

Nikon AF 28-105/3.5~4.5 D Zoom Lens Evaluation

This is a slowly growing page to show what is right and what is wrong with the new Nikon lens. Scans of actual photos and not idle gossip. For the moment only the macro comparisons are shown, normal shots when taken at around $f/8$ are so close to prime lens quality that the differences are difficult to see.

Initial pictures taken of general scenery show the lens to be OK. A few close up shots are provided here to show what happens when the lens is used in macro mode.

Macro comparison.

The lens can focus close enough to give 1:2 (half life size) when set to 105mm. As is usual with zooms, the focal length changes drastically at macro distances so the working distance from subject to filter ring is a lot less than that of the 105/2.8 macro lens.

Now a comparison between the 28-105 and the 105 macro when photographing a flat subject (a very foreign banknote) at 1:2 setting on both. The 28-105 was set to $f/11$ indicated on the barrel and the 105 macro was set to $f/8$ indicated on the barrel.



From roughly the centre to the corner using the 28-105 at 1:2 setting at 105mm and $f/11$ on aperture ring.

Later.... a few more tests of flat material (not scanned here yet) show that there is a fair amount of barrel distortion at the above setting and also that when the aperture is set down to the minimum ($f/32$ shows on LCD panel) the edge performance improves somewhat, but still not as good as the true macro lens.



From roughly the centre to the corner using the 105/2.8 macro lens, at $f/8$ on aperture ring.

Both scanned from 4"x6" prints at 200dpi with no sharpening or other fiddles to the scan.

So far it seems to be that I should definitely keep the 105 macro lens, the 28-105 is no substitute. In the field for non-critical shots of bugs and flowers it will be OK. But for any critical photos or copying of flat material like slides or photos then it leaves a lot to be desired.

If you only needed the centre part of the image probably bounded by a 24mm diameter circle, then this lens would be

OK.

I did some slide copying with the 28-105 using a bellows unit to get down to 1:1 and the same results occurred. Centre circle OK, but edges furry.

Now for some more "real world" shots.....



28-105 lens at 105mm and 1:2 setting at f/32 on camera LCD panel.

Similar shots taken at f/11 and also with the 105mm macro lens at f/11 all look much the same, it would obviously be different if I had something like a bug with fine body hairs as a subject. Maybe next spring.



28-105 lens reversed at 105mm, infinity focus, f/11 aligned with green dot.

The lens is fitted in reverse by using the BR-5 and BR-2A combination. An optional BR-3 adapter is fitted to the naked bayonet end so that lens hood or filters can be applied. N8008s camera used in aperture priority mode and SB-26 flash in TTL mode on an extender cable SC-17. The working distance is much greater than when the lens is used the right way around.



28-105 lens reversed at 50mm, infinity focus, f/11 aligned with green dot.

Now this lens is getting interesting!



28-105 lens reversed at 28mm, infinity focus, f/11 aligned with green dot.

Working distance is getting a bit close now, but I still could get flash in there from the side. It now seems I will have to buy a second flash to get better illumination under these circumstances.

When using the lens in reverse you have to focus with the lens wide open, then shut it down to the desired aperture to shoot. View is very dim under these circumstances so the set-up needs to be on a tripod or some sort of arrangement to hold everything in correct relationship after focussing wide open. Flash is essential as ambient light would give very slow shutter speeds.

Vignetting.

There are two problems that usually get wrongly bundled together as vignetting.

One type is interference with the corners of the image from outside the lens, usually caused by inappropriate lens hood or stacked filters on a wide angle lens. This style of vignetting is "real" vignetting and gets more obvious and sharper as you stop down the lens.

Type two is light fall-off to the corners caused by the internal design of the lens itself. It is very difficult to design a lens to have no fall-off, is usually more obvious on wider angle lenses but can occur on any lens. This effect is worst at maximum aperture and usually fades to insignificance a few stops from maximum. Shots including a clear sky will show the effect, most pronounced on slide film. I refuse to call this effect "vignetting" but call it "light fall-off to the corners" instead.

With that preamble out of the way I finally got around to using some slide film to test the 28-105 at a few focal lengths and apertures. The results are as follows.

Focal Length	Aperture	Fall-off Result
Nikon 28-105 @ 28mm	f/3.5 max	annoying
"	f/4	moderate
"	f/5.6	slight
"	f/8	extremely slight
"	f/11	none
Nikon 28-105 @ 70mm	f/4.5 max	very slight
"	f/5.6	extremely slight
"	f/8	none
Nikon 28-105 @ 105mm	f/4.5 max	slight
"	f/5.6	very slight
"	f/8	none

Distortion seems to be minimal. There is some there but does not cause any problems for normal photography. There are also a lot of arguments about which is better of the 24-120 and the 28-105 lenses. The 24-120 may be considered better because it has a bigger zoom range. The 28-105 might be considered better because it has less distortion and better resolution at the long end. More recently I managed to borrow a 24-120 and have produced a [28-105 vs 24-120 comparison](#) page.

The recommended lens hood is the HB-18 and bayonets firmly onto the front of the lens. The filters screw in independently. The HB-18 is a huge thing, not so long but very wide in an attempt to provide good shading at 28mm. I found a better solution was the Hoya Multi Hood, it is a rubber hood that flips to three positions. Testing on the 28-105 lens the first position works at 28mm, the middle position is for 35mm and the third position at 70mm and it still provides a good deep hood for 105mm. It is a screw-in type so may cause wide angle vignetting if you use filters with it.

Conclusions so far....

I like the lens for general use and in the field for macro shots of odd flowers and bugs etc. It is an ideal travel lens. OK the maximum aperture leaves the viewfinder a bit dim at times, but the camera always seems to auto-focus just fine. When critical work occurs then I will carry a bag of primes, but probably still carry the 28-105 for convenience. If I want to get a bit closer I have no hesitation in applying the BR-5 and BR-2A reversing rings and then using the zoom setting to get the degree of magnification I want. A very simple and light-to-carry way to get extreme macro shots. The performance of the lens in reverse appears to be better than when the right way around for macro range around 1:2. When I find some suitably fine detailed subjects and improve my flash set-up I will provide some more examples.

[back to Lens Test page](#)

[Back to my Photography Page](#)