

Nikkor AF-S 70-200mm f/2.8 G IF-ED VR - Review / Test Report - Analysis

Lens Reviews - Nikon / Nikkor (APS-C)  
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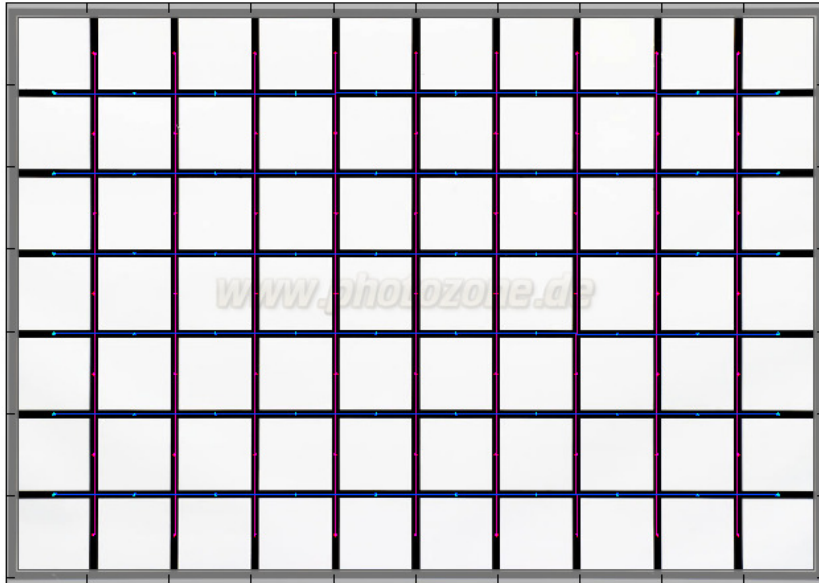
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- [Analysis](#)
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**Distortions**

The AF-S 70-200mm VR has a very moderate 3x zoom ratio and the level of distortions is quite low accordingly. At 70mm there's a moderate degree of barrel distortions (0.7%) changing to moderate pincushion distortions (0.7%) at the long end of the zoom range.

Move the mouse cursor over the focal length text marks below to observe the respective distortions  
70mm 135mm 200mm

Distortion: 3rd order correction 02-Jul-2006 14:58:12  
135mm



SMIA TV Distortion = 0.334%  
 $k_1 = -0.00519$  ( $r_u = r_d + k_1 r_d^3$ )  
 (r in center-corner units.)  
 $h_1, h_2 = -0.00959, 0.00577$   
 PW Pro Coeff. = -0.0125  
 PW Pro Scale = 1.005  
 Line calc: 3rd order

**Selected EXIF data**      Aper: f/8.0  
 File: 2006:07:02 14:56:04      ISO: 200  
 Make: NIKON CORPORATION  
 Model: NIKON D200  
 Taken: 2006:07:01 15:22:38  
 Res: 1000 x 707  
 FL:  
 Exp: 0.011 s (1/90)

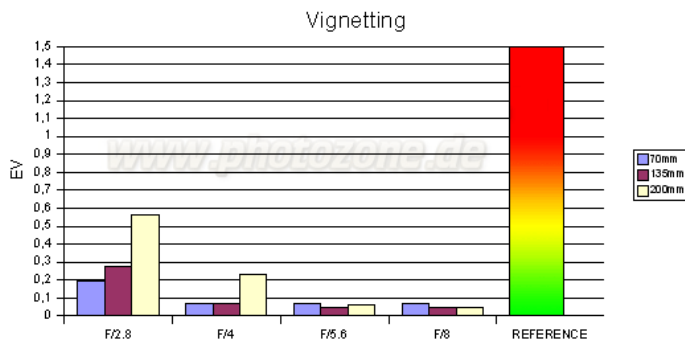


The chart above has a real-world size of about 120x80cm.

**Vignetting**

On an APS-C DSLR the full-frame AF-S 70-200mm VR can take advantage of a sweet spot effect. At 70mm and 135mm the issue is negligible even at f/2.8. At 200mm at f/2.8 vignetting is a little more pronounced but still not overly field relevant. If needed stopping down a little will solve the problem completely.

Vignetting	F/2.8	F/4	F/5.6	F/8
70mm	0,2	0,07	0,07	0,07
135mm	0,28	0,07	0,05	0,05
200mm	0,56	0,23	0,06	0,05



**MTF (resolution)**

In the MTF lab the first sample lens delivered good to very good resolution figures but suffered from a rather pronounced centering defect - this is actually not overly unusual for Nikon VR lenses if the local testing history serves as a guidance. In the meanwhile a 2nd sample has been tested that performed significantly better - these results are presented below.

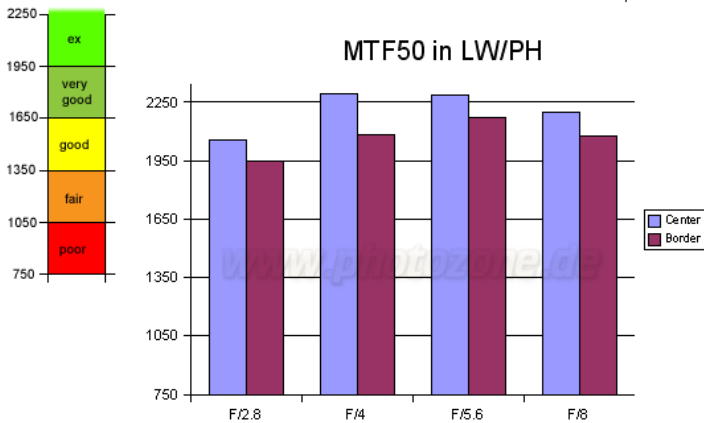
Generally the both the center and border resolution is excellent throughout the tested focal-length and aperture range. At 70mm the results are stellar and about as good as it gets on the Nikon D200. At 135mm and 200mm there's a marginal decrease in quality which shouldn't be really field relevant. The sweet spot of the lens is located around f/5.6.

Below is a simplified summary of the formal findings. The chart shows in line widths per picture height (LW/PH) which can be taken as a quantity for sharpness. The chart is limited to the visually relevant LW/PH range of [750, 2250]. If you want to know more about the MTF50 figures you may check out the corresponding [Imatest Explanations](#).

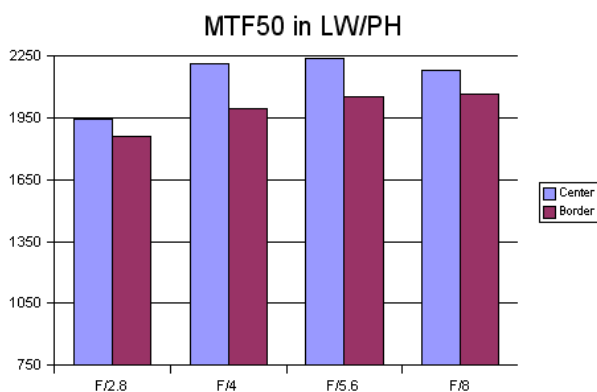
**Rating Scale: Nikkor AF-S 70-200mm f/2.8 G IF-ED VR**

Nikon (10mp)

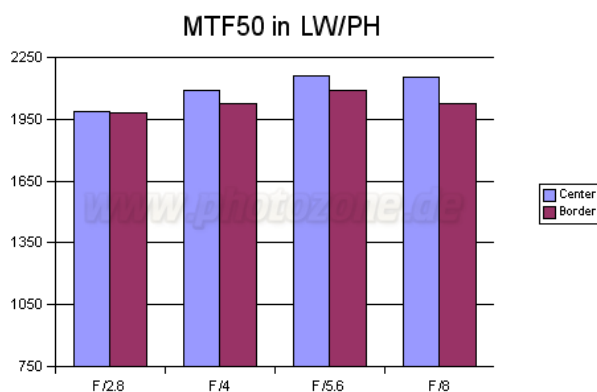
	70mm	F/2.8	F/4	F/5.6	F/8
max:		2057	2296	2288,5	2198,5
~2320 LW/PH		1949	2081	2171,5	2073,5



	135mm	F/2.8	F/4	F/5.6	F/8
Center		1945,5	2210,5	2241	2180
Border		1863	1996,5	2051	2064



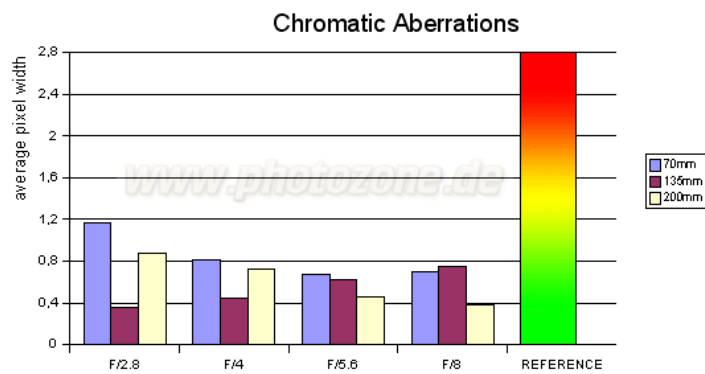
	200mm	F/2.8	F/4	F/5.6	F/8
Center		1989	2087,5	2161,5	2157
Border		1981	2023	2087	2025,5



**Chromatic Aberrations (CAs)**

Chromatic aberrations (color shadows at harsh contrast transitions) are generally well controlled with a local peak of 1.2px on the average at the image borders at 70mm f/2.8.

Border CA	F/2.8	F/4	F/5.6	F/8
70mm	1,17	0,82	0,67	0,69
135mm	0,36	0,45	0,62	0,76
200mm	0,87	0,73	0,46	0,38



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