

Lens Test Pointers

by Mark Stuecheli

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Recently, I tested over 70 lenses for Mike Higgins' lens test effort. Through trial and error, I developed a system for conducting the tests. Mike suggested that I pass along some pointers so that others can benefit from my experience. I'm sure that some of you will find ways to improve upon my methods.

I started by completing an inventory of all of the lenses, noting the manufacturer, model, focal length, maximum aperture, serial number, magnification used in the test, lens opacity, notes on cleaning marks and scratches, and any comments about the condition of the glass. I entered the data into a spreadsheet and then sorted by lens size. Each lens was assigned a number on the spreadsheet and that number was written on a self-adhesive paper dot that was attached to the lens. To easily return the lens to the body from which it had come, I also placed the number on the body. The lenses were placed in plastic storage containers in numerical order to facilitate the testing process.

My setup for shooting the test target was very basic. I used scotch tape to attach the target on the wall of a fairly long (27-foot) room in my house about three-foot from a side wall, using a spirit level to ensure that the target was mounted perfectly level. I found that the target tended to bulge out slightly in the center, so I added small bits of tape at two to three spots on the backside of the target. Two lamps with reflectors and 100 watt bulbs were positioned at 45 degree angles on either side of the target about two feet from the wall to eliminate reflections. With that setup, I found that I could use a 1/8 second exposure for the f8 lens opening. Since my only tripod is a mid 1980s Slik U-112, which is fairly lightweight, I added a five-pound weight hung off the supports with a bungee cord. That did a good job of steadying the tripod. I set up the tripod so that the camera was at the same height as the center of the target and the same distance from the side wall. The target to lens distance called for by Mike's table was measured to the front element of the lens (lenses of the same focal length have different physical dimension, but I didn't adjust the tripod for each lens after learning from Mike that the measurement is not extremely critical). Every time I changed the location of the tripod, I used a spirit level to check that the tripod camera base was level in both directions. That ensured that the target would be close to being centered vertically.

I used a RTL1000 equipped with a magnifier finder with a cross hair screen to aid with the focusing of the lenses. For each shot, I followed the same routine to minimize errors. First, I posted the lens number (written on sheets of 8 1/2 X 11 inch paper cut into fourths) above the target. Then I mounted the lens on the camera and adjusted the horizontal alignment so that the cross hair was centered on the target. I focused the lens (using the standard back-and-forth method of incrementally selecting the best focus) between three and four times, each time checking the final location of the focus scale. If there was any variation in the setting, I used an average of all of the attempts. Before engaging the shutter, I checked to ensure that the number posted on the wall and the number on the lens matched. I then held my breath, viewed the target through the focusing magnifier, pressed down on the camera to further steady it, and gently engaged the shutter. The lens number and frame number

were recorded for later cross-reference purposes.

Using that setup in my test room, I was able to shoot lenses with focal lengths up to 150mm at 50X magnification. My first attempt at outdoor shooting of the longer lenses was unsuccessful for numerous reasons (excessive camera movement because of poor tripod footing in a lawn and much bulkier long lenses, varying tripod heights because of a sloping yard, varying light conditions, and extreme heat). I plan on reshooting those lenses in a large indoor space, where conditions can be better controlled.

As directed by Mike, I used T-Max 100 film and developed it in T-Max developer following the standard times recommended by Kodak. I placed the negatives in protective sleeves and mailed them to Mike, along with a hard copy of the spreadsheet. I also e-mailed him a digital copy of the spreadsheet. One item that I should have sent along with the negatives was the log of each shot so that Mike could verify how each shot conformed to the spreadsheet information (we had to correspond back and forth to clarify the shots).

I hope that these pointers will assist you in testing your lenses. The results will be more valuable if we can test a large number of lenses, including several of each of the more popular lenses. So take the dive and do some testing!