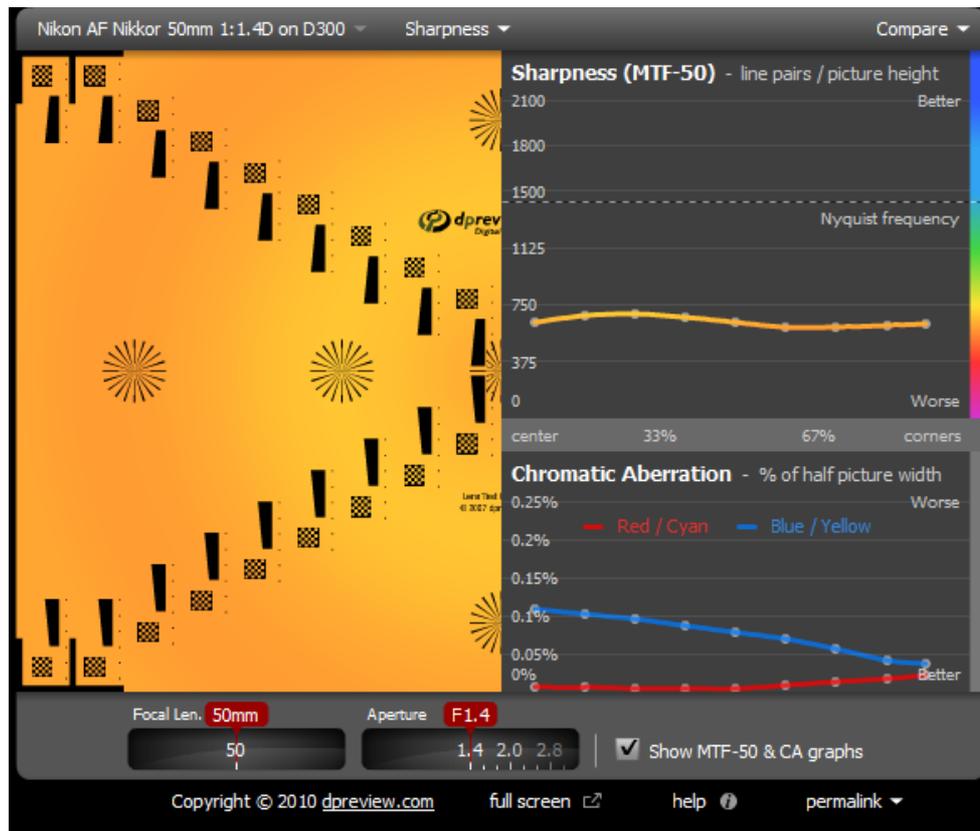


Studio Tests - DX format

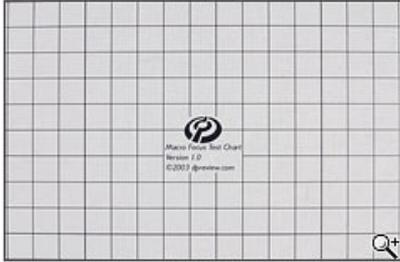


NOTE the line marked 'Nyquist Frequency' indicates the maximum theoretical resolution of the camera body used for testing. Whenever the measured numbers exceed this value, this simply indicates that the lens out-resolves the sensor at this point - the calculated MTF values themselves become meaningless.

The Nikon 50mm F1.4 distinctly struggles on DX at wider apertures (where it is outclassed by the [Sigma 50mm F1.4 EX DG HSM](#)), but improves rapidly on stopping down, performing very well at apertures of F2.5 and smaller. As usual it benefits from the 'sweet spot' advantages of low distortion and minimal vignetting which are common to shooting full-frame lenses on DX.

Resolution	The Nikon 50/1.4 is distinctly soft right across the frame wide open on DX. However central sharpness increases rapidly on stopping down, with the corners slowly but surely catching up. Optimum results are obtained between F4 and F8, at which point the lens is very sharp right across the frame; diffraction progressively reduces sharpness on stopping down further.
Chromatic Aberration	Lateral chromatic aberration is essentially a non-issue (a fundamental characteristic of the traditional symmetric design of 50mm lenses). However the non-zero CA figures towards the centre at wide apertures betray a more problematic issue, high levels of mainly blue 'colour blur' due to axial chromatic aberration, which disappear on stopping down to F2.8.
Falloff	We consider falloff to become perceptible when the corner illumination falls to more than 1 stop less than the centre. As usual for a full-frame lens used on DX, there's really nothing to worry about here; measured vignetting is one stop wide open, but decreases immediately on stopping down, and is unlikely to be genuinely noticeable.
Distortion	Distortion is very low at just 0.6% barrel, a figure too low to have any significant impact in real-world use.

Macro Focus

	<p>50mm F1.4 primes are not intended as macro lenses, and the Nikon doesn't offer any surprises here. Maximum magnification is 0.14x, at a measured closest focus distance of 43.5cm, which gives a working distance of 34cm from the front of the lens to the subject.</p> <p>Coverage may be relatively uninspiring, but optical quality isn't bad at all; of course it's soft at wide apertures, but the lens gives sharp results across the frame on stopping down to just F4. Chromatic aberration is practically absent, however there's noticeable barrel distortion.</p>
<p>Macro - 154 x 102 mm coverage Distortion: moderate barrel Corner softness: low Focal length: 50mm</p>	

Specific image quality issues

As always, our studio tests are backed up by taking hundreds of photographs with the lens across a range of subjects, and examining them in detail. This allows us to confirm our studio observations, and identify any other issues which don't show up in the tests.

Softness wide open

Not unusually for a full-frame optic used on the resolution-hungry DX format, this lens distinctly fails to shine at wide apertures. In this regard it's worth noting that depth of field is so shallow at F1.4 that real-world results are mainly dependant upon focus accuracy, and this lens will tax the abilities of any focusing system, either auto or manual (not to mention the fact that the slightest relative movement between photographer and subject will result in a misfocused image). However this lens distinctly soft wide open, and this is exacerbated by the high level of blue channel 'colour blur' revealed in our studio tests (a common characteristic of fast 50mm lenses constructed solely using spherical elements) which contributes significantly to an overall loss of contrast. However once stopped down to F4, it's fully capable of delivering high levels of detail right across the frame.

F1.4	F4
	
<p>Nikon D300</p>	<p>Nikon D300</p>
	
<p>100% crop, centre of frame</p>	<p>100% crop, centre of frame</p>

