

At 80mm, on axis, primary over-corrected spherical, slight yellow flare, gone at one stop down. Diffraction-limited pattern by f/8. Off axis, slight coma with very slight astigmatism, lateral color throughout

PERFORMANCE

Our Standard	as Tested	
Focal length: ±5% (26.60-29.40mm)	28.89mm	80.37mm
Aperture: ±5% (f/3.33-3.68)	f/3.46	f/4.72
Distortion: 28mm: (±2.5%) under 1% (barrel) 80mm: (±2%) 1.16% (pincushion)		
Light falloff: at f/5.6 +1 stop from theoretical limit		
28mm: (0-2.0 stops)	1.1 stops	
80mm: (0-1.2 stops)	0.5 stops	

RESOLUTION

CIMKO 28-80mm f/3.5-4.5 at 28mm at 1:51

f/	Center (1/mm)		Corner (1/mm)	
3.5	Excellent	51	Excellent	40
5.6	Excellent	64	Excellent	45
8	Excellent	64	Excellent	51
11	Excellent	72	Excellent	51
16	Excellent	64	Excellent	51
22	Excellent	51	Excellent	45

RESOLUTION

CIMKO 28-80mm f/3.5-4.5 at 40mm at 1:51

F/	Center (1/mm)		Corner (1/mm)	
3.5	Excellent	51	Excellent	36
5.6	Excellent	64	Excellent	40
8	Excellent	64	Excellent	51
11	Excellent	64	Excellent	51
16	Excellent	57	Excellent	45
22	V. Good	51	V. Good	40

RESOLUTION

CIMKO 28-80mm f/3.5-4.5 at 80mm at 1:51

f/	Center (1/mm)		Corner (1/mm)	
4.5	Excellent	51	Excellent	36
5.6	Excellent	57	Excellent	40
8	V. Good	57	Excellent	45
11	Excellent	57	Excellent	51
16	V. Good	51	Excellent	45
22	Good	45	Excellent	40

CONTRAST

CIMKO 28-80mm f/3.5-4.5 at 28mm at 30 lines/mm

f/	Center (%)		Corner (%)	
3.5	High	45	High	33
5.6	High	50	High	34
8	High	54	Medium	39
11	High	58	Medium	38
16	High	49	Medium	35
22	Medium	40	Low	26

CONTRAST

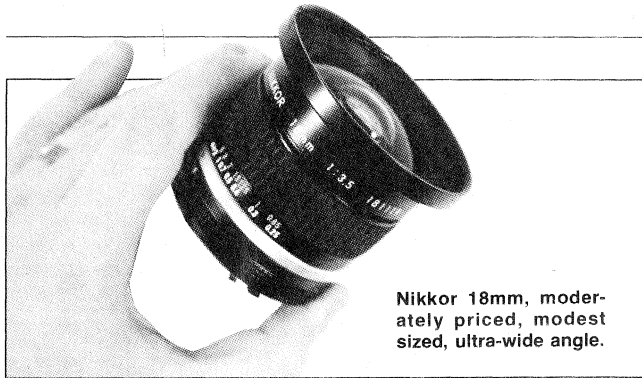
CIMKO 28-80mm f/3.5-4.5 at 40mm at 30 lines/mm

f/	Center (%)		Corner (%)	
3.5	High	46	Medium	28
5.6	High	50	Medium	33
8	High	55	Medium	33
11	High	57	Medium	33
16	High	50	Low	30
22	Medium	41	Low	28

CONTRAST

CIMKO 28-80mm f/3.5-4.5 at 80mm at 30 lines/mm

f/	Center (%)		Corner (%)	
4.5	High	42	Medium	28
5.6	High	44	Medium	33
8	High	50	Medium	33
11	High	51	Medium	33
16	High	46	Medium	30
22	High	40	Low	28



Nikkor 18mm, moderately priced, modest sized, ultra-wide angle.

18mm f/3.5 NIKKOR IN NIKON A1 MOUNT

Specifications: 18mm f/3.5 Nikkor, No. 181119 in Nikon A1 mount, accepts 72mm accessories; f/3.5 to f/22 with full stop detents from f/4 onwards; min. foc. dist. 9 7/8 in. (0.25m), 2 1/16 in. long 3 in. diameter (62x75mm), 12 3/4 oz. (367G). \$762.00

Practical comments: This new 18mm lens, furnished with a lens hood, has 11 elements in 10 groups and uses Nikon's floating element design called Nikon Close Range Correction to provide optimum performance even at closest focusing distances. The traditional Nikon satin black finish with chrome trim is evident. An amply wide, studded, rubberized focusing ring provides smooth movement. Numerals are large and easily visible although the distance scales are slightly smaller. The lens is well-built and rugged.

PERFORMANCE

Our Standard	as Tested	
Focal length: ±5% (17.10 - 18.90mm)	18.82mm	
Aperture: ±5% (f/3.33 - 3.68)	f/3.47	
Distortion: (±4%)	under 1% (barrel)	
Light falloff: at f/5.6 +1 stop from theoretical limit	1.5 stops	

RESOLUTION

NIKKOR 18mm f/3.5 at 1: 48

f/	Center (l/mm)		Corner (l/mm)	
3.5	Excellent	61	V. Good	30
4	Excellent	61	V. Good	34
5.6	Excellent	68	V. Good	38
8	Excellent	68	Excellent	43
11	Excellent	61	Excellent	43
16	V. Good	54	Good	34
22	Good	48	Good	34

CONTRAST

NIKKOR 18mm f/3.5 at 30 lines/mm

f/	Center (%)		Corner (%)	
3.5	High	68	High	41
4	High	72	High	41
5.6	High	73	High	56
8	High	74	High	71
11	High	64	High	72
16	High	60	High	65
22	High	46	High	57

ONE-TOUCH 70-210mm CIMKO ZOOM



Specifications: 70-210mm f/3.8 Cimko MT; mounts for Canon, Contax/Yashica, Fujica X, Konica, Minolta, Nikon, Olympus, Pentax (K and screw mount); No. 1422889; accepts 58mm filters; f/3.8 to f/22, full stop detents; min. foc. dist. 4 ft. (1.2m); max. magnification 1:4 at 210mm; 5 1/8 in. long, 2 1/2 in. diam. (143 x 64mm); 1 lb. 5 oz. (620g); \$329.

Practical comments: Hefty one-touch 3:1 zoom with continuous focusing to 4 ft. at all focal lengths. Magnification is 1:10 at 70mm; 1:4 at 210mm. Generous, 2 1/2 in. long rubber-covered focusing ring provides easy movement, no slippage. Slide-out lens hood extends about 3 in. Numerical scales large and legible; focal lengths, meters, stops in white-on-black, footages in orange-on-black, magnification scales in blue. Practical zoom range in relatively compact form. Well made and finished.

Field test slides: Images generally crisp and snappy at all focal lengths. Widest aperture produced some softness in corners, but quality was equal to centers by f/8. Flare affects contrast at longer focal lengths; wide open. In macro mode, performance becomes acceptable by f/11 in center.

Optical bench analysis (for optical experts only): At 70mm, on axis, primary over-corrected spherical aberration. Diffraction limited by f/11. At 135mm, slight over-corrected spherical aberration, with axial color gone by f/8. Lateral color throughout. At 210mm, slight secondary lateral color mixed with red flare. Diffraction limited by f/16. At 70mm, off axis, slight skew-ray flare mixed with slight coma gone by f/8. Lateral color throughout. At 135mm, slight coma mixed with slight astigmatism.