

# LENS TESTS

## We test Mamiya's \$18,845 monster tele plus four other Mamiya 645 manual-focusers.

The five Mamiya-Sekor manual-focus lenses POPULAR PHOTOGRAPHY tested in conjunction with our Mamiya 645E SLR test report are the 80mm f/2.8, 55mm f/2.8, 120mm f/4 Macro, 200mm f/2.8 APO, and 300mm f/2.8 APO.

While they come in different colors and materials (polycarb/die-cast aluminum), the lenses are of sturdy construction and average size and weight for the format, except for the 300mm f/2.8 APO, a unique piece, as we'll see. All have ribbed focusing rings of varying sizes made of a pleasing-to-the-touch, rubber-like material. For each bayoneting lens, Mamiya sets an unusually prominent lens registration dot on a raised ridge of plastic, that helps the lenses mount with a quick twist. All the lenses have a manual/auto diaphragm switch. The former setting is for checking depth-of-field, while the latter is for shooting. "Auto" holds the aperture at its maximum opening for easy focusing. Each lens also has a notched coupling prong that communicates the lens aperture to the camera's metering system.

Aperture rings are placed flush with the aluminum alloy mounts. Clickstopped in full stops, the rings are well marked in white (on black lenses) and black (on white lenses). All except the 300mm f/2.8 APO have well-marked, conventional focusing and depth-of-field scales with red infrared index marks. The focusing scales in feet and meters are large, legible numerals, in colors that contrast with the lens barrel. Other barrel designations include "C," which indicates a production run, and "N" for New, which refers to a

cosmetic redesign.

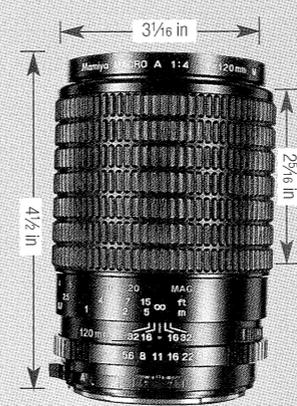
The focusing action on all these lenses is smooth, and not loose, but well damped, except for the 300mm, which we judged somewhat underdamped. Each focuses closer by turning in a counterclockwise direction. The barrels are threaded to accept screw-in accessory filters.

**In the lab/field:** We are unable to test medium-format lenses on our electronic optical bench, so SQF results are unavailable. According to the results of the alternative lines-per-mm tests, all five lenses showed generally excellent performance in the center (on-axis), and excellent to very good/good in the corners (off-axis), as noted. Test slides were uniformly very sharp and contrasty from center to corner at every aperture, except as noted. All lenses kept flare well under control, with minimal ghosting—an excellent set of results.

**Conclusion:** The Mamiya-Sekor 645 lenses performed, as a group, on par with or better than other 645-format lenses we've tested. The f/2.8 speed of the 200mm and 300mm lenses deserves special notice (very bright viewfinder images); they're the fastest optics of their class for the format (with pricing to match!). Overall handling was excellent, with minor exceptions as noted. Focusing was uniformly fast and easy. Our pictures were very sharp. As a representative group, these five lenses are indicative of the impressive optical advantages in speed, range, and selection that Mamiya brings to the manual-focus 645 format.

### Mamiya A 120mm f/4 Macro

*Like to get close? This macro gets you all the way to 1:1.*



**SPECIFICATIONS:** 120mm (118.5mm tested), f/4 (aperture measurement not available due to instrument limitation), 9 elements in 8 groups.

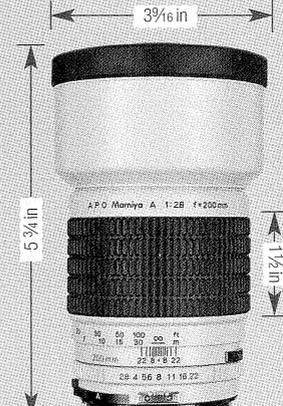
View angle: Diag: 33 degrees. Min aperture: f/32. Focusing turns 300 degrees counterclockwise; min focus 1 ft 3 3/8 in. Weight: 1 lb 5 oz. Filter size: 67 mm. Mount available: Mamiya. List price: \$1,499.

#### RESOLUTION (Lines/mm) 120mm f/4

f/	Center	Corners
4	Excellent 50	Excellent 40
5.6	Excellent 63	Excellent 45
8	Excellent 71	Excellent 45
11	Excellent 63	Excellent 40
16	Excellent 50	Excellent 40
22	Excellent 45	Good 32
32	Very good 40	Acceptable 28

### Mamiya A 200mm f/2.8 APO

*It's long, relatively lightweight, and best of all, it's fast!*



**SPECIFICATIONS:** 200mm (205.7mm tested), f/2.8 (aperture measurement not available due to instrument limitations), 7 elements in 5 groups.

View angle: Diag: 20 degrees. Min aperture: f/22. Focusing turns 200 degrees counterclockwise; min focus 8 ft 2 5/8 in. Weight: 2 lbs 4 3/8 oz. Filter size: 77 mm. Mount available: Mamiya. List price: \$2,549.

#### RESOLUTION (Lines/mm) 200mm f/2.8

f/	Center	Corners
2.8	Excellent 45	Excellent 32
4	Excellent 45	Excellent 32
5.6	Excellent 57	Excellent 40
8	Excellent 64	Excellent 40
11	Excellent 64	Very good 36
16	Excellent 45	Good 32
22	Good 36	Good 29

**Results:** Mamiya's 120mm f/4 showed minimal barrel distortion (.15 percent). Exposure was very accurate with 1/10 stop underexposure at maximum aperture due to light falloff. From f/5.6 to f/11, we found 1/4 stop overexposure; slightly more (1/2 stop) at f/22, and significantly less overexposure (1/10 stop) at f/22 and f/32. At the measured minimum focusing distance of 16.5 inches (1:1), center sharpness was excellent at f/4, very good at f/5.6, good from f/8 to f/22, and below average at f/32. Corner sharpness was acceptable at f/4 and f/5.6; good from f/8 to f/16; acceptable at f/22, and below average at f/32. Optimum performance occurred at f/16. In field tests, light falloff was gone by f/8, and images were sharp and contrasty.

**Results:** The 200mm f/2.8 showed minimal barrel distortion (.20 percent). Exposure was very accurate with underexposure by 1/10 stop at maximum aperture due to light falloff. From f/4 to f/22, we found 1/2 stop overexposure. At the measured minimum focusing distance of 94 inches (1:10), center and corner sharpness were excellent at every aperture, with the exception of f/22 which tested good. Optimum performance was at f/8. In field tests, light falloff was gone by f/5.6, and images were sharp and contrasty. The lens has a built-in sunshade.

### Mamiya Sekor C 80mm f/2.8N

*Mamiya's manual-focus "normal" optic for the 645 is sharp and compact.*



**SPECIFICATIONS:** 80mm (79.5mm tested), f/2.8 (aperture measurement not available due to instrument limitation), 6 elements in 5 groups.

View angle: Diag: 47 degrees. Min aperture: f/22. Focusing turns 130 degrees counterclockwise; min focus 2 ft 3 3/8 in. Weight: 12 1/8 oz. Filter size: 58mm. Mount available: Mamiya. Average street price: \$499.

#### RESOLUTION (Lines/mm) 80mm f/2.8

f/	Center	Corners
2.8	Excellent 51	Excellent 41
4	Excellent 65	Excellent 41
5.6	Excellent 73	Very good 46
8	Excellent 65	Excellent 46
11	Excellent 51	Excellent 46
16	Excellent 46	Excellent 41
22	Excellent 46	Very good 36

**Results:** Mamiya's f/2.8 normal lens showed slight barrel distortion (.55 percent). Exposure was extremely accurate, with less than 1/10 stop over/underexposure at every aperture. At the measured minimum focusing distance of 26 inches (1:6), center sharpness was excellent at every aperture. Corner sharpness was good from f/2.8 to f/4, very good from f/5.6 to f/8, and excellent from f/11 to f/22. Optimum performance was at f/16. In field tests, light falloff at the edges was gone by f/5.6. Test slides showed excellent sharpness, flare, and contrast performance at all apertures.

### Mamiya Sekor C 55mm f/2.8N

*Equal to the 35mm in 35mm format, the 55mm is wide but not too wide.*



**SPECIFICATIONS:** 55mm (56.3mm tested), f/2.8 (aperture measurement not available due to instrument limitation), 8 elements in 6 groups.

View angle: Diag: 65 degrees. Min aperture: f/22. Focusing turns 100 degrees counterclockwise; min focus 1 ft 5 1/8 in. Weight: 11 1/4 oz. Filter size: 58mm. Mount available: Mamiya. Included lenshood. Average street price: \$665.

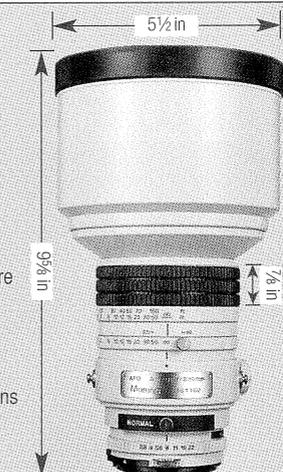
#### RESOLUTION (Lines/mm) 55mm f/2.8

f/	Center	Corners
2.8	Excellent 46	Very good 26
4	Excellent 58	Very good 32
5.6	Excellent 65	Very good 37
8	Excellent 73	Very good 37
11	Excellent 65	Excellent 41
16	Excellent 58	Excellent 41
22	Excellent 51	Excellent 37

**Results:** The 55mm f/2.8 showed slight barrel distortion (.75 percent). Exposure was extremely accurate with underexposure by 1/10 stop at maximum aperture due to light falloff. From f/4 to f/16 there was very slight overexposure (1/10 stop); slightly more (1/4 stop) at f/22. At the measured minimum focusing distance of 17 inches (1:5), center sharpness was very good from f/2.8 to f/4, excellent from f/5.6 to f/16, and very good at f/22. Corner sharpness was very good at f/2.8, and excellent from f/4 to f/22. Optimum performance occurred at f/8. In field tests, light falloff was gone by f/4, and images were sharp and contrasty except at f/2.8, which showed slight softening at center and edges.

### Mamiya A 300mm f/2.8 APO

*It's a heavy mama, but one of the masterpieces in the 645 format.*



**SPECIFICATIONS:** 300mm (295.2mm tested), f/2.8 (aperture measurement not available due to instrument limitations), 9 elements in 8 groups. View angle: Diag: 13 degrees. Min aperture: f/22. Focusing turns 70 degrees counterclockwise; min focus 11 ft 5 3/8 in. Weight: 9 lbs 10 1/8 oz. Filter size: internal. Mount available: Mamiya. 5 filters included. List price: \$12,239.

#### RESOLUTION (Lines/mm) 300mm f/2.8

f/	Center	Corners
2.8	Excellent 51	Excellent 36
4	Excellent 64	Excellent 36
5.6	Excellent 72	Excellent 40
8	Excellent 57	Excellent 40
11	Excellent 57	Excellent 36
16	Excellent 51	Good 28
22	Good 36	Good 28

**Results:** The only f/2.8 300mm for a 645 SLR, this is one of the most expensive and multi-featured optics we've ever tested. It has a slip-in filter drawer (43.5mm) plus six included filters (UV, warming, color correcting, etc.), a rotating tripod collar, built-in sunshade, adjustable focus-range delimiter, and carrying strap. The lens showed minimal pincushion distortion (.25 percent). Exposure was very accurate with 1/10 stop underexposure at maximum aperture due to light falloff. From f/4 to f/11, we found 1/2 stop overexposure; 1/2 stop overexposure at f/16 and f/22. At the measured minimum focusing distance of 135 inches (1:10.47), center sharpness was excellent from f/2.8 to f/16, and very good at f/22. Corner sharpness was good at f/2.8, very good at f/4, excellent from f/5.6 to f/11, very good at f/16, and good at f/22. Optimum performance was at f/8. In field tests, light falloff was gone by f/4, and images were sharp and contrasty, except at f/22 which showed slight softening at the corners.