

Nikkor AF 24mm f/2.8D - Review / Test Report

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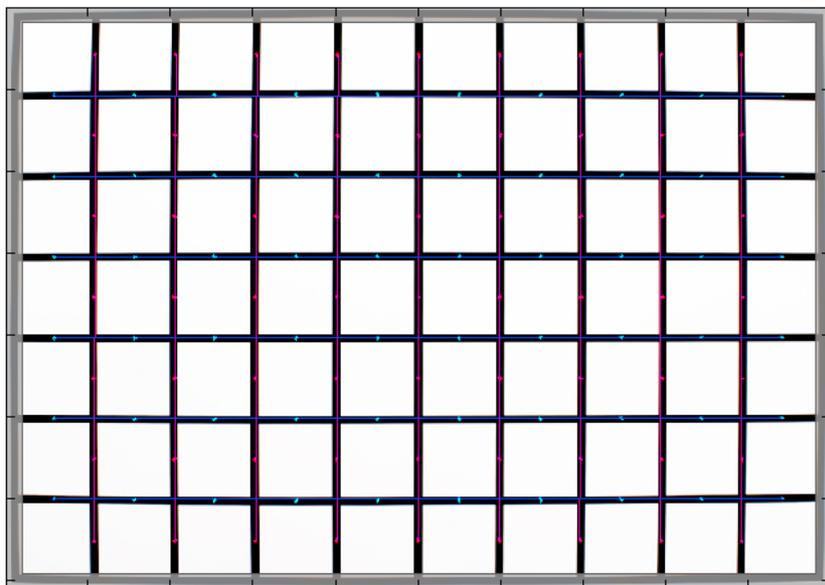
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Distortions

The AF 24mm f/2.8D exhibits relatively pronounced barrel distortions (1.2%) which is a little more than desirable for a fix-focal lens.

Distortion: 3rd order correction 10-Apr-2006 23:16:55  
24mm



SMIA TV Distortion = -1.23%  
 $k_1 = 0.0201$  ( $r_u = r_d + k_1 r_d^3$ )  
 (r in center-corner units.)  
 $h_1, h_2 = 0.015, 0.00539$   
 PW Pro Coeff. = 0.02425  
 PW Pro Scale = 0.9934  
 Line calc: 3rd order

**Selected EXIF data**  
 File: 2006:04:10 23:14:02  
 Make: NIKON CORPORATION  
 Model: NIKON D200  
 Taken: 2006:04:10 22:04:35  
 Res: 1000 x 709  
 FL:  
 Exp: 0.700 s

Aper: f/8.0  
 ISO: 200

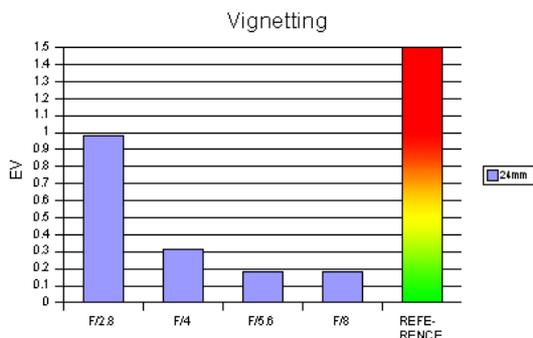


The chart above has a real-world size of about 120x80cm.

Vignetting

The AF 24mm f/2.8D is a full frame lens thus enjoying a sweet spot advantage on APS-C DSLRs. Nonetheless it still produces very pronounced vignetting of almost one full stop at wide-open aperture (f/2.8) - a little disappointing. However, from f/4 and up the issue is not field-relevant anymore.

Vignetting	F/2.8	F/4	F/5.6	F/8
24mm	0.98	0.31	0.18	0.18



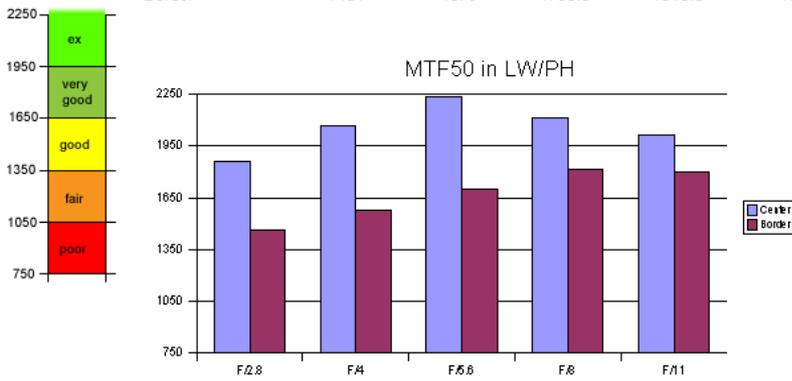
MTF (resolution)

The Nikkor showed a rather mixed performance in the lab. The sheer resolution figures are generally very decent. The center performance is already very high at wide-open aperture and it even reaches the resolution limits of the D200 at f/5.6. The border quality is good at f/2.8 gradually improving towards a peak around f/8 with very-good results. A rather annoying characteristic of the lens are spherical aberrations (focus shifts when stopping down). At focus distances below ~2-3m and medium aperture settings you should visually confirm the depth-of-field (via DOF preview). This is a fate shared by a couple of lenses of that design era. The lens also exhibits a moderate degree of field curvature.

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 24mm f/2.8 D**  
 Nikon (10mp)

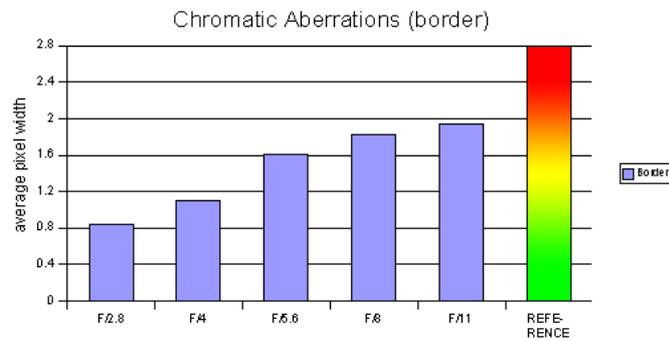
24mm	F/2.8	F/4	F/5.6	F/8	F/11
Center	1864	2065	2234.5	2113	2013
Border	1461	1579	1703.5	1816.5	1798



**Chromatic Aberrations (CAs)**

Chromatic aberrations (color shadows at harsh contrast transitions) are a weakness of this lens peaking in almost 2 pixels on the average at the image borders at medium aperture settings. Unless you correct the issue via an imaging application CAs will be quite easily visible in critical scenes.

CAs	F/2.8	F/4	F/5.6	F/8	F/11
Border	0.84	1.1	1.61	1.82	1.95



Here's an example of the problem (upper left border portion of a test chart):



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