



Canon

Canon's wider midrange zoom: fast, luxury priced, and optically outstanding to boot!

What you should know:

The 24–70mm f/2.8L USM AF Canon is clearly aimed at pros who need a fast, constant aperture “normal zoom” that gets down to the truly wide 24mm focal length—especially important with digital SLRs that have smaller-than-35mm-format image sensors. They're very popular as standard lenses among news photographers. The considerably wider 24mm angle and the extraordinary performance of Canon's latest (which comes at no increase in price over the previous 28–70mm f/2.8L Canon) may tempt more pros and intrepid serious amateurs to add it to their optical arsenals.

Hands on: Massive and quite heavy for its focal-length range, due to its f/2.8 constant aperture, the lens is superbly finished in semigloss- and crinkle black. The focal-length and metric-distance scales are very legible in white on black, but the green footage numerals are too small and hard to see—they should be in yellow and placed a bit lower under the protective Plexiglas window. An uncalibrated macro range below the 2.5-foot mark lets you focus continuously down to about 15 inches at all focal lengths. Both the zoom and manual-focus rings are wide, grippably textured in a rubberlike material, and turn very smoothly with a well-damped action. The sliding AF/MF (auto and manual focus) switch is conveniently situated to the left of the focusing scale, and the latter has infrared focusing indices for 24-, 28-, 35-, 50-, and 70mm.

Autofocusing action on our test Canon EOS-1N was swift and virtually silent, due, primarily, to the built-in ultrasonic focusing motor (USM).

In the lab: SQF data indicate excellent performance at all focal lengths. However, there was noticeable barrel distortion at 24mm, and noticeable pincushion distortion (1.7 percent) at 70mm. At 50mm, pincushioning was minimal (0.4 percent).

Exposure at the film plane at 24mm was accurate, with 2/5-stop underexposure at maximum aperture due to light falloff, 1/3-stop under from f/4 to f/16, and 1/2-stop under at f/22. At 70mm, exposure accuracy was average, with 3/5-stop underexposure at maximum aperture due to light falloff, 1/2-stop under from f/4 to f/16, and 3/5-stop underexposure at f/22.

At the closest focusing distance of 15 inches (1:8.8) at 24mm, center sharpness was excellent at all apertures. Corner sharpness was poor from f/2.8 to f/4, good at f/5.6, excellent from f/8 to f/16, and good at f/22. Optimum performance was delivered at f/8.

At minimum distance of 14 3/4 inches (1:4.6) at 50mm, center sharpness was excellent from f/2.8 to f/16, and very good at f/22. Corner sharpness was poor from f/2.8 to f/4, acceptable at f/5.6, good from f/8 to f/16, and acceptable at f/22. Optimum performance was at f/8.

At minimum distance of 14 3/4 inches (1:3.5) at 70mm, center sharpness was excellent from f/2.8 to f/16, and very good at f/22. Corner sharpness was



SPECIFICATIONS

24–70mm (24.95–68.40mm tested), f/2.8 (f/2.85–2.94 tested), 16 elements in 13 groups. Focusing turns 130 degrees counterclockwise. Zoom ring turns 60 degrees counterclockwise to 24mm. Focal lengths marked at 24-, 28-, 35-, 50-, and 70mm. Diagonal View Angle: 74–29 degrees. Weight: 2 lbs 3/8 oz. Filter size: 77mm. Mount: Canon AF. Included: lenshood and lens pouch. List price: \$2,100. Street price: Approx. \$1,350.

SUBJECTIVE QUALITY FACTOR

KEY	A+	A	B+	B	C+	C	D	F
@24mm								
MAG	5	6	8	12	17	22		
Size	4x6	5x7	8x10	11x14	16x20	20x24		
2.8	96.4	96.1	94.9	92.0	86.0	78.7		
4.0	96.7	96.3	95.2	92.6	87.2	80.7		
5.6	96.9	96.6	95.5	93.1	88.3	82.5		
8.0	97.0	96.7	95.6	93.2	88.5	82.9		
11.0	96.9	96.5	95.5	92.9	88.1	82.1		
16.0	96.5	96.2	95.0	92.2	86.7	79.9		
22.0	95.7	95.3	93.9	90.4	83.4	74.6		
@50mm								
MAG	5	6	8	12	17	22		
Size	4x6	5x7	8x10	11x14	16x20	20x24		
2.8	97.4	97.2	96.3	94.2	90.2	85.2		
4.0	97.7	97.5	96.7	94.8	91.4	87.3		
5.6	97.9	97.7	97.0	95.3	92.4	88.9		
8.0	97.9	97.7	97.0	95.3	92.4	88.9		
11.0	97.8	97.6	96.8	95.0	91.8	88.0		
16.0	97.5	97.2	96.4	94.4	90.6	86.0		
22.0	96.5	96.1	95.0	92.1	86.3	78.9		
@70mm								
MAG	5	6	8	12	17	22		
Size	4x6	5x7	8x10	11x14	16x20	20x24		
2.8	97.8	97.6	96.9	95.1	91.2	86.1		
4.0	98.0	97.8	97.2	95.5	92.1	87.6		
5.6	98.4	98.2	97.7	96.4	93.7	90.5		
8.0	98.4	98.2	97.7	96.4	93.9	90.7		
11.0	98.3	98.1	97.5	96.1	93.3	89.8		
16.0	97.8	97.6	96.9	95.1	91.5	86.9		
22.0	97.0	96.7	95.7	93.2	87.7	80.4		

poor from $f/2.8$ to $f/5.6$, acceptable from $f/8$ to $f/22$. Optimum performance was at $f/8$.

In the field: Test slides were very sharp and contrasty from center to corners at all apertures and focal lengths. Light falloff was gone by $f/4$ at all focal lengths. Flare was very well controlled throughout.

Conclusion: While its high distortion levels at 24- and 70mm may compromise its usefulness for architectural photography, this lens provides extremely high image quality for general shooting. Extending its wide end to 24mm will undoubtedly broaden its appeal, especially among digital SLR shooters.