

Nikkor Ai-P 45mm f/2.8 - Review / Lab Test Report

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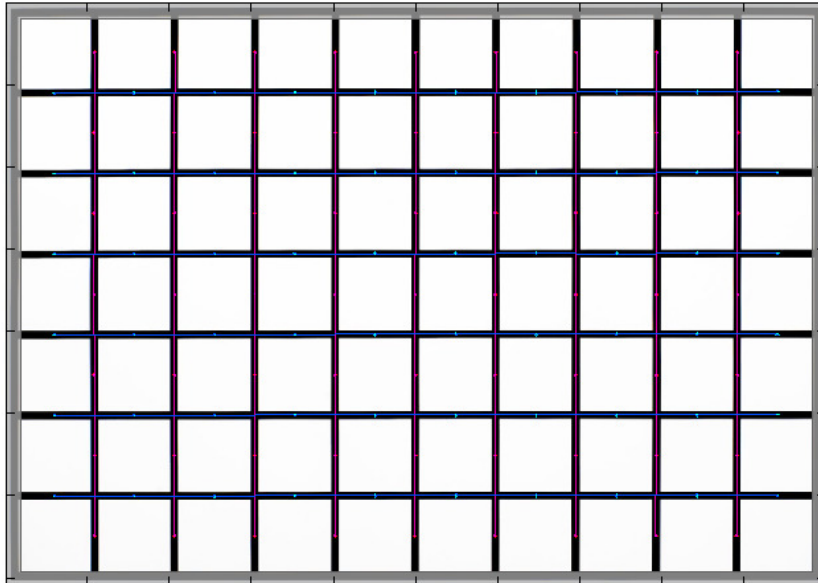
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**Distortions**

Short story here - the Ai-P 45mm f/2.8 is basically free of distortions (0.2%).

**Distortion: 3rd order correction 26-Jan-2007 16:59:31  
45mm**



SMIA TV Distortion = -0.209%  
 $k_1 = 0.00325$  ( $r_u = r_d + k_1 r_d^3$ )  
 (r in center-corner units.)  
 $h_1, h_2 = 0.00706, -0.00334$   
 PW Pro Coeff. = 0.009813  
 PW Pro Scale = 0.9989  
 Line calc: 3rd order

**Selected EXIF data**  
 File: 2007:01:26 16:59:29  
 Make: NIKON CORPORATION  
 Model: NIKON D200  
 Taken: 2007:01:26 16:25:16  
 Res: 1000 x 708  
 FL:  
 Exp: 4.000 s

Aper: f/16.0  
ISO: 200

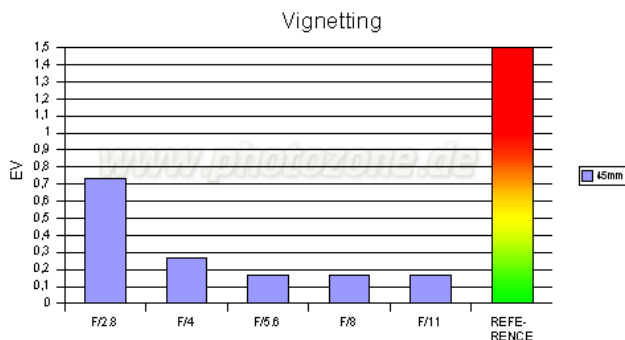


The chart above has a real-world size of about 120x80cm.

**Vignetting**

The Ai-P 45mm f/2.8 is a full format lens thus enjoying a sweet spot advantage on APS-C DSLRs. Nonetheless it still produces a relatively pronounced max. vignetting of 0.74 EV at wide-open aperture. However, from f/4 the issue is negligible.

Vignetting	F/2.8	F/4	F/5.6	F/8	F/11
45mm	0,74	0,27	0,17	0,17	0,17



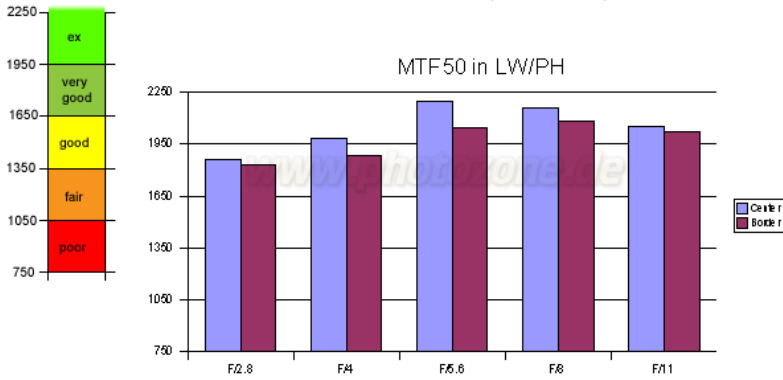
**MTF (resolution)**

The Nikkor performed quite impressively in the MTF lab with a very even center to edge resolution at all focal lengths. Compared to ordinary normal lenses the max. resolution is lower at comparable large aperture settings whereas the border performance is about as good. At and beyond f/5.6 the quality is exceptional and about as good as it gets on the D200.

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 Ai-P 45mm f/2.8**  
Nikon (10mp)

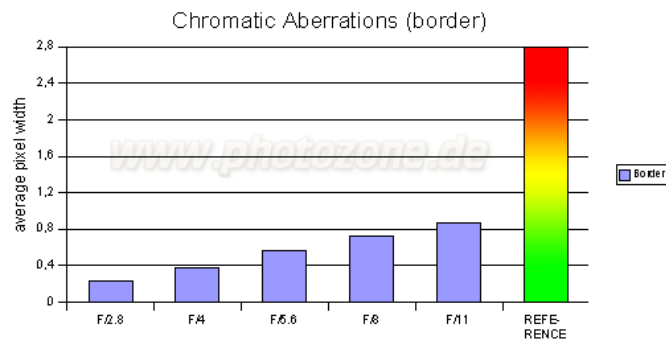
	45mm	F/2.8	F/4	F/5.6	F/8	F/11
max:						
Center		1860,5	1981,5	2201,5	2160	2052
Border		1832	1885	2046,5	2086,5	2019



**Chromatic Aberrations (CAs)**

Chromatic aberrations (color shadows at harsh contrast transitions) are negligible at f/2.8 but increase constantly along the tested aperture range. However, even at f/11 the problem remains moderate with a maximum below 1 pixel on the average at the image borders.

CAs	F/2.8	F/4	F/5.6	F/8	F/11
Border	0,23	0,38	0,57	0,73	0,87



**Verdict**

The Nikkor Ai-P 45mm f/2.8 may be a cute lens but it is also a very serious performer with very high resolution, marginal distortions, moderate CAs and quite well-controlled vignetting. The build quality is very good. The problem may be that today it represents an answer to a question which was asked long ago. f/2.8 is not exactly fast for a normal lens so the more common f/1.4 and f/1.8 variants tend to make more sense ... at lesser costs. So at the end of the day the meaning of the lens lies in its extremely small form factor. But damn, it is so cute ...

Optical Quality: ★★★★★  
Mechanical Quality: ★★★★★  
Price/Performance: discontinued



[What does this mean ?](#) Highly Recommended

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