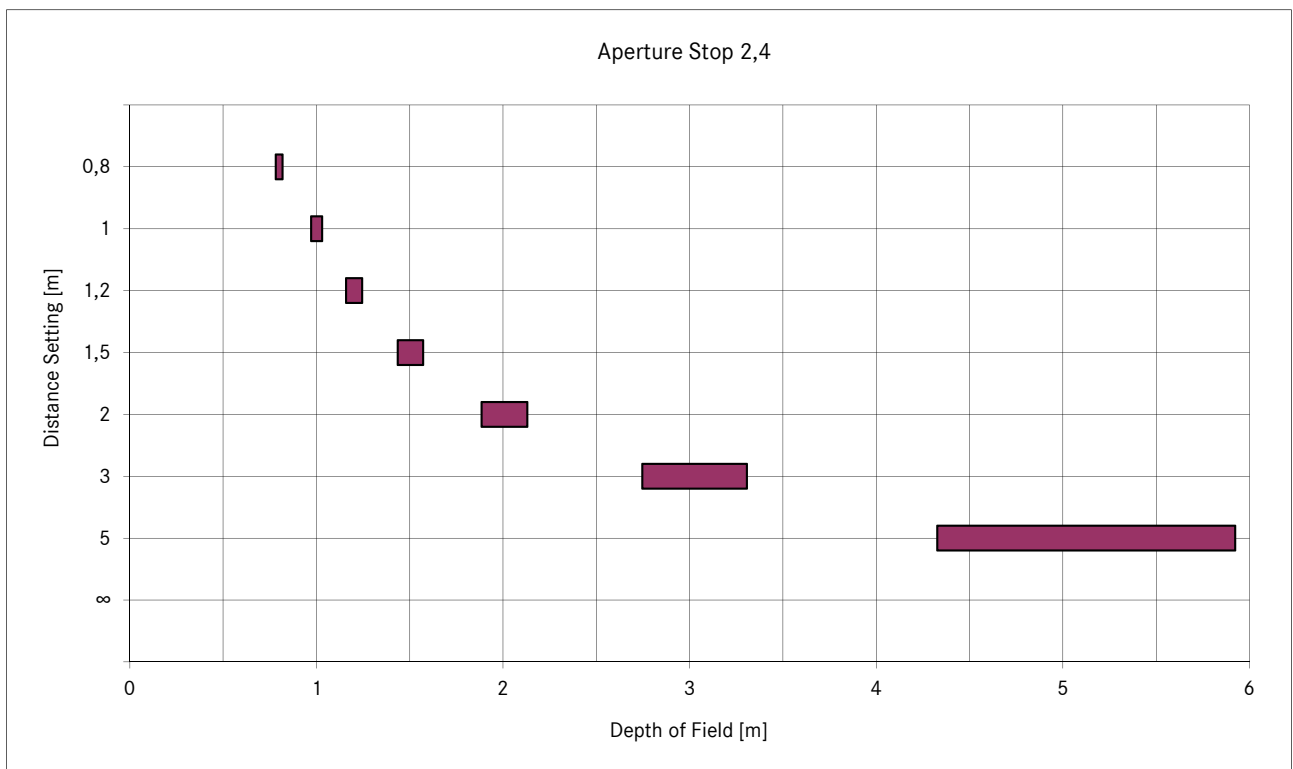
Vignetting is a continuous decrease of the illumination to the edges of the image field. The graph shows the percentage loss of illumination over the image height. 100% means no vignetting.



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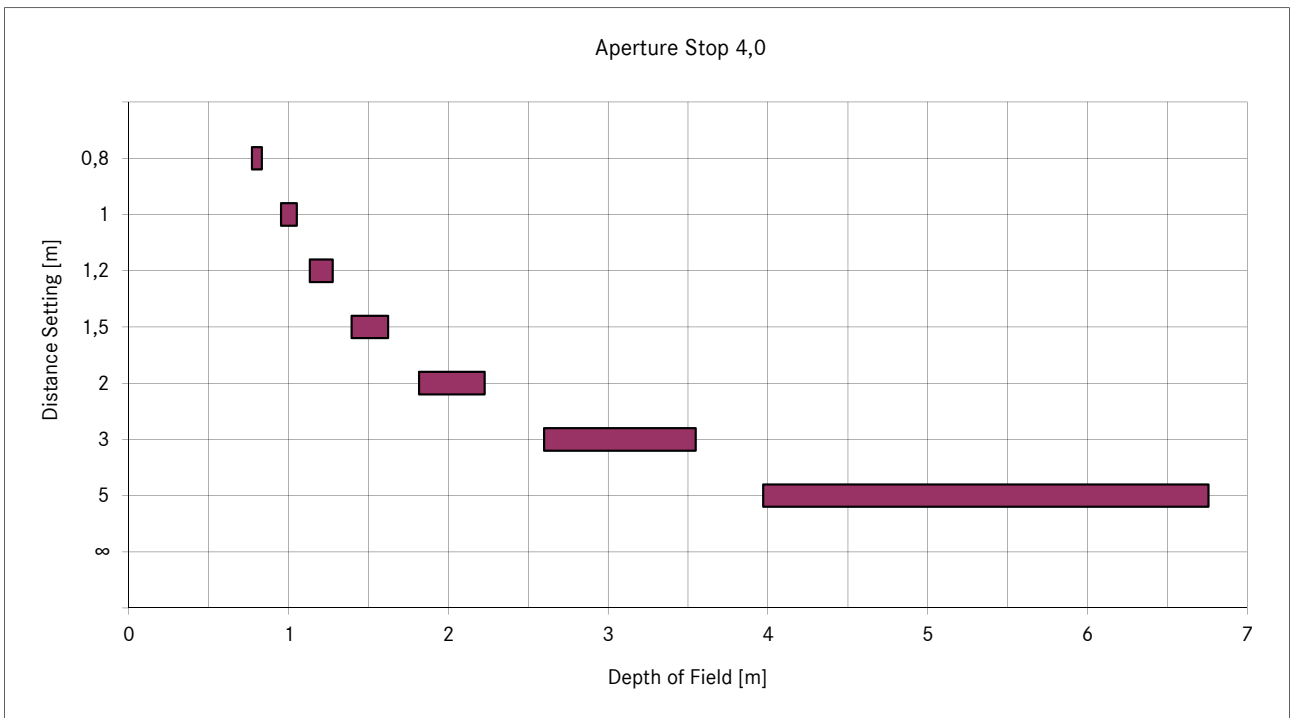
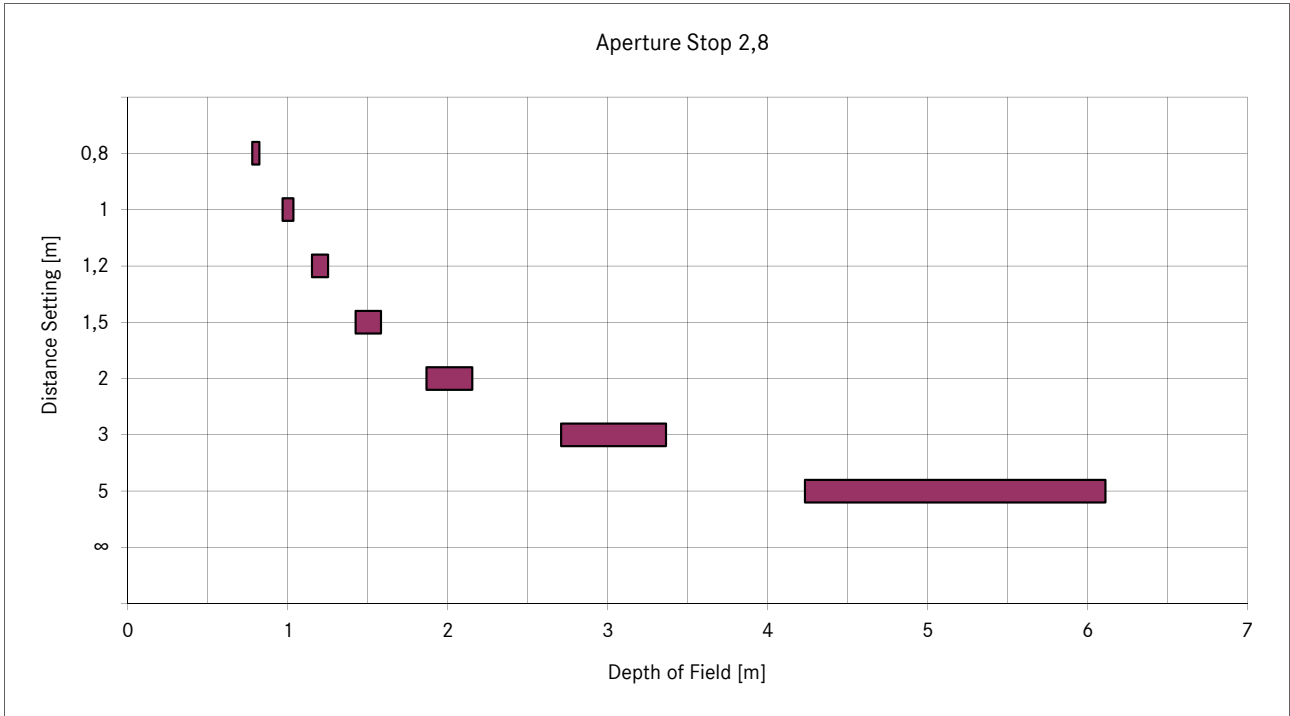
## DEPTH OF FIELD TABLE

|                      |     | Aperture Stop |               |               |               |               |               |               | Magnification |
|----------------------|-----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                      |     | 2.4           | 2.8           | 4.0           | 5.6           | 8.0           | 11.0          | 16.0          |               |
| Distance Setting [m] | 0.8 | 0.782 - 0.819 | 0.779 - 0.822 | 0.770 - 0.832 | 0.759 - 0.846 | 0.743 - 0.867 | 0.724 - 0.895 | 0.694 - 0.947 | 1/14.1        |
|                      | 1   | 0.972 - 1.03  | 0.967 - 1.04  | 0.953 - 1.05  | 0.936 - 1.07  | 0.911 - 1.11  | 0.882 - 1.16  | 0.837 - 1.25  | 1/18.1        |
|                      | 1.2 | 1.16 - 1.24   | 1.15 - 1.25   | 1.13 - 1.28   | 1.11 - 1.31   | 1.07 - 1.36   | 1.03 - 1.44   | 0.970 - 1.58  | 1/22.1        |
|                      | 1.5 | 1.44 - 1.57   | 1.42 - 1.58   | 1.39 - 1.62   | 1.36 - 1.68   | 1.30 - 1.77   | 1.24 - 1.90   | 1.15 - 2.16   | 1/28.1        |
|                      | 2   | 1.89 - 2.13   | 1.87 - 2.15   | 1.82 - 2.23   | 1.75 - 2.33   | 1.66 - 2.51   | 1.56 - 2.78   | 1.42 - 3.39   | 1/38.1        |
|                      | 3   | 2.75 - 3.31   | 2.71 - 3.36   | 2.60 - 3.55   | 2.47 - 3.83   | 2.29 - 4.35   | 2.11 - 5.23   | 1.86 - 7.93   | 1/58.1        |
|                      | 5   | 4.33 - 5.92   | 4.23 - 6.11   | 3.97 - 6.76   | 3.67 - 7.87   | 3.29 - 10.4   | 2.92 - 17.7   | 2.46 - ∞      | 1/98.1        |
|                      | ∞   | 31.7 - ∞      | 27.2 - ∞      | 19.1 - ∞      | 13.6 - ∞      | 9.54 - ∞      | 6.95 - ∞      | 4.78 - ∞      | 1/∞           |



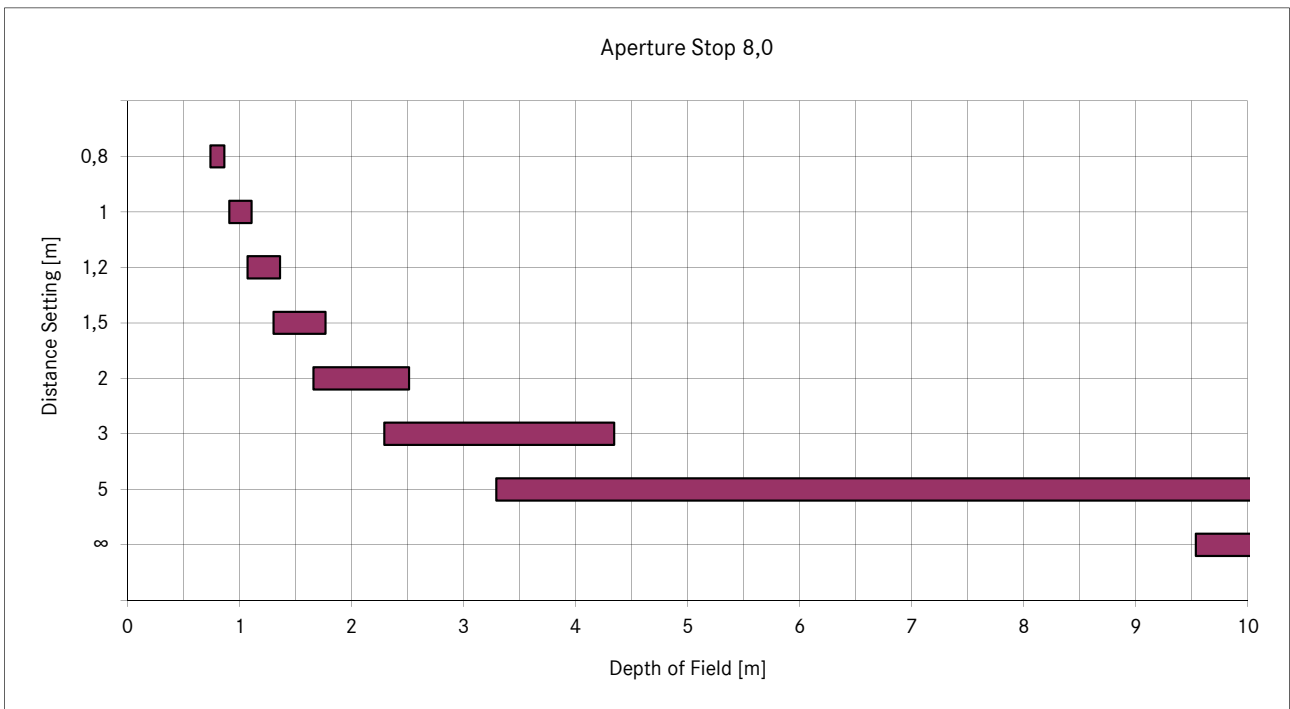
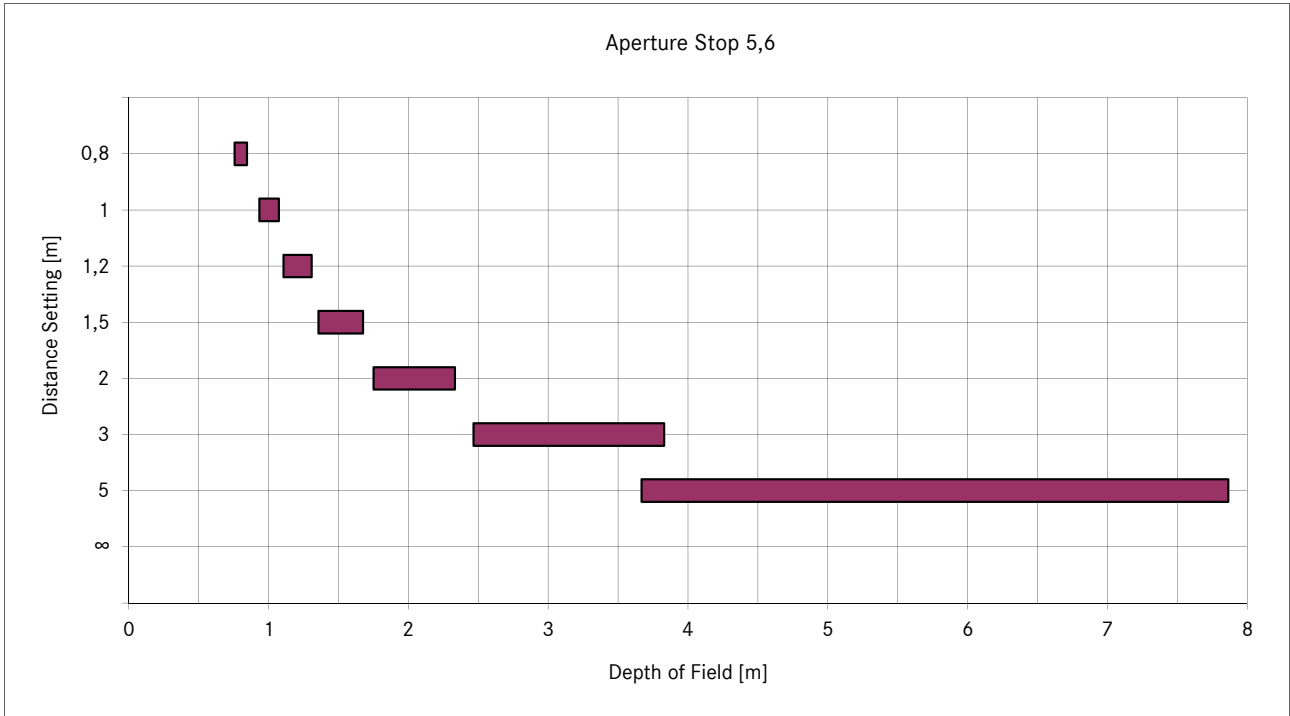


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