



35mm f/2.8 Nikkor is just a hair larger, heavier than one f/stop smaller f/1.4 Nikkor.

lens of this speed and focal length.

Optical bench report (for optical experts only): The 35mm f/2.8, on axis, exhibited moderate overcorrected spherical aberration and very slight zonal spherical aberration at the widest aperture, but axial image quality improved to excellent at f/5.6 on down. Off axis, slight coma, slight skew-ray flare, and slight lateral color at the widest apertures, but stopping down to f/8 eliminated most defects and image quality judged very good.

The 35mm f/2.8 on axis showed very slight spherical aberration and very slight flare to f/5.6, pattern near diffraction limit by f/8. Off axis, very slight skew-ray flare to f/8, very slight lateral color throughout.

RESOLUTION

| Nikkor 35mm f/2.8 at 1:47 | | | |
|---------------------------|---------------|---------------|-----------|
| f/ | Center (l/mm) | Corner (l/mm) | |
| 2.8 | V. Good | 47 | V. Good |
| 4 | Excellent | 53 | V. Good |
| 5.6 | Excellent | 67 | V. Good |
| 8 | Excellent | 75 | Excellent |
| 11 | Excellent | 67 | Excellent |
| 16 | Excellent | 67 | Excellent |
| 22 | V. Good | 53 | Excellent |

CONTRAST

| Nikkor 35mm f/2.8 at 30 lines/mm | | | |
|----------------------------------|------------|------------|--------|
| f/ | Center (%) | Corner (%) | |
| 2.8 | High | 43 | Medium |
| 4 | High | 58 | Medium |
| 5.6 | High | 60 | High |
| 8 | High | 56 | High |
| 11 | High | 62 | High |
| 16 | High | 60 | High |
| 22 | Medium | 54 | High |

PERFORMANCE

| Our Standard | as Tested |
|---|-------------------|
| Focal length: + -5% (33.25-36.75mm) | 36.10mm |
| Aperture: + -5% (f/1.90-2.10) | f/2.01 |
| Distortion: (+ -2.5%) | under 1% (barrel) |
| Light falloff: at f/5.6 +1 stop from theoretical limit (0-1.9 stops) | 0.3 stops |

RESOLUTION

| Nikkor 35mm f/2.8 at 1:47 | | | |
|---------------------------|---------------|---------------|-----------|
| f/ | Center (l/mm) | Corner (l/mm) | |
| 2.8 | Excellent | 59 | V. Good |
| 4 | Excellent | 59 | V. Good |
| 5.6 | Excellent | 67 | V. Good |
| 8 | Excellent | 67 | Excellent |
| 11 | Excellent | 59 | Excellent |
| 16 | V. Good | 53 | V. Good |
| 22 | Good | 47 | Good |

CONTRAST

| Nikkor 35mm f/2.8 at 30 lines/mm | | | |
|----------------------------------|------------|------------|--------|
| f/ | Center (%) | Corner (%) | |
| 2.8 | High | 56 | Medium |
| 4 | High | 65 | High |
| 5.6 | High | 63 | High |
| 8 | High | 70 | High |
| 11 | High | 70 | High |
| 16 | High | 60 | High |
| 22 | Low | 46 | High |

PERFORMANCE

| Our Standard | as Tested |
|---|-------------------|
| Focal length: + -5% (33.25-36.75mm) | 35.09mm |
| Aperture: + -5% (f/2.66-2.94) | f/2.74 |
| Distortion: (+ -2.5%) | under 1% (barrel) |
| Light falloff: at f/5.6 +1 stop from theoretical limit (0-1.9 stops) | 0.3 stops |

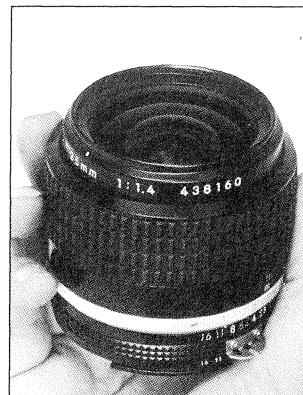
SUPER-SPEED WIDE-ANGLE NIKKOR: 35mm f/1.4 IN AIS MOUNT

Specifications: 35mm f/1.4 Nikkor, Nikon AIS mount; No. 438160; multicoated; accepts 52mm filters; f/1.4 to f/16; whole stop detents; min. foc. dist.: 1 ft. (0.3m); 2 1/8 in. long, 2 1/8 in. diam. (62.5 x 67.5mm) 1 1/4 oz. (400 g); \$506.

Practical comments: Balances very nicely on Nikon SLRs; very grippable 1 3/8-in.-wide focusing collar focuses counterclockwise to minimum distance very smoothly in just-over 1/4 turn, holds settings well; small but well engraved white-on-black metric distance and yellow-on-black footage scales; 3/8-in.-wide aperture ring at rear well differentiated by feel with, smooth predictable action; legible color-coded apertures keyed to colored depth-of-field scale; red infrared focus index dot; fine quality semi-gloss black laquer finish; as expected, extremely bright and contrasty focusing image.

Field test slides: Flare very well controlled. Transparencies crisp and snappy at center and edge at all apertures, with barely detectable increase in sharpness at f/2 on down. Well above average performance at all apertures.

Optical bench report (for optical experts only): On axis, slight flare at widest apertures virtually eliminated by f/5.6; point image pattern near diffraction limit by f/8; image quality holds at smaller apertures. Off axis, slight skew-ray flare gone by f/5.6, slight lateral color throughout.



35mm f/1.4 Nikkor provides far greater speed than f/2.8 or f/2.8 Nikkors (see photo top left) but is bigger, heavier.

PERFORMANCE

| Our Standard | as Tested |
|---|-------------------|
| Focal length: ±5% (33.25-36.75mm) | 36.60mm |
| Aperture: ±5% (f/1.33-1.47) | f/1.44 |
| Distortion: (±2.5%) | under 1% (barrel) |
| Light falloff: at f/5.6 +1 stop from theoretical limit (0-1.9 stops) | 0.2 stops |

RESOLUTION

| NIKKOR 35mm f/1.4 at 1: 49.01 | | | |
|-------------------------------|---------------|---------------|-----------|
| f/ | Center (l/mm) | Corner (l/mm) | |
| 1.4 | Excellent | 62 | Excellent |
| 2 | Excellent | 69 | Excellent |
| 2.8 | Excellent | 78 | Excellent |
| 4 | Excellent | 78 | Excellent |
| 5.6 | Excellent | 78 | Excellent |
| 8 | Excellent | 87 | Excellent |
| 11 | Excellent | 69 | Excellent |
| 16 | Excellent | 62 | Excellent |

CONTRAST

| NIKKOR 35mm f/1.4 at 30 lines/mm | | | |
|----------------------------------|------------|------------|--------|
| f/ | Center (%) | Corner (%) | |
| 1.4 | High | 64 | Medium |
| 2 | High | 64 | Medium |
| 2.8 | High | 68 | Medium |
| 4 | High | 74 | High |
| 5.6 | High | 72 | High |
| 8 | High | 78 | High |
| 11 | High | 74 | Medium |
| 16 | High | 68 | Medium |

OLYMPUS 40mm f/2 COMPACT & 500mm f/8

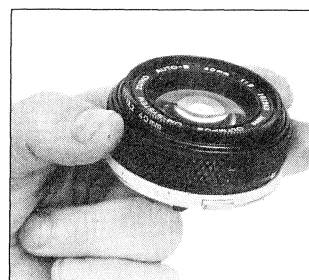
Specifications: 40mm f/2 Zuiko Auto-S: Olympus bayonet mount; No. 101963 accepts 49mm accessories; f/2 to f/16, full stop detents; min. foc. dist., 12 in. (0.3m); focusing turns clockwise 190° to inf.; 1 1/8 in. long, 2 1/2 in. diam. (27mm x 58mm); 5 oz. (140g); \$142.00.

500mm f/8 Zuiko Reflex; Olympus bayonet mount; No. 101753; accepts 72mm accessories; built-in sliding lens hood, single f/8 aperture, min. foc. dist. 13 ft. (4m); focusing turns clockwise 190° to inf.; 3 1/8 in. long, 3 3/8 in. diam. (97mm x 81mm); 1 lb. 4 1/4 oz. (590g); \$500.00.

Practical comments: Typical well finished, satin black smooth operating optics with grippable rubberized focusing rings.

Six element, six group 40mm f/2

Continued on page 130



40mm f/2 Zuiko is considerably smaller, lighter than 50mm f/1.8.



Ultra compact hand-holdable 500mm f/8 mirror lens

RESOLUTION

| OLYMPUS ZUIKO 40mm f/2 at 1:49 | | | |
|--------------------------------|---------------|---------------|-----------|
| f/ | Center (l/mm) | Corner (l/mm) | |
| 2 | V. Good | 55 | Excellent |
| 2.8 | V. Good | 62 | V. Good |
| 4 | V. Good | 69 | Good |
| 5.6 | V. Good | 69 | Good |
| 8 | Good | 62 | Good |
| 11 | V. Good | 62 | V. Good |
| 16 | Good | 55 | Good |

CONTRAST

| OLYMPUS ZUIKO 40mm f/2 at 30 lines/mm | | | |
|---------------------------------------|------------|------------|--------|
| f/ | Center (%) | Corner (%) | |
| 2 | High | 46 | Medium |
| 2.8 | High | 54 | Medium |
| 4 | High | 64 | Medium |
| 5.6 | High | 63 | Medium |
| 8 | High | 63 | Medium |
| 11 | High | 60 | High |
| 16 | High | 53 | High |

PERFORMANCE

| Our Standard | as Tested |
|---|---------------|
| Focal length: + -5% (38.00-42.00mm) | 41.33mm |
| Aperture: + -5% (f/1.90-2.10) | f/2.03 |
| Distortion: (+ -2.5%) | 1.5% (barrel) |
| Light falloff: at f/5.6 +1 stop from theoretical limit (0-1.7 stops) | .906 stops |



LIMITED WARRANTY BY
(NAME OF SUPPLIER)
(ADDRESS OF SUPPLIER)

The above Seal will be awarded to those still cameras and lenses, movie cameras and projectors (see Movie Section), enlargers and color analyzers that have passed MODERN TESTS and whose suppliers agree to the following:

"The equipment, like the sample tested by MODERN PHOTOGRAPHY will equal or better MODERN PHOTOGRAPHY's laboratory and field-test performance requirements or the item will be repaired or replaced until it does. Purchaser must notify warranty issuer of such failure within 45 days of receiving item from store where it was purchased. If the equipment cannot be furnished to specifications, the purchaser will receive a refund of actual purchase price provided items are returned in original condition and packing, together with the sales slip, at the expense of the purchaser. The supplier will pay postage to return merchandise to the purchaser. This warranty gives the purchaser specific legal rights and he may also have other rights that vary from state to state."

The Seal may appear on the product itself, in advertisements, in promotional materials, or on warranty cards at the discretion of the supplier. Repair, replacement or refunding will be done by the supplier and at his discretion and not by MODERN PHOTOGRAPHY Magazine. This limited warranty is in addition to whatever warranties, limited or full, that the supplier may give. Purchasers must furnish adequate proof of the equipment's disability. In terms of inaccurate exposures, shutter speeds or poor optical quality, films or slides showing proof must be furnished with proper identification of the warranty issuer—the same type of proof your repairman would like to have to check malfunctioning equipment.

MODERN will continue to test products and report on them whether or not the supplier decides to accept the Seal of Approval. The lack of a Seal in no way reflects on a product's quality. The Seal is merely an indication that the supplier has agreed to accept certain responsibilities as to minimum standards for every product sold as stated.

Minimum Resolution Standards

| Type | Aperture | | | | | | | |
|------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Max. | | Next | | Middle | | f/11-22 | |
| | lines/mm | lines/mm | lines/mm | lines/mm | lines/mm | lines/mm | lines/mm | lines/mm |
| | Center | Corner | Center | Corner | Center | Corner | Center | Corner |
| 35mm Camera Lenses | | | | | | | | |
| Fisheye (to 16mm) | 36 | 20 | 36 | 20 | 40 | 22 | 40 | 24 |
| 17 to 24.5mm | 36 | 20 | 36 | 20 | 40 | 28 | 40 | 28 |
| 25 to 39.5mm | 36 | 25 | 36 | 25 | 40 | 28 | 40 | 32 |
| to 39.5mm/faster than f/2.1 | 36 | 22 | 36 | 22 | 40 | 27 | 40 | 28 |
| 40 to 60.5mm | 40 | 25 | 40 | 30 | 45 | 36 | 45 | 36 |
| 40 to 60.5mm/faster than f/1.4 | 36 | 24 | 40 | 25 | 45 | 32 | 45 | 36 |
| 61 to 135mm | 36 | 25 | 36 | 28 | 40 | 32 | 40 | 32 |
| 136 to 250.5mm | 32 | 25 | 32 | 25 | 40 | 32 | 40 | 32 |
| 251 to 500.5mm | 32 | 24 | 32 | 24 | 36 | 32 | 32 | 32 |
| 501mm and longer | 32 | 24 | 32 | 24 | 36 | 32 | 32 | 28 |
| Zoom Lenses | | | | | | | | |
| to 39.5mm | 32 | 23 | 32 | 23 | 36 | 25 | 36 | 25 |
| 40 to 60.5mm | 36 | 25 | 40 | 28 | 45 | 36 | 40 | 32 |
| 61 to 135.5mm | 36 | 23 | 40 | 25 | 45 | 28 | 40 | 28 |
| 136mm and longer | 28 | 23 | 28 | 23 | 36 | 28 | 32 | 28 |
| 2 1/4 x 2 1/4 Camera Lenses | | | | | | | | |
| to 74.5mm | 28 | 14 | 32 | 18 | 32 | 18 | 32 | 22 |
| 75 to 94.5mm | 28 | 18 | 32 | 20 | 36 | 22 | 32 | 22 |
| 95mm and longer | 25 | 18 | 28 | 20 | 32 | 20 | 28 | 20 |
| 2 1/4 x 2 3/4 Camera Lenses | | | | | | | | |
| to 59.5mm | 16 | 9 | 18 | 10 | 22 | 12 | 22 | 14 |
| 60 to 89.5mm | 18 | 11 | 20 | 12 | 22 | 14 | 25 | 16 |
| 90 to 119.5mm | 20 | 12 | 22 | 14 | 25 | 16 | 25 | 18 |
| 120 to 499.5mm | 18 | 11 | 20 | 12 | 22 | 14 | 25 | 16 |
| 500mm and longer | 16 | 11 | 18 | 12 | 20 | 14 | 22 | 16 |
| 4 x 5 Camera Lenses | | | | | | | | |
| all | 28 | 22 | 28 | 22 | 34 | 25 | 34 | 25 |

MODERN PHOTOGRAPHY Minimum test requirements for Seal of Approval

Still camera and lens field-test standards

All features and controls must operate properly for the equivalent of 25 rolls of film, producing adequately exposed photographs of sufficient quality to meet professional standards for a camera and lens of that size and negative format when 11 x 14 in. black-and-white prints made from negatives of that camera and/or lens, or slides are projected on a 40 x 40 in. screen and are viewed at normal viewing distances.

Still camera & lens laboratory standards

(Photographic products of special benefit or interest to readers which fall below our minimums may also appear with explanation in the text.)

Resolution: See chart. **Exposure accuracy:** ±1 stop of proper

exposure. **Shutter-speed accuracy:** ±1/2 stop of marked speed.

Apparent Viewing distance:

Between infinity and 20 in. **Apparent viewing distance of finder information:** within 1/2 diopter of measured viewing distance. **View Area Compared to film:** Between 90% and 100%.

Focusing Accuracy at Maximum Aperture:

Within depth of focus. **Image Magnification:** Within 0.1X of Manufacturer's specification. **Actual Picture Size:** Normal picture size ±2.5%.

Curtain travel evenness:

±0.33 stop. Camera insulation from sync: More than 7 megohms. **Sync contact efficiency:** More than 60% **Sync delay time:** X; Within full opening, M; 16-20ms. **Shutter curtain bounce:** Not allowed. **Self timer delay:** 7-15 secs.

