Take the wide view

Want a quality landscape lens? **Matthew Richards** compares eight top wide-angle primes

Like optical shoehorns, wide-angle lenses help you to squeeze more in. When taking great landscape photographs (using the advice in our main feature, page 16) they enable you to include huge, sweeping vistas in the frame, and exaggerate the perspective between the foreground and background for creative effect. They're not just for the great outdoors, either. When you're photographing interiors of buildings and have your back against the wall, a wide-angle lens enables you to pack everything in – including, if needed, the kitchen sink.

Apart from specialist fisheye lenses that give a specific creative effect, there are very few wide-angle prime lenses available for DX-format (cropped-sensor) cameras. It's a great shame because, while ultra-wide zoom lenses like the Nikon DX 10-24mm provide versatility in terms of focal length,

The contenders

SAMYANG 14mm f/2.8 IF ED UMC AS	£330/$330
SAMYANG 20mm f/1.8 ED UMC AS	£460/$570
IRIX 15mm f/2.4 Blackstone	£600/$600
SIGMA 24mm f/1.4 DG HSM | A	£600/$850
NIKON AF-S 24mm f/1.8G ED	£630/$750
SIGMA 20mm f/1.4 DG HSM | A	£630/$900
NIKON AF-S 20mm f/1.8G ED	£650/$800
ZEISS Milvus 18mm f/2.8 ZF.2	£2000/$2300

Image: Shutterstock

there's a lot to be said for going for a prime lens. Image quality is often superior and many photographers only tend to use ultra-wide zooms at or near their shortest focal length anyway.

A wide range

When it comes to FX (full-frame) Nikons, however, most mainstream manufacturers offer an extensive range of wide-angle primes in a variety of focal lengths (and it's worth remembering that FX lenses can be used on DX cameras). Compared with standard zooms at their widest focal lengths, advantages of wide-angle primes can include reduced barrel distortion, better sharpness towards the edges of the frame, reduced colour fringing and less vignetting (darkened image corners).

It's worth noting that with FX standard zooms (as opposed to primes) these problems tend to be at their most apparent at the lens's shortest focal length, which in most FX standard zooms is 24mm. At zoom settings of 28mm or 35mm, the effects of distortion and vignetting are likely to be reduced, and corner sharpness improved. There's therefore less of a need to swap to a 28mm or 35mm prime lens to optimise image quality. For this big test, we're therefore concentrating on lenses that have a focal length of 24mm or shorter. The aim is either improved image quality at 24mm, or a significantly wider viewing angle, or both.

There are of course some excellent ultra-wide zooms on the market which keep problems like distortion and vignetting to a minimum, but they tend to be bulky and expensive: Nikon's AF-S 14-24mm f/2.8G ED, for example, weighs in at a kilo, and costs £1620/$1900. A small, light and less expensive prime lens can therefore be preferable when you want to go wide. Prime doesn't always mean small, mind: Sigma's new 20mm Art lens tested here is a beast of a lens. The question then is if the bigger build pays dividends in terms of image quality.

> A relatively small, lightweight and less expensive prime lens can be preferable when you want to go large on viewing angle

Half the lenses on test only have manual focus, but that's not as much of a drawback as you might think. Wide-angle lenses deliver a big depth of field, so focusing accuracy generally isn't critical. Depth of field markings are often included for use with the focus distance scale, enabling zone focusing and use of hyperfocal distances (see Jargon buster, below). This is often preferable for, say, street photography and landscapes, as it enables you to preset the focus distance so you can concentrate on shooting. And all the manual focus lenses on test will still trigger the focus confirmation lamps in your

What to look for...

WIDE VIEWING ANGLES ARE OFTEN ACCOMPANIED BY WIDE-RANGING FEATURES

LENS HOOD
The Samyang 14mm and Sigma 20mm lenses have built-in hoods and therefore no filter attachment thread. All other lenses are supplied with a bayonet-fit, petal-shaped hood.

FILTER THREAD
All lenses on test have internal focusing, so the front element neither extends nor rotates, and all but two (the Samyang 14mm and the Sigma 20mm) have a filter attachment thread.

AUTO/MANUAL FOCUS
The Nikon and Sigma lenses on test have ring-type ultrasonic autofocus, which is fast and whisper-quiet, with full-time manual override. The Irix, Samyang and Zeiss lenses are purely manual focus.

WEATHER SEALS
The Samyang and Sigma lenses have no weather seals, the Nikon lenses have a rubber seal on the mounting plate, and the Irix and Zeiss lenses have full weather seals.

FOCUS RING
Manual focusing is possible with all of the lenses on test. However, the rotational travel of purely manual focusing lenses is typically much greater, which enables more precise focusing.

APERTURE RATING
Aperture ratings are usually quite 'fast' – between f/1.4 and f/1.8. The Irix, Samyang 14mm and Zeiss lenses are a little slower, between f/2.4 and f/2.8.

Jargon buster

ZONE FOCUSING
Use of a lens's focus distance scale and depth of field markings enable you to adjust the focus ring so that a 'zone' of the scene will be sharp, within defined near and far limits.

HYPERFOCAL DISTANCE
This is the focus distance for a given focal length and aperture combination at which everything from the closest possible point to infinity will appear sharp.

Samyang 14mm f/2.8 IF ED UMC AS £330/$330

EXTRA-LARGE VIEWING ANGLE, SMALL PRICE

This aspherical (AS) Samyang lens has the outright widest viewing angle of any lens here, at 116 degrees. It's even worth considering as a wide-angle prime on a DX format camera, where the effective 21mm focal length gives a still-generous viewing angle of 94 degrees.

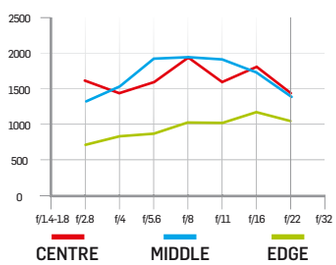
As with the other manual focus lenses on test, the generous rotational travel of the focus ring enables precise adjustments. Samyang has missed a trick, however, by not adding depth-of-field markings to the lens barrel.

The built-in hood shrouds the front element, adding physical protection, but it precludes the easy attachment of any filters.

Performance

Two ED (Extra-low Dispersion) and three high refractive elements in the optical path aim to boost image quality, while UMC (Ultra Multi Coating) helps to minimise ghosting and flare. Vignetting is minor, even at the widest aperture of f/2.8, but sharpness could be better and the extra-wide viewing angle comes with heavy barrel distortion.

Sharpness (Higher is better)



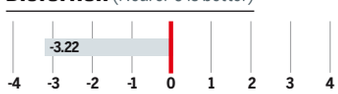
Centre sharpness is below average and image corners are a bit soft.

Edge fringing (Lower is better)

f/2.8 1.1 **f/8** 1.15 **f/16** 0.81

The lens does well to minimise colour fringing, with respectable lab scores.

Distortion (Nearer 0 is better)



Barrel distortion is the worst of any lens on test, including the Irix 15mm.

Verdict

Features ●●●○○
Build/handling ●●●◐○
Performance ●●●◐○
Value for money ●●●●◐
OVERALL ●●●◐○

Pleasing build and image qualities make this super-wide lens great value for money.

Samyang 20mm f/1.8 ED UMC AS £460/$570

THE MORE FILTER-FRIENDLY OF THE SAMYANG LENSES

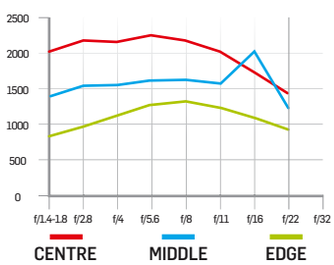
Unlike Samyang's 14mm option, this lens has a bayonet-style lens hood rather than a built-in one, which means it can be taken off when you want to attach filters.

Build quality is of the same high standard in both Samyang lenses. As with the 14mm lens, the focus ring works smoothly and enables wonderfully precise adjustments, although autofocus is off the menu. The aperture ring is largely superfluous with Nikon D-SLRs and unfortunately, unlike with Nikon's D-series lenses, there's no switch to lock the aperture at its narrowest setting, so accidentally turning the aperture ring will stop the camera from being able to control aperture (see page 87).

Performance

The narrower viewing angle pays dividends in terms of image quality, with greater sharpness than from the Samyang 14mm into the corners of the frame. Indeed, this lens also beats Nikon's own 20mm lens for sharpness when shooting wide open at f/1.8. Considering how wide it is, distortion, ghosting and flare are also well controlled.

Sharpness (Higher is better)



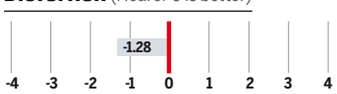
Sharpness is impressive for a 20mm lens, even in the corners of the frame.

Edge fringing (Lower is better)

f/2.8 1.58 **f/8** 1.98 **f/16** 2.12

There's slightly more colour fringing than from most of the other lenses on test.

Distortion (Nearer 0 is better)



Barrel distortion is well controlled and less noticeable than from the Samyang 14mm.

Verdict

Features ●●●○○
Build/handling ●●●◐○
Performance ●●●●○
Value for money ●●●●○
OVERALL ●●●◐○

The viewing angle might not be as wide, but it's a better buy than the 14mm lens.

Irix 15mm f/2.4 Blackstone

£600/$600

EAST MEETS WEST IN THIS SMART NEW ULTRA-WIDE LENS

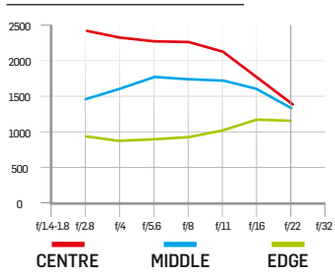
Designed in Switzerland and manufactured in Korea, the Blackstone is superbly well engineered, with a magnesium alloy barrel and full weather-seals. Advanced features include a fine-tuning adjustment to ensure accuracy of the focus distance scale on individual camera bodies, a locking mechanism for the focus ring, a sliding panel in the detachable hood for filter rotation, and even fluorescent markings for the focus distance scale, hyperfocal distance and depth of field.

There's no autofocus, but the silky-smooth focus ring operates with superb precision. The less expensive Firefly edition of the lens has a plastic barrel, plain markings and one less weather seal, but optically it's identical.

Performance

Considering how wide this lens is, corner-to-corner sharpness is excellent in real world shooting. Barrel distortion and vignetting are tolerable, and 'neutrino' coatings do a good job of combating ghosting and flare. Overall image quality is simply sumptuous, in keeping with the lens's high-quality construction.

Sharpness (Higher is better)



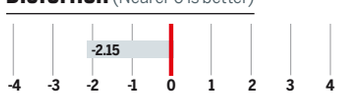
Impressive sharpness across the frame, even when shooting wide open at f/2.4.

Edge fringing (Lower is better)

f/2.8 1.05 **f/8** 0.79 **f/16** 0.79

The Irix delivered some of the best lab scores for colour fringing.

Distortion (Nearer 0 is better)



Barrel distortion is between that of the Samyang 14mm and the Zeiss 18mm.

Verdict

Features	●●●●◐
Build/handling	●●●●●
Performance	●●●●◐
Value for money	●●●●●
OVERALL	●●●●◐

This is a brilliant manual focus lens from an exciting new manufacturer.

Sigma 24mm f/1.4 DG HSM I A

£600/$850

A HEAVYWEIGHT LENS THAT REALLY DELIVERS

Sigma's Art lenses are designed to inspire creative expression, and a key element is their wide apertures to enable a tight depth of field. An added bonus is that you can freeze action with fast shutter speeds, even in dull lighting conditions.

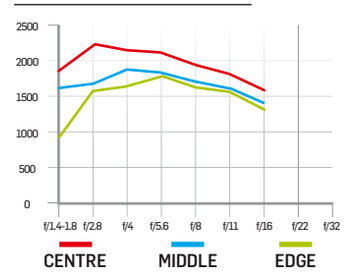
Not much bigger than the Nikon 24mm f/1.8 lens, the Sigma is nevertheless nearly twice as heavy and feels robust and sturdy. It's certainly more affordable than Nikon's directly competing AF-S 24mm f/1.4G lens, at £1790/$2000.

The barrel and other parts are made from TSC (Thermally Stable Composite), while the mounting plate is brass, and it's compatible with Sigma's USB Dock for updating firmware and customising settings.

Performance

Performance is exemplary. The ring-type autofocus is fast, near-silent and unerringly accurate, while image quality is excellent. Sharpness is superb across the whole image frame, only dropping a little in the corners at the extra-large f/1.4 aperture, where vignetting is also quite noticeable.

Sharpness (Higher is better)



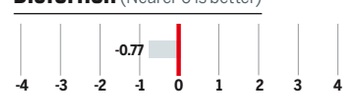
Stop down to just f/2.8 and sharpness is spectacular from corner to corner.

Edge fringing (Lower is better)

f/2.8 0.79 **f/8** 0.64 **f/16** 0.76

In both real-world shooting and lab tests, this lens was the best on test for fringing.

Distortion (Nearer 0 is better)



Exhibits less barrel distortion than any other lens on test.

Verdict

Features	●●●●●
Build/handling	●●●●◐
Performance	●●●●●
Value for money	●●●●●
OVERALL	●●●●●

Simply superb, and excellent value compared with Nikon's 24mm f/1.4.

With thanks to photo24.co.uk for the loan of this lens

Nikon AF-S 24mm f/1.8G ED

£630/$750

A STEP UP FROM NIKON'S STANDARD ZOOMS

Nikon makes a variety of FX standard zoom lenses with ranges of 24-70mm, 24-85mm and 24-120mm. So why buy this 24mm lens, considering there's no gain in viewing angle?

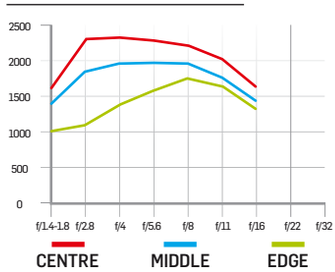
One advantage of this lens is its wider aperture rating of f/1.8, compared with the f/2.8, f/3.5-4.5 or f/4 of the zoom lenses, making it anywhere from 1.33 to 2.33 stops faster. Even so, it's still two-thirds of a stop slower than the competing (and cheaper) Sigma 24mm lens.

It doesn't feel as robust as the Sigma 24mm either, but, while neither camera is weather sealed, the Nikon does at least feature a rubber sealing ring on its mounting plate.

Performance

Autofocus isn't quite as quick as in the Sigma lens, but is similarly accurate. For image quality, there's no real improvement in sharpness compared with using Nikon's standard zoom lenses at 24mm, but the prime lens does better in terms of colour fringing and barrel distortion. Vignetting is very noticeable at f/1.8, but the Nano coatings do well to resist ghosting and flare.

Sharpness (Higher is better)



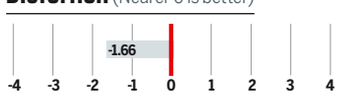
It's not exceptional wide open, but sharpness is impressive at f/4 to f/11.

Edge fringing (Lower is better)

f/2.8 1.91 **f/8** 1.11 **f/16** 0.98

Not much colour fringing at f/1.8; even better at medium to narrow apertures.

Distortion (Nearer 0 is better)



It's not as low in distortion as others here, but easily beats Nikon's standard zooms.

Verdict

Features	●●●●○
Build/handling	●●●●○
Performance	●●●●○
Value for money	●●●◐○
OVERALL	●●●●○

A useful addition to a standard zoom lens, but not a class leader.

Sigma 20mm f/1.4 DG HSM I A

£630/$900

THIS SIGMA GOES EXTRA-WIDE IN EVERY WAY

A world first for SLR lenses, this Sigma Art lens combines an ultra-wide viewing angle with a wide aperture rating of f/1.4. This is made possible by a highly complex, large-diameter double aspherical element, which is a challenge to manufacture.

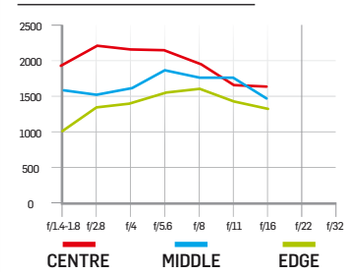
Considering this, the purchase price is very reasonable, but you do pay for it in size and weight. It's the biggest lens in the group by quite a margin and, at 950g, nearly three times the weight of the Nikon 20mm f/1.8 lens.

Like the Samyang 14mm lens, the Sigma 20mm has a built-in lens hood that protects the bulbous front element from physical knocks, as well as helping to reduce ghosting and flare. Again, fitting filters isn't straightforward, but Lee Filters makes an adaptor for both lenses, to enable use of its SW150 Mk II filter system.

Performance

Given the extreme viewing angle, image quality is excellent, with superb sharpness right into the corners of the frame, negligible colour fringing and fairly modest vignetting despite the fast f/1.4 aperture rating.

Sharpness (Higher is better)



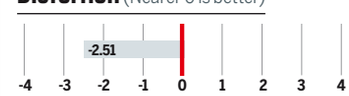
Beats the Nikon and Samyang 20mm for sharpness at the edges and in corners.

Edge fringing (Lower is better)

f/2.8 0.99 **f/8** 0.83 **f/16** 0.83

As with the Sigma 24mm, colour fringing is remarkably low, even right in the corners.

Distortion (Nearer 0 is better)



Slightly more barrel distortion than from the Nikon and Samyang, but it's still low.

Verdict

Features	●●●●●
Build/handling	●●●●◐
Performance	●●●●◐
Value for money	●●●●◐
OVERALL	●●●●◐

The best 20mm lens in the group, if you can live with the hefty size and weight.

Nikon AF-S 20mm f/1.8G ED

£650/$800

SURPRISINGLY SMALL AND LIGHT FOR A 20MM LENS

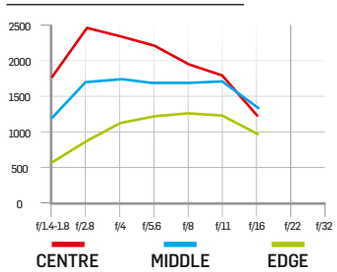
The two Nikon lenses on test are the lightest of the bunch, at 355g each. This lens is about the same size as the Samyang 20mm, but feels a little less robust, although it adds a rubber weather-seal ring on the mounting plate. The Nikon also adds ring-type ultrasonic autofocus, whereas the Samyang is manual focus only. The Nikon is therefore a better option if you prefer to rely on autofocus.

However, despite the focus distance scales, the rotational travel of both Nikon lenses is small, making accurate manual focusing tricky. Like the Nikon 24mm lens, it features two ED and two aspherical elements, and Nano Crystal Coating.

Performance

At f/1.8, vignetting is the worst of any lens in the group, and corner sharpness is quite disappointing. However, you only need to stop down to f/2.8 to get decent peripheral illumination, while f/4 improves sharpness across the frame. The Sigma 20mm lens offers better image quality and a faster aperture, but the Nikon lens is much more compact.

Sharpness (Higher is better)



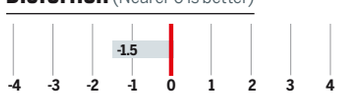
A bit soft wide-open, especially in corners, but sharpens up at mid-range apertures.

Edge fringing (Lower is better)

f/2.8 1.75 **f/8** 2.38 **f/16** 2.46

There's more colour fringing towards the corners than with any other lens on test.

Distortion (Nearer 0 is better)



Barrel distortion is low for such a wide lens, and it beats the Nikon 24mm.

Verdict

Features
Build/handling
Performance
Value for money
OVERALL

Worth considering if you want autofocus and a compact, lightweight lens.

Zeiss Milvus 18mm f/2.8 ZF.2

£2000/$2300

A WONDERFULLY CRAFTED PREMIUM LENS

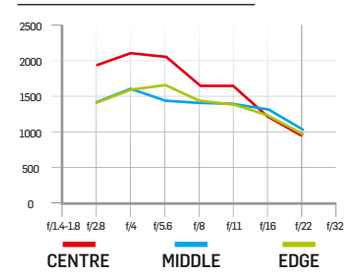
The full metal build of the Zeiss extends to a flock-lined metal hood. The lens is fully weather-sealed, beautifully finished and handles superbly well. It is limited to manual focus, but the long-travel focus ring operates with a fluid feel and is a joy to use. The Nikon-fit edition of the lens features an aperture ring, complete with a de-click facility for seamless aperture control when shooting movies.

Like the metal-bodied Irix 15mm Blackstone, the Zeiss has a flared front section and a relatively heavy build. Unlike the Irix, however, the Zeiss has a rubber-coated focus ring, which improves grip in cold weather. Other wide primes in the Milvus range include 15mm, 21mm and 35mm options, all based on the classic Zeiss Distagon design.

Performance

Sharpness and contrast are stellar throughout the entire aperture range, and overall image quality is simply spectacular. The only caveat is that vignetting is very heavy when shooting wide-open, despite the modest aperture rating of f/2.8.

Sharpness (Higher is better)



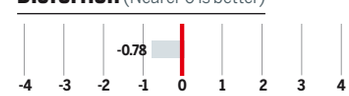
Corner-to-corner sharpness is incredible, even when shooting wide-open at f/2.8.

Edge fringing (Lower is better)

f/2.8 1.05 **f/8** 1.33 **f/16** 1.33

As with the Irix and Sigma lenses on test, colour fringing is practically non-existent.

Distortion (Nearer 0 is better)



Extremely little barrel distortion, which is remarkable for such a short focal length.

Verdict

Features
Build/handling
Performance
Value for money
OVERALL

Massively expensive, but build quality, handling and image quality are sublime.

Comparison table

HOW THE LENSES COMPARE

	SAMYANG 14MM F/2.8 IF ED UMC AS	SAMYANG 20MM F/1.8 ED UMC AS	IRIX 15MM F/2.4 BLACKSTONE	SIGMA 24MM F/1.4 DG HSM | A	NIKON AF-S 24MM F/1.8G ED	SIGMA 20MM F/1.4 DG HSM | A	NIKON AF-S 20MM F/1.8G ED	ZEISS MILVUS 18MM F/2.8 ZF.2
	www.samyanglensglobal.com		www.irixlens.com	www.sigma-global.com	www.nikon.com	www.sigma-global.com	www.nikon.com	www.zeiss.com
Street price	£330/$330	£460/$570	£600/$600	£600/$850	£630/$750	£630/$900	£650/$800	£2000/$2300
FX/DX	FX	FX	FX	FX	FX	FX	FX	FX
Effective focal length (DX)	21mm	30mm	22.5mm	36mm	36mm	30mm	30mm	27mm
Elements/groups	14/10	13/12	15/11	15/11	12/9	15/11	13/11	14/12
Diaphragm blades	6 blades	7 blades	9 blades	9 blades	7 blades	9 blades	7 blades	9 blades
Min aperture	f/22	f/22	f/22	f/16	f/16	f/16	f/16	f/22
Autofocus motor type	None (manual focus)	None (manual focus)	None (manual focus)	Ultrasonic (ring-type)	Ultrasonic (ring-type)	Ultrasonic (ring-type)	Ultrasonic (ring-type)	None (manual focus)
Manual override of AF	N/A	N/A	N/A	Full-time	Full-time	Full-time	Full-time	N/A
Viewing angle (FX)	116 degrees	95 degrees	110 degrees	84 degrees	84 degrees	95 degrees	94 degrees	100 degrees
Min focus distance	0.28m	0.2m	0.28m	0.25m	0.23m	0.28m	0.2m	0.25m
DOF markers	None	None	f/8, 11, 16	f/8, 16	f/16	f/8, 16	f/16	f/4, 8, 11, 16, 22
Filter thread	None	77mm	95mm plus gelatin	77mm	72mm	None	77mm	77mm
Hood type	Petal, built-in	Petal, bayonet	Petal, bayonet	Petal, bayonet	Petal, bayonet	Petal, built-in	Petal, bayonet	Petal, bayonet
Main barrel material	Plastic	Plastic	Metal	Plastic	Plastic	Plastic	Plastic	Metal
Weather-seals	None	None	Yes	None	Sealed mount	None	Sealed mount	Yes
Included accessories	Soft case	Hood, pouch	Hood, hard case	Hood, soft case	Hood, pouch	Soft case	Hood, pouch	Hood
Dimensions (diameter x length)	87x94mm	83x86mm	114x100mm	85x90mm	78x83mm	91x130mm	82x79mm	96x107mm
Weight	530g	488g	653g	665g	355g	950g	355g	675g
FEATURES	●●●○○	●●●○○	●●●●○	●●●●●	●●●●○	●●●●●	●●●●○	●●●●○
BUILD/HANDLING	●●●○○	●●●●○	●●●●●	●●●●○	●●●●○	●●●●○	●●●●○	●●●●●
PERFORMANCE	●●●○○	●●●●○	●●●●●	●●●●●	●●●●○	●●●●○	●●●●○	●●●●●
VALUE FOR MONEY	●●●●○	●●●●○	●●●●●	●●●●●	●●●○○	●●●●○	●●●●○	●●●●○
OVERALL	●●●○○	●●●○○	●●●●○	●●●●●	●●●●○	●●●●○	●●●○○	●●●●○

The winner is...

Sigma 24mm f/1.4 DG HSM | A £600/$850

What's good: Excellent build quality, superb image quality, fast f/1.4 aperture.
What's bad: The Sigma lenses lack weather seals, and the 20mm is quite big and heavy.
Our verdict: The Sigma 24mm is the outright top performer in the group.

Combining impeccable build quality and handling with the ease of autofocus and stunning image quality, both Sigma lenses on test are simply superb, and great value. The fast f/1.4 aperture rating is good to have, especially as both lenses continue to deliver great image quality when shooting wide-open. Go for the 20mm lens if you want to maximise your viewing angle, though the smaller 24mm is more manageable, boasts less barrel distortion and features a filter attachment thread.

The Zeiss 18mm is the king of the manual focus options, but the Irix 15mm is a close second, and is about a quarter of the price. Samyang's manual lenses aren't built to such a high standard, but are still robust and deliver good image quality, with the 14mm offering better value.

The Nikon 20mm and 24mm f/1.8 autofocus lenses are refreshingly compact and lightweight, but they lose out to the Sigma lenses for overall image quality, aperture speed and value for money.

Runners-up

Irix 15mm f/2.4 Blackstone £600/$600

What's good: Tough, ultra-wide viewing angle, advanced features.
What's bad: No autofocus, not as sharp as the Zeiss in the corners.
Our verdict: Immaculate design, build, handling and image quality.

Zeiss Milvus 18mm f/2.8 ZF.2 £2000/$2300

What's good: Great image quality, beautifully crafted, weather sealed.
What's bad: No autofocus, four times the price of the Irix.
Our verdict: It's a gorgeous lens, but very expensive compared to others.

NEXT ISSUE
THE BEST NIKON-FIT FLASHES FOR EVERY BUDGET