

Nikkor AF 85mm f/1.4D - Review / Test Report

Lens Reviews - Nikon / Nikkor (APS-C)  
Page 2 of 3

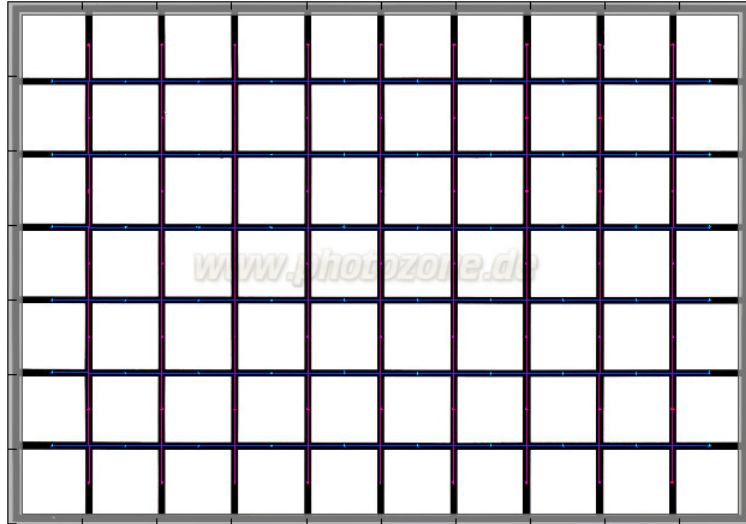
ARTICLE INDEX

- [Introduction](#)
- [Analysis](#)
- [Sample Images & Verdict](#)

Distortions

The AF 85mm f/1.4D shows extremely low distortions (0.15%) which are negligible in field conditions.

Distortion: 3rd order correction 02-Jul-2006 14:51:47  
85mm



SMIA TV Distortion = -0.151%  
 $k_1 = 0.00231$  ( $r_u = r_d + k_1 r_d^2$ )  
 (r in center-corner units.)  
 $h_1, h_2 = -0.000325, 0.00311$   
 PW Pro Coeff. = 0.00825  
 PW Pro Scale = 0.9993  
 Line calc: 3rd order

Selected EXIF data

File: 2006-07-02 14:51:43  
 Make: NIKON CORPORATION  
 Model: NIKON D200  
 Taken: 2006-07-01 15:45:51  
 Res: 1000 x 702  
 FL:  
 Exp: 0.0040 s (1/250)

Aper: f/9.0  
 ISO: 640

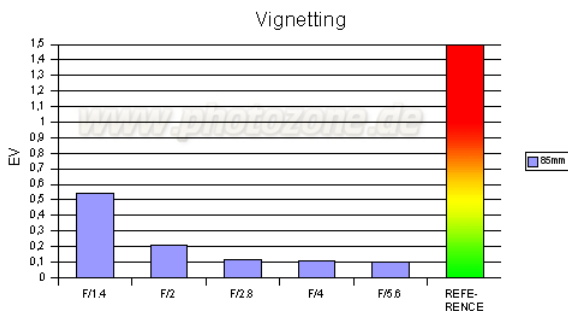


The chart above has a real-world size of about 120x80cm.

Vignetting

The AF 85mm f/1.4D is a full-frame lens so it can take advantage of a sweet spot effect on the D200. Vignetting is very well controlled even at max. aperture with a relative light loss of only 0.5EV which is generally irrelevant. From f/2 the issue is absolutely negligible.

Vignetting	F/1.4	F/2	F/2.8	F/4	F/5.6
85mm	0,54	0,21	0,11	0,11	0,1



MTF (resolution)

Due to the generated stir of the initial review of this lens in several Nikon forums I've tested a 2nd sample in the meanwhile. The new sample showed a slightly improved border performance but the principal findings remain intact: The AF 85mm f/1.4D didn't totally convince regarding its resolution characteristic. The center performance is exceptionally high throughout the tested aperture range but the border quality isn't quite on that level at large apertures due to a pronounced degree of astigmatism or in other words: a different resolution characteristics of sagittally (center to edge) and tangentially (around the center) lines - both values are averaged in the provided MTF charts below. At f/1.4 the images also suffer from reduced contrast. Stopping down does gradually improve the border quality but the peak isn't reached till f/5.6. Very good borders are present from f/2.8 and up which is still quite "early" in the aperture range.

Please note that resolution isn't everything and the provided sample shot above isn't really a scene that you would shoot at this aperture setting. Lenses like the AF 85mm f/1.4D are primarily used to achieve a minimal depth-of-field combined with a nice bokeh (out-of-focus blur) and the Nikkor is easily capable to provide just that.

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](#).

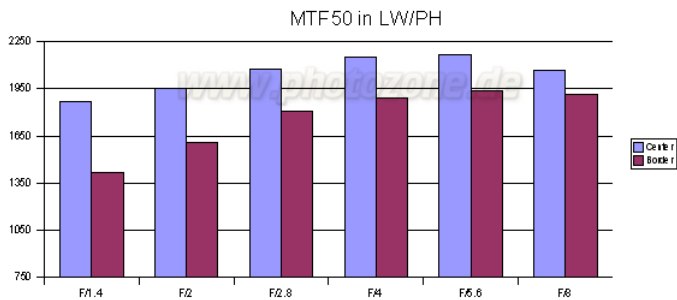
Move the mouse cursor over the focal length text marks below to observe the respective MTFs

2nd lens sample

1st lens sample

**Nikkor AF 85mm f/1.4 D**

85mm	F/1.4	F/2	F/2.8	F/4	F/5.6	F/8
Center	1871	1953	2076,5	2152,5	2165	2070,5
Border	1415,5	1609,5	1804,5	1891,5	1941,5	1918



**Chromatic Aberrations (CAs)**

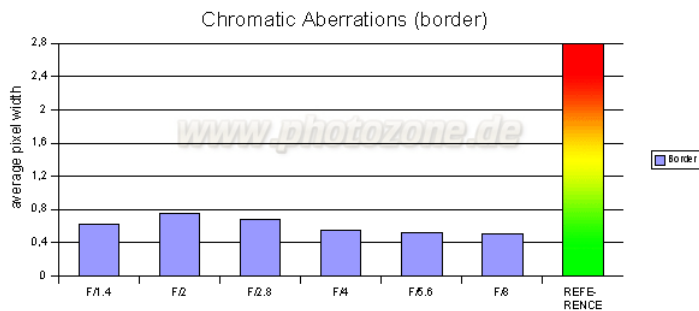
LATERAL chromatic aberrations (color shadows at harsh contrast transitions) are very well controlled and not really field relevant.

Move the mouse cursor over the focal length text marks below to observe the respective CAs

2nd lens sample

1st lens sample

CAs	F/1.4	F/2	F/2.8	F/4	F/5.6	F/8
Border	0,63	0,75	0,69	0,55	0,52	0,51



**Purple Fringing**

Lateral CAs tell only one part of the CA story - purple fringing (PF) is another one. PF can be desired as a blooming effect in out-of-focus highlights around extreme contrast transitions. Unlike lateral CAs purple fringing cannot be easily corrected but they also don't occur quite that often and stopping down reduces PF significantly. At ultra-large aperture settings the Nikkor AF 85mm f/1.4D has its share of PF as you can see in the sample portion of a fountain shot below. At f/8 the same portion doesn't even show any traces of PF anymore. Please note that PF also seem to be dependent on the image sensor of the camera.

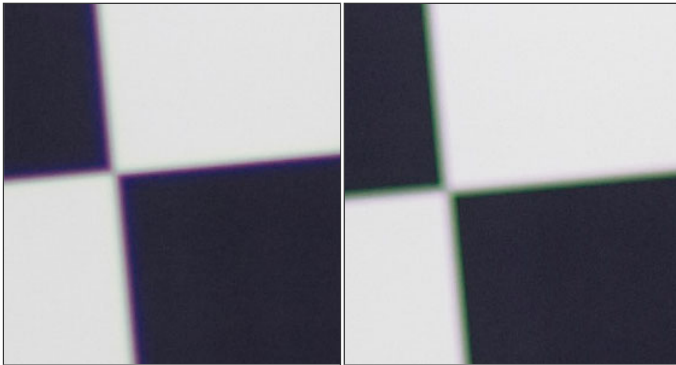


f/8

**Longitudinal Chromatic Aberrations (LoCA)**

LoCAs (non-coinciding focal planes of the various colors) are a further aspect. Similar to several other ultra-large aperture lenses (like the Canon EF 85mm f/1.2L) the Nikkor also suffers from this defect. Below are two out-of-focus sample portions taken at f/1.4 just before and behind the optimal point of focus. As you can easily notice the halos have different colors - magenta (red + blue) and green.

You may argue that these are theoretical observations but the effect is easily field-relevant. Please check the out-of-focus portions in the sample image with the array of statues in the sample images chapter (see the rear statues).

[<< Prev - Next >>](#)