

# CAMERA 35

THE MAGAZINE OF MINIATURE PHOTOGRAPHY

tests the  
**Canon**  
TELEPHOTO LENSES





## LENS TEST SERIES

NO. 14

Long ago, Canon built a solid reputation on its superb lenses. Are they as good today as they were then? Our tests tell the story. But one thing's for sure... few lens lines are more extensive!



ONLY A FEW of the many fine telephotos available from Canon. From the left, the 100mm f/3.5, the 200mm f/3.5, the 135mm f/2.5, the 85mm f/1.8 and the 300mm f/4. Note the unique mount on the latter lens, consisting of a focusing bellows.

# THE CANON TELEPHOTOS



### The 600mm f/5.6 Canon

#### RESOLUTION TEST

|       | CENTER | EDGES |
|-------|--------|-------|
| f/5.6 | 34     | 28    |
| f/8   | 40     | 34    |
| f/11  | 48     | 40    |
| f/16  | 56     | 40    |
| f/22  | 56     | 40    |
| f/32  | 48     | 34    |

WEIGHT ..... 7 Lbs.  
 LENGTH ..... 15½ In.  
 MAXIMUM DIAMETER ..... 4½ In.  
 FINISH ..... Satin Black  
 DIAPHRAGM ..... Manual  
 FOCUSING ..... Bellows  
 DIAPHRAGM RANGE ..... f/5.6-32

Believe it or not, this is a fast, lightweight lens. At 600mm, f/5.6 is fast. And seven pounds is certainly light. This lens and the 1000mm share the same bellows-plus-adaptor close focusing mount as the 300mm. Performance was very good, despite atmospheric haze all during testing. \$550.00.

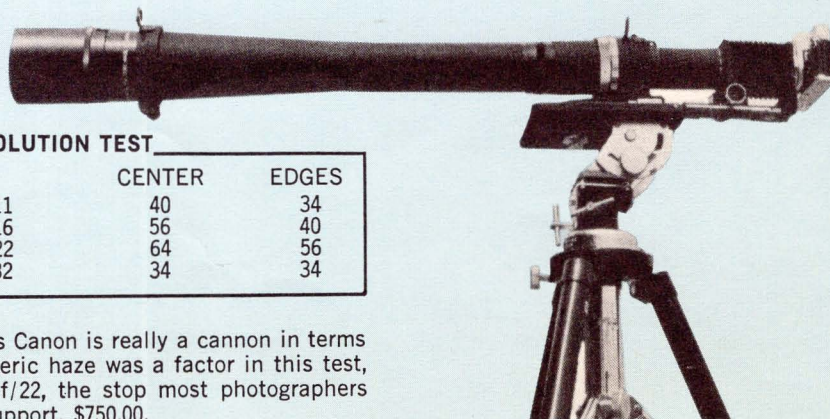
### The 1000mm f/11 Canon

WEIGHT ..... .8 Lbs.  
 LENGTH ..... 27 In.  
 MAXIMUM DIAMETER ..... 4¼ In.  
 FINISH ..... Satin Black  
 DIAPHRAGM ..... Manual  
 FOCUSING ..... Bellows  
 DIAPHRAGM RANGE ..... f/11-32

#### RESOLUTION TEST

|      | CENTER | EDGES |
|------|--------|-------|
| f/11 | 40     | 34    |
| f/16 | 56     | 40    |
| f/22 | 64     | 56    |
| f/32 | 34     | 34    |

Again, eight pounds is light for a 1000mm, but this Canon is really a cannon in terms of length. Bearing in mind the fact that atmospheric haze was a factor in this test, too, performance was quite good, especially at f/22, the stop most photographers would probably use for depth. Note rigid lens support. \$750.00.





**T**HE CANON LENSES tested here provide seven good reasons for using Canon SLR's. I've said it before, but there's no harm in repeating it: the knowledgeable photographer will base a good part of his decision to buy a camera on the range and quality of the lenses available for it. Now, if we were to test **all** the Canon FL-Series lenses, starting with the superb 19mm on up to the mammoth 2500mm, we'd no doubt fill half the magazine. So much for range.

The lenses we have tested are all telephotos, in focal lengths and maximum apertures we felt a serious photographer would be most interested in. Quality? Well, I've always had a soft spot for Canon optics. There's something about the images they deliver that sets them apart. But I'd be hard put to define it further than that. As for mechanical characteristics, the focusing mounts in the "shorter" lengths were all well-finished, smooth and positive. Ditto the automatic diaphragms.

—Arthur Kramer

## The 85mm f/1.8 Canon

WEIGHT .....10.6 Oz.  
LENGTH .....2¼ In.  
MAXIMUM DIAMETER .....2⅝ In.  
FINISH .....Glossy Black  
DIAPHRAGM .....Automatic  
FOCUSING RANGE .....3½ Ft.-Inf.  
DIAPHRAGM RANGE .....f/1.8-16

### RESOLUTION TEST

|       | CENTER | EDGES |
|-------|--------|-------|
| f/1.8 | 40     | 34    |
| f/2   | 40     | 34    |
| f/2.8 | 48     | 40    |
| f/4   | 80     | 48    |
| f/5.6 | 80     | 56    |
| f/8   | 80     | 56    |
| f/11  | 80     | 64    |
| f/16  | 48     | 40    |

A fine piece of glass! Its performance of 80 lines/mm at four consecutive stops is very impressive. And 40 lines/mm wide open isn't bad, either. Brilliance at the middle stops is delightfully high, and flare wide open seems minimal. This is one lens you really enjoy focusing—it snaps in and out with an almost audible ping. This is not just a good high-speed "short tele", but a fine general purpose lens . . . and I'd say it could handle whatever challenges you care to throw its way. Mechanically, this lens is as good as it is optically. Light, but not too light. When mounted on the FT, balance is perfect. \$135.50.

## The 100mm f/3.5 Canon

WEIGHT .....10.2 Oz.  
LENGTH .....2½ In.  
MAXIMUM DIAMETER .....2⅔ In.  
FINISH .....Glossy Black  
DIAPHRAGM .....Automatic  
FOCUSING RANGE .....3½ Ft.-Inf.  
DIAPHRAGM RANGE .....f/3.5-22

### RESOLUTION TEST

|       | CENTER | EDGES |
|-------|--------|-------|
| f/3.5 | 56     | 48    |
| f/4   | 80     | 56    |
| f/5.6 | 80     | 68    |
| f/8   | 80     | 68    |
| f/11  | 68     | 56    |
| f/16  | 56     | 48    |
| f/22  | 48     | 34    |

Sharp. Crisp. Lovely image quality. A rare lens that somehow manages to give you the best of both optical worlds: outstanding resolution **and** high contrast. In fact, this Canon's contrast and brilliance at all stops put it in a class by itself among lenses of this focal length I've tested previously (and I've tested lenses that cost an awful lot more than this one!). Note the 80 lines/mm resolution at f/4 . . . this piece of glass hits its stride virtually wide open. Quite an accomplishment. All in all, I'd say that this is one of the greatest bargains extant, and I unhesitatingly recommend it for any job . . . critical or otherwise. \$87.50.

## The 135mm f/2.5 Canon

WEIGHT .....1 Lb. 7 Oz.  
LENGTH .....4½ In.  
MAXIMUM DIAMETER .....2½ In.  
FINISH .....Glossy Black  
DIAPHRAGM .....Automatic  
FOCUSING RANGE .....5 Ft.-Inf.  
DIAPHRAGM RANGE .....f/2.5-16

### RESOLUTION TEST

|       | CENTER | EDGES |
|-------|--------|-------|
| f/2.5 | 40     | 34    |
| f/4   | 40     | 40    |
| f/5.6 | 40     | 40    |
| f/8   | 48     | 40    |
| f/11  | 56     | 48    |
| f/16  | 56     | 40    |

Strictly in terms of resolution, this lens has to suffer when compared to its kid brother, the 100mm f/3.5. But remember, they were designed with different objectives in mind. This is a high-speed medium telephoto. In fact, there are only two other 135mm lenses presently in production that offer larger maximum apertures than this f/2.5 Canon. This lens was designed for optimum performance at its widest apertures—and that it delivers. Also note that at all apertures, edge fall-off is virtually nonexistent, and performance is very good at the "depth" apertures. You get quite good contrast, too. \$129.50.

## The 200mm f/3.5 Canon

WEIGHT .....1 Lb. 9 Oz.  
LENGTH .....6 In.  
MAXIMUM DIAMETER .....2¾ In.  
FINISH .....Glossy Black  
DIAPHRAGM .....Automatic  
FOCUSING RANGE .....8 Ft.-Inf.  
DIAPHRAGM RANGE .....f/3.5-22

### RESOLUTION TEST

|       | CENTER | EDGES |
|-------|--------|-------|
| f/3.5 | 40     | 34    |
| f/5.6 | 40     | 34    |
| f/8   | 40     | 34    |
| f/11  | 56     | 48    |
| f/16  | 56     | 48    |
| f/22  | 56     | 40    |

Good lenses of this speed and focal length are hard to find—but this is one of them (and it's automatic, too). Handling is smooth, easy, beautiful. Optical performance seems to rest on two plateaus: good at f/8 and above, very good at f/11 and below. In fact, 40 lines/mm wide open is good, indeed, and makes focusing a pleasure. Generally, images produced by this lens have a pleasing roundness, a fine three-dimensional quality. In other words, this lens may compress distances, but it won't compress tonal values. No flat pictures here. And when you stop down for depth, you don't lose crispness. \$159.50.

## The 300mm f/4 Canon

WEIGHT .....2 Lbs. 9 Oz.  
LENGTH .....6¼ In.  
MAXIMUM DIAMETER .....3¼ In.  
FINISH .....Satin Black  
DIAPHRAGM .....Manual  
FOCUSING .....Bellows  
DIAPHRAGM RANGE .....f/4-22

### RESOLUTION TEST

|       | CENTER | EDGES |
|-------|--------|-------|
| f/4   | 34     | 28    |
| f/5.6 | 40     | 40    |
| f/8   | 48     | 40    |
| f/11  | 56     | 48    |
| f/16  | 64     | 48    |
| f/22  | 56     | 48    |

A 300mm macro?! Well, not exactly. But because this lens was designed to be used on television cameras as well as on Canon SLR's, it is made in a double duty mount: a wide-flange barrel, to mate directly with TV cameras; and a bellows-plus-adapter, for SLR's. The adapter itself has a telescopic barrel arrangement, which can be locked up tight in any number of extended positions. With bellows racked out all the way and adapter fully extended, this lens will focus within inches of your subject! But I won't guarantee optimum performance. At regulation distances, however, it does quite well. \$321.00.



There are a total of 23 breech-lock mount Canon FL lenses designed especially for the Canon FP, FX, FT-QL, Pellix, and Pellix QL cameras. Ranging from 19mm super wide-angle to 1000mm super telephoto, the lenses feature exceptional optical and mechanical quality. Here is a complete listing:

| Catalog No. | Description  | Suggested List Price | Catalog No. | Description  | Suggested List Price |
|-------------|--|----------------------|-------------|--|----------------------|
| 112245      | 19mm f/3.5R Wide-Angle Lens with Case and Filter Holder              | \$279.95             | 112175      | 100mm f/3.5 Telephoto Lens with Case and Lens Hood                         | \$ 99.95             |
| 112159      | 28mm f/3.5 Wide-Angle Lens with Case and Lens Hood                   | 174.40               | 112188      | 135mm f/3.5 Telephoto Lens with Case and Lens Hood                         | 109.95               |
| 112155      | 35mm f/2.5 Wide-Angle Lens with Case and Lens Hood                   | 124.95               | 112185      | 135mm f/2.5 Telephoto Lens with Case and Lens Hood                         | 144.50               |
| 112154      | 38mm f/2.8 Wide-Angle Lens (for Pellix and Pellix QL only) with Case | 94.95                | 112191      | 200mm f/4.5 Telephoto Lens with Case (Lens Hood Built-In)                  | 129.95               |
| 112169      | 50mm f/3.5 Macro Lens with Life-Size (1:1) Adapter and Case          | 169.95               | 112195      | 200mm f/3.5 Telephoto Lens with Case (Lens Hood Built-In)                  | 175.50               |
| 112102      | 50mm f/1.8 Normal Lens   | 76.00                | 112130      | 300mm f/4 Telephoto Lens with Case and Intermediate Tube (Hood Built-In)   | 321.00               |
| 112149      | 50mm f/1.4 Normal Lens   | 126.00               | 112140      | 400mm f/4.5 Telephoto Lens with Case and Intermediate Tube (Hood Built-In) | 471.00               |
| 112101      | 58mm f/1.2 Normal Lens   | 161.00               | 112160      | 600mm f/5.6 Telephoto Lens with Case and Intermediate Tube (Hood Built-In) | 550.00               |
| 112126      | 55—→135mm f/3.5 Zoom Lens with Case and Lens Hood                    | 299.50               | 112180      | 800mm f/8 Telephoto Lens with Case and Intermediate Tube (Hood Built-In)   | 650.00               |
| 112179      | 100—→200mm f/5.6 Zoom Lens with Case (Lens Hood Built-In)            | 209.95               | 112190      | 1000mm f/11 Telephoto Lens with Case and Intermediate Tube (Hood Built-In) | 750.00               |
| 112200      | 85—→300mm f/5 Zoom Lens with Case (Lens Hood Built-In)               | 578.50               |             |  |                      |
| 112165      | 85mm f/1.8 Telephoto Lens with Case and Lens Hood                    | 149.95               |             |  |                      |

A complete line of accessories is available for Canon single-lens reflex cameras. For complete information on the complete Canon line of fine photographic equipment, write to the Bell & Howell Customer Relations Department at the address below.

Canon cameras, made in Tokyo, Japan by the Canon Camera Co., are exclusively sold, serviced, and guaranteed throughout the U.S. and Canada by Bell & Howell.

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