

FAST 50MM PRIME LENSES

THESE STANDARD
LENSES ARE SO
USEFUL, EVERY
PHOTOGRAPHER
SHOULD OWN ONE

TESTED BY JON TARRANT

Σ This round-up looks at six 50mm lenses with a maximum aperture of f/1.4 and also touches on two other variants. The lenses come from Canon, Nikon (both D-series and G-series), Pentax, Sigma and Sony. The two Nikon lenses were separately tested both on full-frame and DX format cameras (D700 and D80 respectively) for the simple reason that both bodies were available at the time. The additional lenses were an f/1.8 version from Sony (previewed alongside the f/1.4 in advance of a full test) and an ultra-fast f/1.2 from Canon.

When used on a full-frame camera the 50mm focal length captures an angle of view that approximately matches human peripheral vision, making 50mm lenses the ideal choice for what-you-see-is-what-you-get photography. On an APS-C body the angle-of-view is reduced and looks much the same as that delivered by a 75mm lens on a full-frame body, making the lens ideally suited to environmental portraiture that requires a flattering perspective with clearly discernible background details.

These are both valuable functions and it is clear to see why the humble 50mm prime still has a place amid vastly more exotic superzooms. All of these lenses have performances that put them in the upper echelons of top-quality optics.

SIGMA
50MM F/1.4
EX DG HSM

£360

NIKKOR
AF-S 50MM
F/1.4 G

£280

PENTAX
SMC DA* 55MM
F/1.4 SDM

£450

CANON
EF 50MM
F/1.4 USM

£290

NIKKOR
AF 50MM F/1.4 D

£280

SONY
50MM F/1.4

£280



SIGMA 50MM F/1.4 EX DG HSM

£360 WWW.SIGMA-IMAGING-UK.COM

One of the nicest things about high-specification Sigma lenses is that they come with a padded pouch, instantly suggesting that the manufacturer feels the lens is worth protecting. Sigma's 50mm f/1.4 is no exception, boasting an enormous front element and a 77mm filter thread.

The lens tips the scales just over 0.5kg, which is closer to what might be expected for an f/1.2. This lens looks as if it ought to have the extra half-stop but its price is not far above the f/1.4 average. Though its size and mass might deter some, neither of those factors has been allowed to reduce its Design score in this review.

The manual focus ring is comfortably wide and nicely located to the fore, offering the ability to apply manual adjustments in AF mode. Automatic focusing is quick, accurate and works internally, without disturbing the focus ring, but it could be a little quieter. Manual focusing, whether applied in AF mode or selected using the AF/MF slider, is on the heavy side. A depth-of-field window is provided and marked for use with f/8 and f/16.

Resolution testing produced the classic 'aerofoil' profile but with a steep ascent and decline that gives a very pronounced sweet-spot

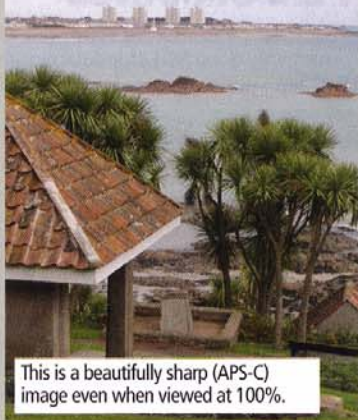


from f/2.8 to between f/5.6 and f/8, where the resolution stays above 0.4 cycles-per-pixel. This is a remarkable performance that is all the more impressive because it was sustained through multiple tests that included off-centre focusing.

There was very slight colour fringing at wide apertures but this went undetected in real-world pictures. The only enduring drawback after some time spent with this lens was its heavy manual focusing, which will probably be a minor consideration for most potential buyers.

This lens is priced above the norm but delivers results that are similarly elevated. As it is available in a range of lens mounts, the greatest number of photographers have access to its immense power.

ANGLE-OF-VIEW



This is a beautifully sharp (APS-C) image even when viewed at 100%.

BOKEH



Out-of-focus areas are rendered very smoothly indeed in this image.

PERFORMANCE

In general these six standard lenses all return very good MTF (Modulation Transfer Function) performances indeed. MTF is an

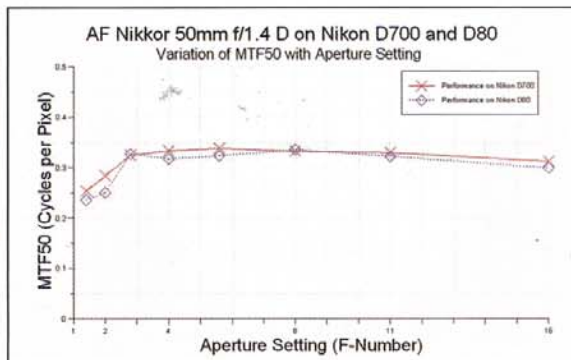
industry-standard method for measuring the performance of lenses. A high MTF figure indicates that the optic can resolve more fine detail.

The minimum figure for top-quality imaging is 0.25 cycles-per-pixel and the maximum theoretical figure, which will hardly ever be realised in practice, is 0.50



NIKKOR AF 50MM F/1.4 D

Shown here are curves for the lens being tested on both a D700 (red line) and a D80 (blue line): the results are very similar.



SPECIFICATIONS

FOCAL LENGTH	50mm
MAX APERTURE	f/1.4
MIN APERTURE	f/16
LENS MOUNT	Nikon
IMAGE FORMAT	Full-frame
OPT CONSTRUCTION	7 / 6
OPT TECHNOLOGY	Distance information
FOCUS	AF and M (non-IF)
MIN FOCUS (m)	0.45
FILTER	52mm
LENS HOOD	No
DIMENSIONS	65 x 43mm
WEIGHT	230g
PRICE (STREET)	£249

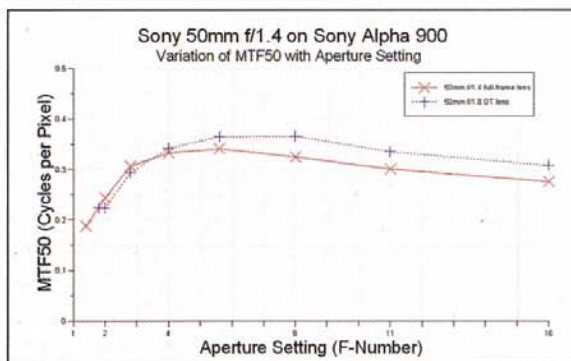
SCORES

LIKES	Bargain price
DISLIKES	Non-IF focusing
FEATURES	18
DESIGN	19
PERFORMANCE	18
IMAGE QUALITY	19
VALUE	20
TOTAL	94% What Digital Camera GOLD AWARD



SONY 50MM F/1.4

The full-frame lens performs well except at wide apertures: the new f/1.8 DT version looks as if it could be even better.



SPECIFICATIONS

FOCAL LENGTH	50mm
MAX APERTURE	f/1.4
MIN APERTURE	f/22
LENS MOUNT	Sony/Alpha
IMAGE FORMAT	Full-frame
OPT CONSTRUCTION	7 / 6
OPT TECHNOLOGY	-
FOCUS	AF and M (non-IF)
MIN FOCUS (m)	0.45
FILTER	55mm
LENS HOOD	Included
DIMENSIONS	66 x 43mm
WEIGHT	220g
PRICE (STREET)	£289

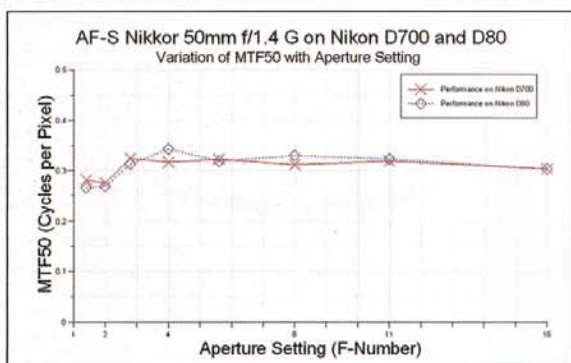
SCORES

LIKES	Great real-world results
DISLIKES	AF is noisy and non-IF
FEATURES	18
DESIGN	19
PERFORMANCE	18
IMAGE QUALITY	19
VALUE	19
TOTAL	93% What Digital Camera GOLD AWARD



NIKKOR AF-S 50MM F/1.4 G

There is a great deal of similarity but also a slight lack of smoothness on the curves for the D700 (red line) and D80 (blue line).



SPECIFICATIONS

FOCAL LENGTH	50mm
MAX APERTURE	f/1.4
MIN APERTURE	f/16
LENS MOUNT	Nikon
IMAGE FORMAT	Full-frame
OPT CONSTRUCTION	8 / 7
OPT TECHNOLOGY	Distance information and SWM
FOCUS	AF/M and M (IF)
MIN FOCUS (m)	0.45
FILTER	58mm
LENS HOOD	Included
DIMENSIONS	74 x 54mm
WEIGHT	280g
PRICE (STREET)	£280

SCORES

LIKES	Quick and quiet AF
DISLIKES	Poor retro-compatibility
FEATURES	20
DESIGN	19
PERFORMANCE	18
IMAGE QUALITY	19
VALUE	20
TOTAL	96% What Digital Camera GOLD AWARD

IMAGE COMPARISON: REAL-WORLD SHARPNESS



The images from which these sections are taken were all captured using APS-C bodies, except the Sony, using an aperture of f/5.6: the images were focused on the sign that is shown in these enlargements. Close-up examination reveals that Sony's lens produced the sharpest results in this test, hotly chased by the Sigma. Canon's lens and the two Nikkors follow next, with the Pentax held back by traces of visible chromatic aberration.

Although it is unlikely to be visible on the printed page, a cobweb strand joins the back of the sign (at the top) to its mounting pillar – again it is Sony's lens that shows this most clearly. Surprisingly, Canon's lens records a more blurred image in this area but that may be due to very precise focusing on the front of the sign.

cycles-per-pixel. Any lens that stays above the minimum figure across all (or most) of its aperture range is doing very well.

The data for the graphs were obtained

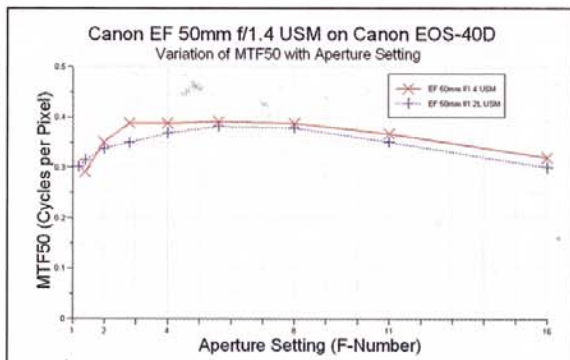
using Imatest software (www.imatest.com) and the graphs were created using the freeware program RJS Office (www.rjsweb.net).

CHART KEY		50mm F/1.8 DT / EF 50mm F/1.2L USM
		NIKON D700 / EF 50mm F/1.4 USM / FULL FRAME
		PERFORMANCE ON NIKON D80



CANON EF 50MM F/1.4 USM

This is a stunningly good set of MTF results that even Canon's vastly more expensive f/1.2L version cannot beat.



SPECIFICATIONS

FOCAL LENGTH	50mm
MAX APERTURE	f/1.4
MIN APERTURE	f/22
LENS MOUNT	Canon
IMAGE FORMAT	Full-frame
OPT CONSTRUCTION	7 / 6
OPT TECHNOLOGY	USM
FOCUS	AF/M and M (IF)
MIN FOCUS (m)	0.45
FILTER	58mm
LENS HOOD	No
DIMENSIONS	74 x 50mm
WEIGHT	290g
PRICE (STREET)	£420

SCORES

LIKES
Fantastic MTF figures

DISLIKES
AF is slightly unrefined

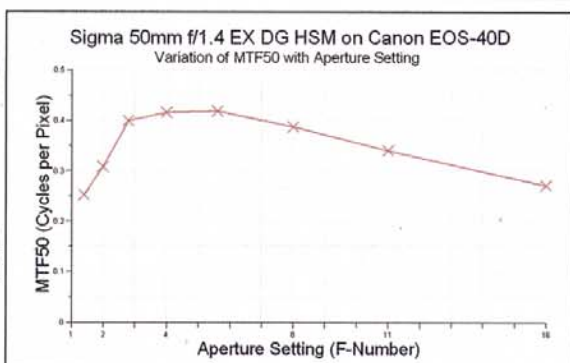
FEATURES	20
DESIGN	19
PERFORMANCE	18
IMAGE QUALITY	20
VALUE	19

TOTAL
96%



SIGMA 50MM F/1.4 EX DG HSM

Peak resolution exceeds 0.4 cycles-per-pixel over more than three f-stops but the curve would be better if it were less steep.



SPECIFICATIONS

FOCAL LENGTH	50mm
MAX APERTURE	f/1.4
MIN APERTURE	f/16
LENS MOUNT	Canon, Nikon, Pentax, Sigma, Sony
IMAGE FORMAT	Full-frame
OPT CONSTRUCTION	8 / 6
OPT TECHNOLOGY	HSM
FOCUS	AF/M and M (IF)
MIN FOCUS (m)	0.45
FILTER	77mm
LENS HOOD	Included
DIMENSIONS	84 x 68mm
WEIGHT	505g
PRICE (STREET)	£450

SCORES

LIKES
Imposing presence

DISLIKES
Distinctly heavy

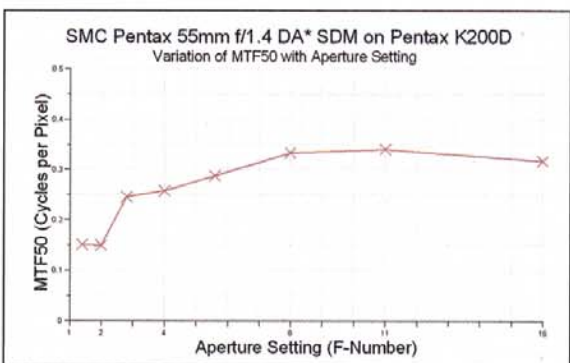
FEATURES	20
DESIGN	20
PERFORMANCE	19
IMAGE QUALITY	19
VALUE	19

TOTAL
97%



PENTAX SMC DA* 55MM F/1.4 SDM

The curve starts low but quickly recovers: it is possible that the lens, which also exhibited colour fringing, had suffered some damage.



SPECIFICATIONS

FOCAL LENGTH	55mm
MAX APERTURE	f/1.4
MIN APERTURE	f/22
LENS MOUNT	Pentax
IMAGE FORMAT	APS-C
OPT CONSTRUCTION	9 / 8
OPT TECHNOLOGY	SDM
FOCUS	AF/M and M (IF)
MIN FOCUS (m)	0.45
FILTER	58mm
LENS HOOD	Included
DIMENSIONS	70 x 66mm
WEIGHT	375g
PRICE (STREET)	£550

SCORES

LIKES
Excellent ergonomics

DISLIKES
Fringing in MTF images

FEATURES	18
DESIGN	20
PERFORMANCE	17
IMAGE QUALITY	18
VALUE	18

TOTAL
91%

VERDICT

Finding six gold-standard lenses in one group test is little short of remarkable but not unbelievable amid such august company.

Pentax's lens is the nicest of the bunch for handling. If its fringing and the attendant drop in wide-aperture resolution were due to a lens fault, which is possible, then its true score could be a few points higher. Even so, the 55mm lens still claims a gold award even with these weaknesses.

Sony's lens has an understated exterior that belies a solid performance once the aperture has been closed down a couple of f-stops. It isn't really designed for manual focusing (but that may not matter too much for some buyers) and, more importantly, its AF drive is

a little noisy. Sony's new f/1.8 lens may be a better choice for users of APS-C cameras but the final verdict on that front must wait for the full review that is to follow.

Nikon's D-series lens lacks internal focusing but has a pleasant traditional feel, whereas the G-series is a more modern design that has a better AF system but doesn't feel as good in MF mode. Both can cover a full-frame sensor and there is little to split them in terms of resolution, but if budgets are tight the D-series lens is the bargain despite, numerically, the G-series one being the 'better' lens.

Canon's EF 50mm f/1.4 USM performs brilliantly and leaves little room for buyers to hanker after the vastly more expensive f/1.2L version. It produced a highly consistent set of top-notch MTF results but was let down by the

occasional off-peak real-world image. In addition, its AF drive is just a tad too audible, especially when compared with Nikon's Silent-Wave Motor.

Sigma's lens looks very imposing and it is also heavy. On the one hand a 77mm filter thread seems ludicrous when Nikon can design a 50mm f/1.4 lens with a 52mm thread; but on the other hand Sigma's lens is the only one to exceed 0.4 cycles-per-pixel. Its price is on the high side but you do get a lot of lens for your money.

Overall, there is remarkably little that separates these lenses and in a different test their ranking might change, but one thing is certain: they all show there is still a place for fast primes in a world that is now dominated by zooms. **WDC**