

## HCD 4-5,6/35-90 ASPHERICAL

DATASHEET

The result of our constant striving for ultimate performance, the HCD 35-90mm zoom lens combines our advanced optical design models with a new aspheric lens element design to create what we think is the highest performing zoom lens on the market today.

### GENERAL LENS DATA

Focal length	36,3 (87,0)mm
Equivalent 35mm focal length <sup>1</sup>	23,5 (56,4) mm
Aperture range	4 (5,6) - 32
Angle of view diag/hor/vert 53,4 x 40 format	86°/73°/58° (42°/35°/26°)
Angle of view diag/hor/vert 44 x 33 format	74°/62°/49° (35°/23°/21°)
Length/diameter	167 mm/102,5 mm
Weight	1410 g
Filter diameter	95 mm

<sup>1</sup> Horizontal coverage between 53,4 x 40 and 36 x 24 compared

### CLOSE FOCUS RANGE DATA

Minimum distance object to film	0,65 m
Maximum image scale	1:13 (1:5,4)
Corresponding area of coverage	69 x 52 (29 x 22) cm
Corresponding exposure reduction	0 f-stop



### LENS DESIGN

13 elements in 11 groups  
1 Aspherical surface

### FOCUS TYPE

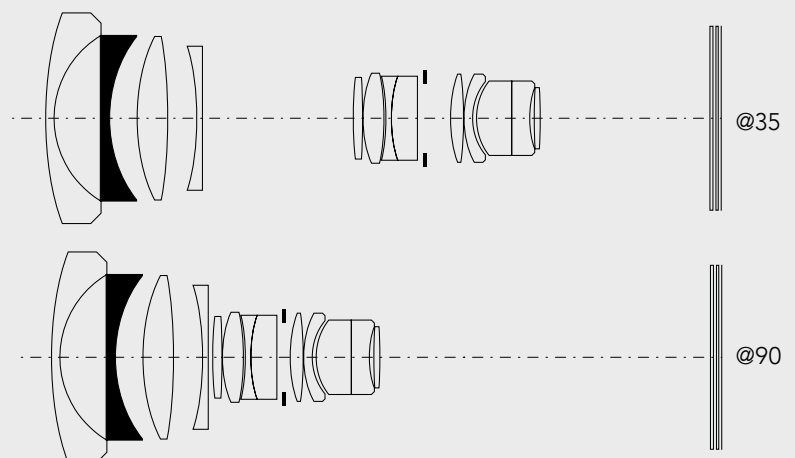
Internal focusing

### ENTRANCE PUPIL POSITION

@35mm: 187 mm  
@50mm: 178 mm  
@90mm: 193 mm

In front of the film plane  
(at infinite focus setting)

The entrance pupil position is the correct position of the axis of rotation when making a panorama image by combining individual images of a scene.

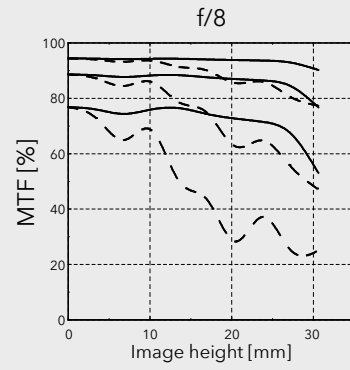
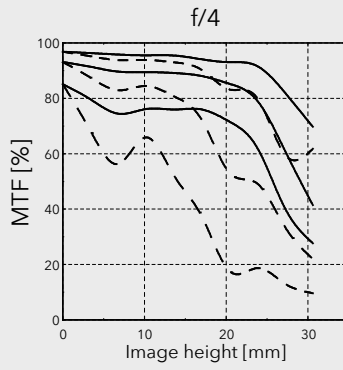


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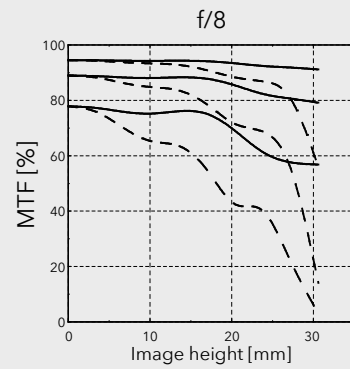
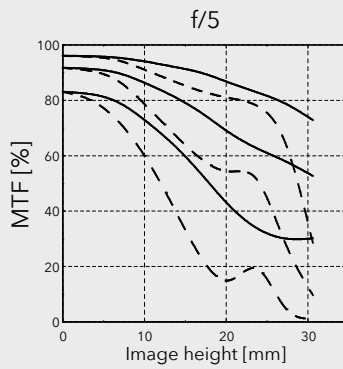
### MTF

Modulation Transfer as a function of image height at infinite focus setting.

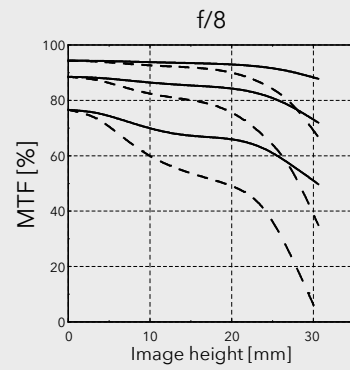
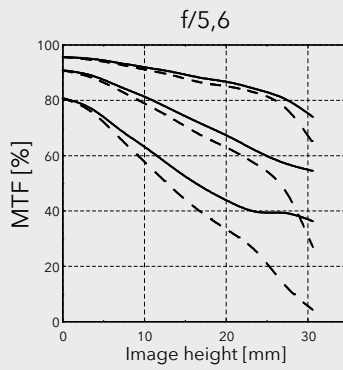
Sagittal slit orientation drawn with continuous line and tangential with dashed. White light. Spatial frequencies 10, 20 and 40 lp/mm



@35



@55



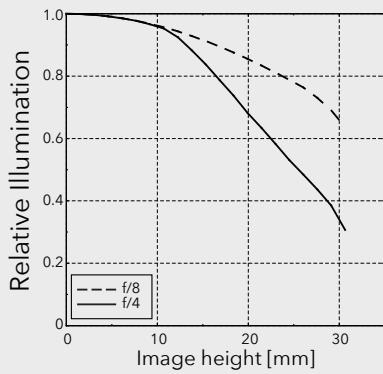
@90

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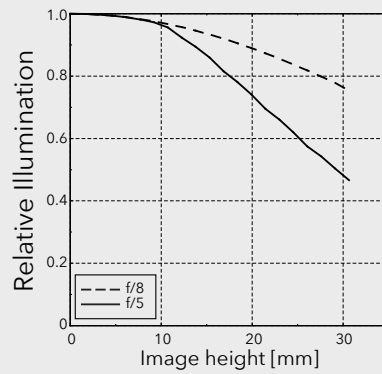
### RELATIVE ILLUMINATION

Infinity setting

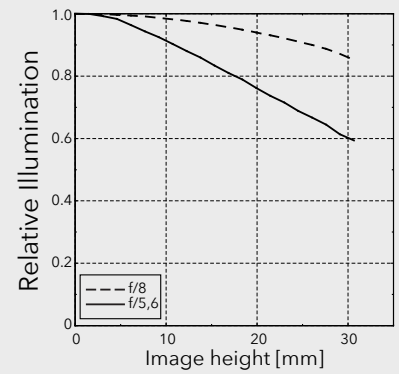
When images are imported to Phocus, light fall-off is automatically removed.



@35



@55

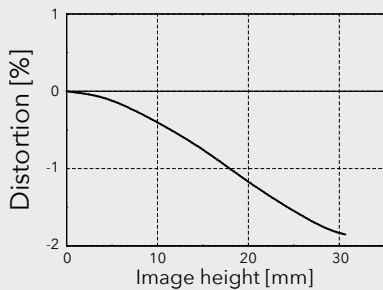


@90

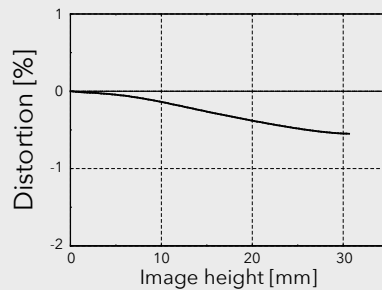
### DISTORTION

Infinity setting

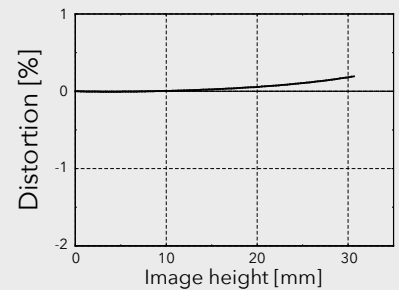
When images are imported to Phocus, distortion is automatically removed.



@35



@55



@90