

Nikkor AF 50mm f/1.8 D - Review / Test Report

Lens Reviews - Nikon / Nikkor (APS-C)  
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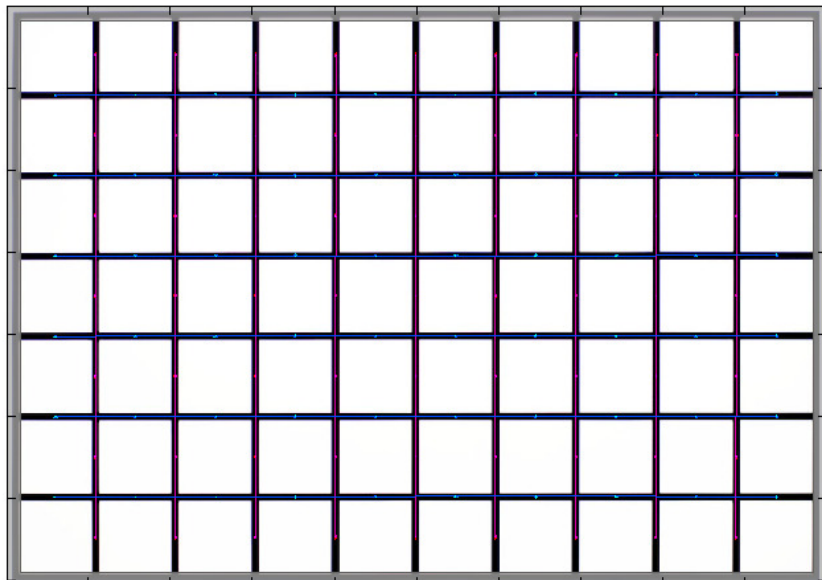
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Distortions

As expected for a fix-focal lens the level of (barrel) distortions is very low (0.26%) and nothing to worry about.

Distortion: 3rd order correction 01-Apr-2006 19:48:32  
50mm



SMIA TV Distortion = -0.265%  
 $k_1 = 0.00425$  ( $r_u = r_d + k_1 r_d^3$ )  
 (r in center-corner units.)  
 $h_1, h_2 = -0.00844, 0.014$   
 PW Pro Coeff. = 0.01131  
 PW Pro Scale = 0.99886  
 Line calc: 3rd order

Selected EXIF data

File: 2006:04:01 19:48:21  
 Make: NIKON CORPORATION  
 Model: NIKON D200  
 Taken: 2006:04:01 18:46:04  
 Res: 1000 x 706  
 FL:  
 Exp: 0.050 s (1/20)

Aper: f/2.2  
 ISO: 200

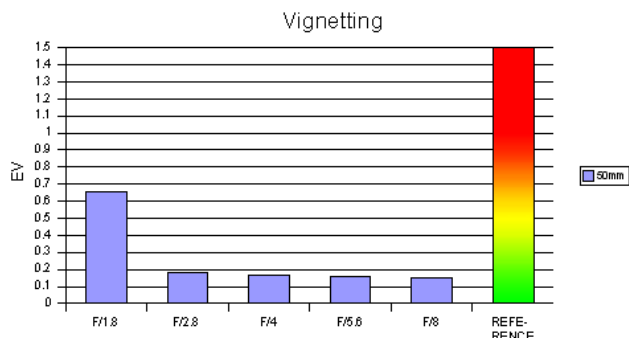


The chart above has a real-world size of about 120x80cm. Possibly things may get a little worse with extreme close-ups.

Vignetting

Thanks to the sweet spot behavior on the D200 vignetting is very well controlled. Wide-open vignetting is a little stronger at ~0.66EV which may be visible in very critical scenes. From f/2.8 and up the problem is negligible.

Vignetting	F/1.8	F/2.8	F/4	F/5.6	F/8
50mm	0.66	0.18	0.17	0.16	0.15



MTF (resolution)

Update 04/11/2006 - tested new sample which performed better at the borders.

Standard lenses are stellar performer when used at medium aperture settings and the Nikkor AF 50mm f/1.8 D is no exception here. At f/4-f/8 the lens is surely as good as it gets on the D200 with an *excellent* center and a *very-good* border performance. Nonetheless it is also fairly typical for ultra-large aperture lenses that things aren't quite as rosy at wide-open aperture but the center is already *excellent* here whereas the borders are a bit soft (combined with rather low contrast). From f/2.8 and up the distribution of the MTF50 curve suggests that the center performance exceeds the quality of the D200. The borders improve continuously with *good* figures at f/2.8 and *very-good* results at f/4.

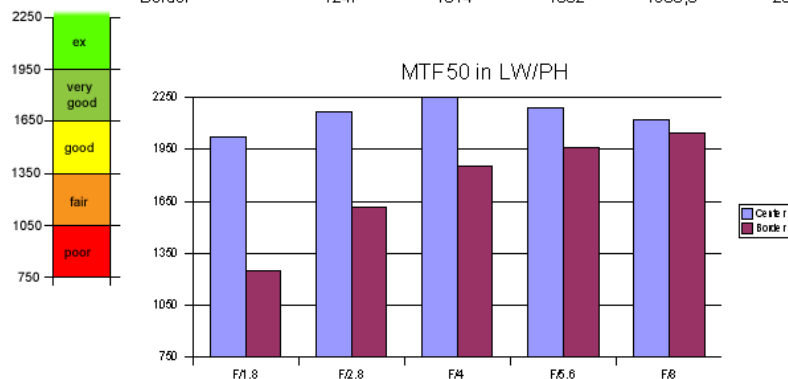
The lens showed slight residual spherical aberrations (focus shift when stopping down).

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 50mm f/1.8 D**

Nikon (10mp)

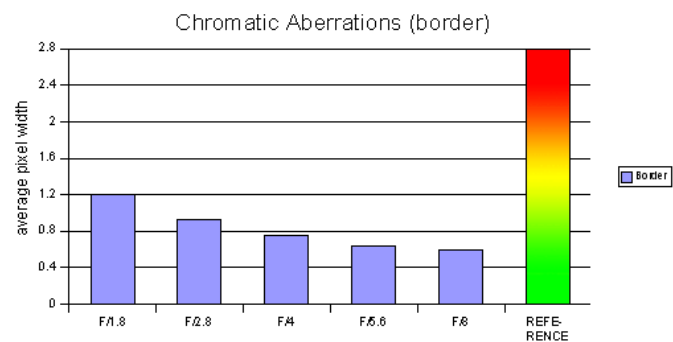
50mm	F/1.8	F/2.8	F/4	F/5.6	F/8
max:	2022,5	2164,5	2250	2189	2122,5
Center					
Border	1247	1614	1852	1963,5	2046



**Chromatic Aberrations (CAs)**

Chromatic aberrations (color shadows at harsh contrast transitions) are relatively pronounced for a fix-focal with an average pixel width of 1.2px at the image borders. Nonetheless it's not a major problem. Stopping down improves the issue to moderate figures.

CAs	F/1.8	F/2.8	F/4	F/5.6	F/8
Border	1.2	0.92	0.75	0.64	0.59



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