

Canon

EF LENSES

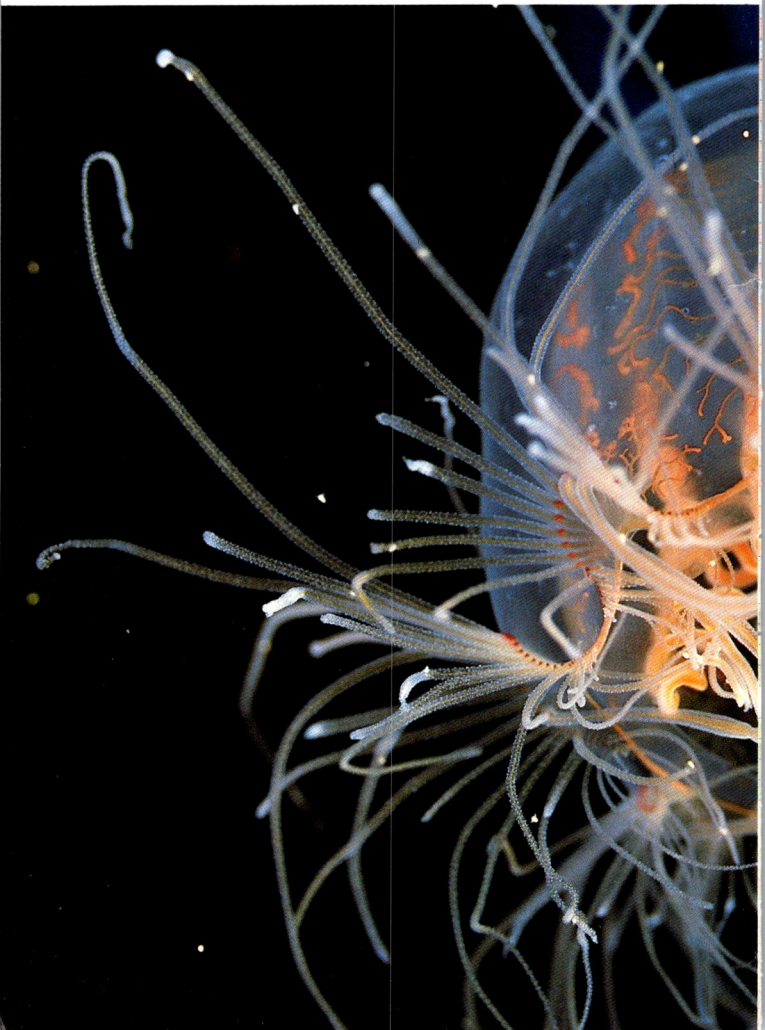


Superior optics are combined with the most advanced electronics to provide exceptional clarity and quick focusing response

Canon EF Lenses: Setting Today's Standards

The ability to use a wide variety of lenses is one of the main advantages of 35mm single lens reflex photography. And Canon's EF lenses are clearly a major reason for the success of the EOS system. Just as EOS cameras make good photography easier by incorporating the world's most advanced technology, EF lenses are a product of Canon's dedication to innovative lens design.

EF lenses are the embodiment of the EOS system concept: a fusion of state-of-the-art electronics, me-

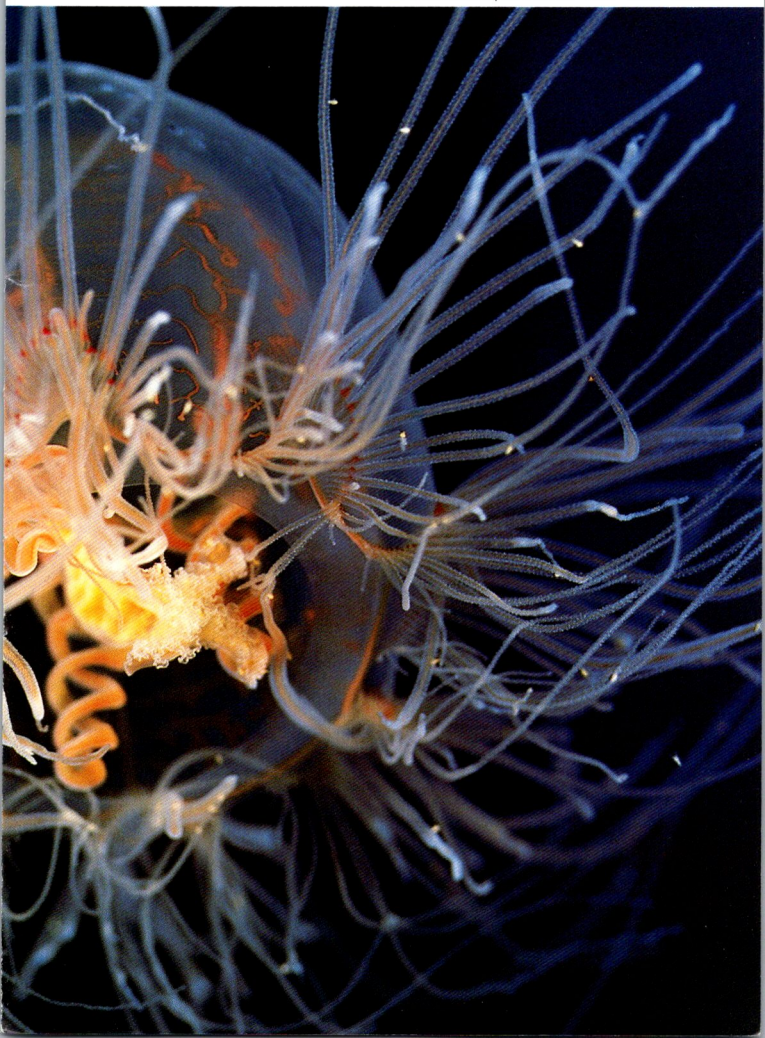


chanical precision and optical excellence. The fully electronic EF lensmount is unique among 35mm SLR cameras, operating silently with unmatched reliability due to the complete elimination of moving parts. Every EF lens contains its own custom-designed autofocus motor and electromagnetic diaphragm, intelligently controlled by a built-in microprocessor. Canon is a leader in the use of aspherical lens elements, fluorite crystal, Ultra-Low Dispersion (UD) glass, and other advanced optical technologies. And uniformly high optical performance results from the extensive use of exclusive

Canon-developed manufacturing techniques in our own lens factories, the world's largest for 35mm cameras and lenses.

Many top professional photographers already stake their reputations on the quality of the images they produce with Canon EF lenses. They are intimately familiar with the exceptional sharpness, contrast and color balance that make EF lenses unique. But you don't have to be a professional to see how good Canon EF lenses really are. All you have to do is look at the photographs!

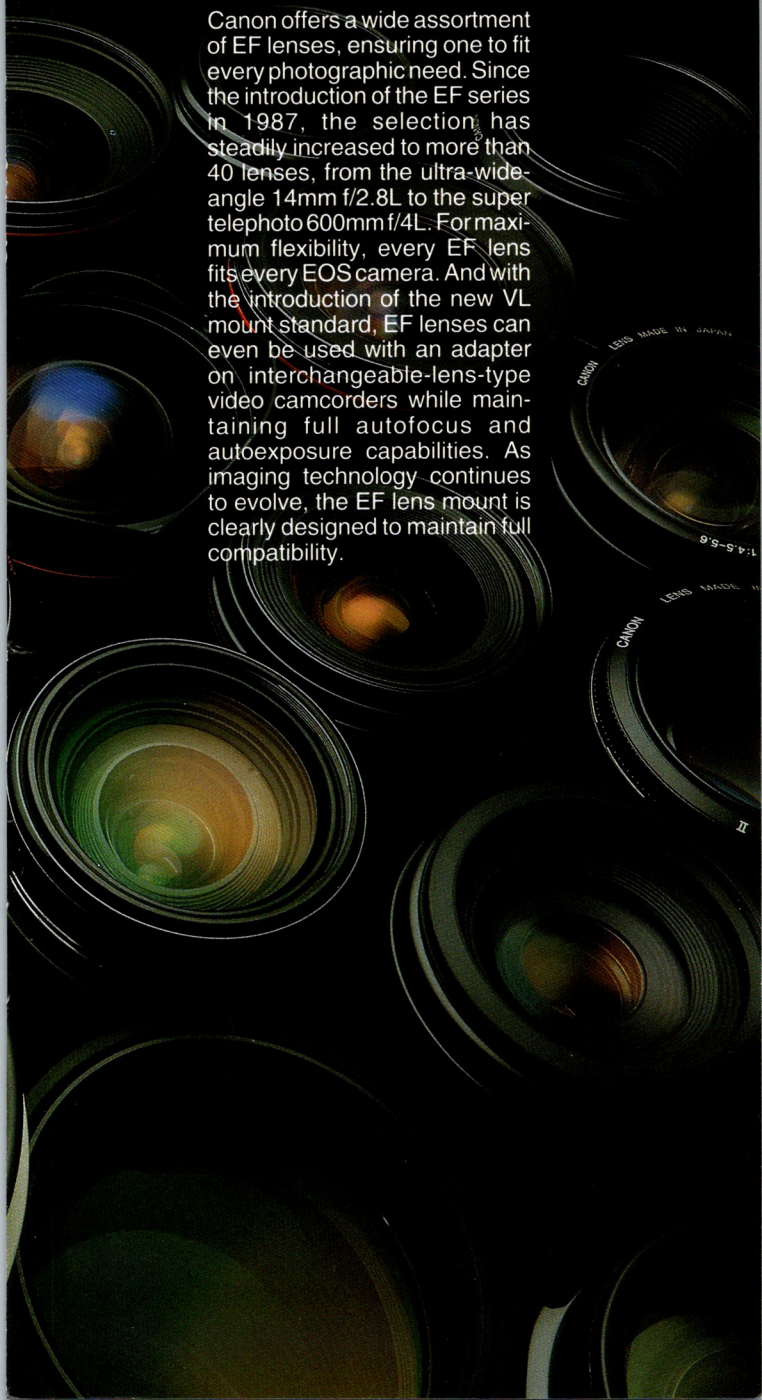
EF 50mm Compact Macro • 1/90 • f/5.6 • ISO 50





A Growing Selection with Flexibility for Future Developments

Canon offers a wide assortment of EF lenses, ensuring one to fit every photographic need. Since the introduction of the EF series in 1987, the selection has steadily increased to more than 40 lenses, from the ultra-wide-angle 14mm f/2.8L to the super telephoto 600mm f/4L. For maximum flexibility, every EF lens fits every EOS camera. And with the introduction of the new VL mount standard, EF lenses can even be used with an adapter on interchangeable-lens-type video camcorders while maintaining full autofocus and autoexposure capabilities. As imaging technology continues to evolve, the EF lens mount is clearly designed to maintain full compatibility.



Lens Selection Fundamentals

Choosing the right lens may seem confusing at first. Briefly, here are some of the fundamentals you should consider when buying a lens: focal length, aperture, depth of field and perspective.

Focal Length

The focal length of a lens is the distance from its point of infinity focus to the film plane. This determines image size. For example, a subject photographed with a 100mm lens will appear twice as large in the frame compared to the same subject photographed with a 50mm lens. A 50mm lens is considered standard for the 35mm format. While

EF lenses with focal lengths shorter than 50mm are considered wide-angle, longer focal lengths are considered telephoto.

Aperture

Aperture values, also known as f-numbers or f/stops, are derived from the ratio of the lens focal length to the diameter of the lens opening. They tell you how much light can enter the lens. Small aperture numbers like f/2.8 or f/1.8 represent relatively large lens openings. A large maximum aperture lets you use relatively fast shutter speeds, even in low light situations.



15mm



14mm



20mm



50mm



85mm



100mm



400mm



500mm



600mm

Depth of Field

While both shutter speed and aperture can be used to regulate the exposure of the film, aperture size also determines depth of field. Depth of field simply means how much of the image from front to back is acceptably sharp. A "wide open" lens will give a very shallow depth of field whereas a very small aperture like f/11 or f/16 will increase depth. Normally a small aperture is ideal for landscape photography. Action shots and portraits look best with a blurred background. Depth of field can also be controlled at any given subject distance by adjusting the focal length of a zoom lens.

Perspective

The combination of subject distance and focal length affects one other important photographic characteristic — perspective, which is the relative size of objects at various distances from the camera. For example, background objects will appear much smaller with a 35mm focal length than if you move back and shoot the same picture using a 135mm focal length. When maximum aperture is not the major consideration, professional photographers most often select a lens based on the perspective it will produce for the shot they want to make.



24mm



28mm



35mm



135mm



200mm



300mm



24mm perspective



50mm perspective



200mm perspective



f/2.8 depth-of-field



f/11 depth-of-field

Which EF Lenses Are Best For You?

Obviously, there's no substitute for experience to determine which lenses are best for you. A lot depends on the kind of photography you do and whether you are a professional photographer or prefer to take pictures as a hobby. Here are just a few ideas to keep in mind:

Single Focal Length vs. Zoom Lenses

Single focal length lenses often have larger maximum apertures than zooms, and are available from the ultra wide-angle 14mm f/2.8L USM to the super-telephoto 600mm f/4L USM in the EF lens line-up. However, if you want maximum flexibility, a zoom lens may be more practical. Zooms can be somewhat bulkier than single focal length lenses, but thanks to Canon's superior technology, EF zoom lenses are virtually equal in optical quality to single focal length lenses. Canon now offers EF zoom lenses with focal lengths ranging from 20mm to 350mm, including the 20-35mm f/2.8L, 70-200mm f/2.8L USM and the amazing EF 35-350mm f/3.5-5.6L USM.

Wide-angle vs. Telephoto

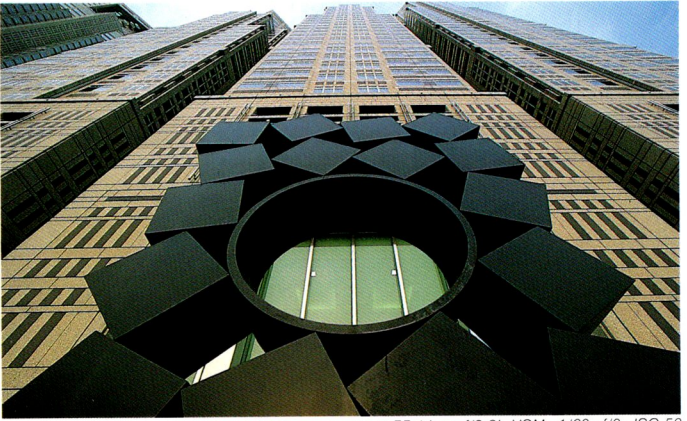
Wide-angle lenses include more in the picture, making them great for interiors, group shots, landscapes, etc. Telephoto lenses are useful when you can't, or don't want to get closer to the subject. Wide-angle lenses keep background objects small and sharp, while telephoto lenses isolate your subject by blurring the background. Zoom lenses offer a wider range of choices in each category.

Special Purpose Lenses

Macro and Tilt-Shift lenses solve special photographic problems. Canon's 50mm f/2.5 and 100mm f/2.8 EF Macro lenses produce razor-sharp close-up photography. TS-E (Tilt-Shift for EOS) lenses correct converging lines and control the plane of focus. EOS owners can choose between 24mm, 45mm and 90mm focal lengths in the TS-E group.

L-Series Lenses

The L-Series of EF lenses is designed for professionals, who demand the utmost optical performance and rugged reliability from their lenses. L-Series lenses feature such advanced technologies as aspherical surfaces, fluorite crystal, and Ultra-Low Dispersion glass (see Lens Technology).



EF 14mm f/2.8L USM • 1/60 • f/8 • ISO 50

EF Ultra Wide-Angle Lenses Provide a New World to Explore

EF 14mm f/2.8L USM &
Fish-eye EF 15mm f/2.8

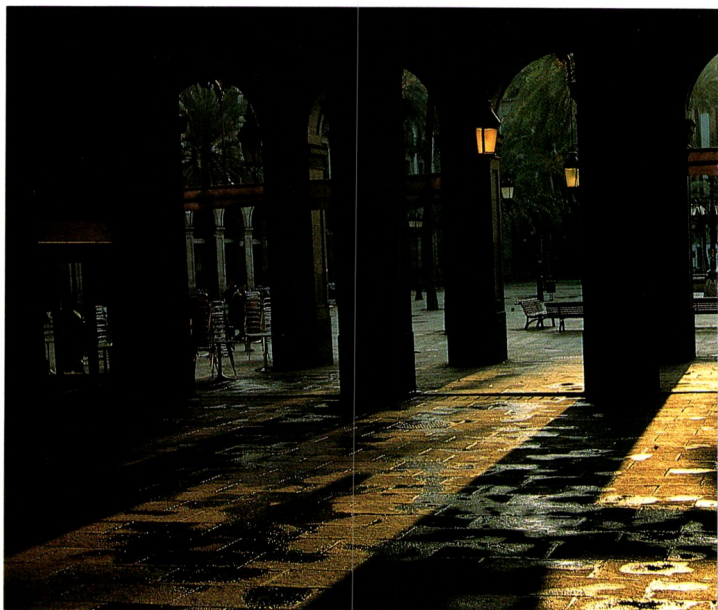
Extreme wide-angle lenses provide unusual properties that are interesting to explore. Depth of field is almost infinite, but perspectives can be distorted, especially with fish-eye lenses. Learning how to compensate for this — and even to take advantage of it and make the quality itself a part of your composition — is the best way to deal with it. The EF 15mm f/2.8 is a full-frame-type fish-eye lens; in other words it has a 180° diagonal angle of view and causes

straight lines in the subject to appear as curved lines in the photograph (except for those running through the center). Conversely, the EF 14mm f/2.8L is a rectilinear-type super wide-angle lens with a 114° diagonal angle of view. Straight lines are reproduced normally and super wide-angle perspective produces an intriguing effect. A large-aperture aspherical lens element makes the EF 14mm f/2.8L both small in size and extremely sharp in performance.



EF 15mm f/2.8 Fisheye • 1/250 • f/8 • ISO 100

Expand Your Creativity With Wide-Angle EF lenses



EF 20-35mm f/2.8L

This L-Series lens combines essential wide-angle focal lengths with a bright maximum aperture. An aspherical lens element produces high-resolution images even at f/2.8, while inner focusing enhances focusing speed, handling and durability. The EF 20-35mm f/2.8L is a favorite lens among photojournalists, because it eliminates the need for changing lenses in the middle of shooting sessions and allows the photographer to carry a wider variety of equipment.

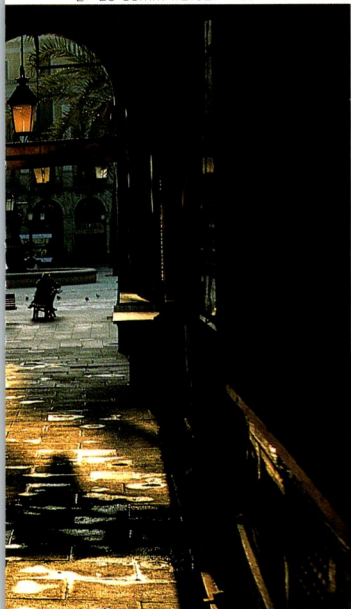
EF 20-35mm f/3.5-4.5 USM

While using only spherical lens elements, the optical system of the EF 20-35mm f/3.5-4.5 USM effectively compensates distortion and provides high-quality, super wide-angle performance at an economical price. This light, compact lens features high-speed, quiet AF with full-time manual override, so you can add a creative touch to the focusing at any time.

EF 20mm f/2.8 USM

With a 94° diagonal angle of view, the EF 20mm f/2.8 USM is excellent for architectural photography and landscapes, as well as in tight corners. A specially designed optional bayonet mount lens hood provides maximum flare protection, while a non-rotating 72mm filter thread is well-designed for special effects filters, such as Canon's PL-C circular polarizer.

EF 20-35mm f/2.8L • 1/30 • f/4 • ISO 50



EF 24mm f/2.8

Optical performance is characterized by excellent sharpness and contrast at all apertures, while features such as rear focusing give the EF 24mm f/2.8 exceptional AF speed. Lens handling is improved by a stationary front group, which features a non-rotating 58mm filter thread.

EF 28mm f/2.8

This lens is perfect for group shots and landscapes. Features include a Canon-exclusive glass-molded aspherical (GMO) element for high performance and low flare. The EF 28mm f/2.8 is also the most affordable wide-angle EF lens, making it quite attractive for beginning photographers.

EF 35mm f/2

The fastest wide-angle EF lens, the EF 35mm f/2 is well-suited for low-light shooting situations and travel photography. Its minimum focusing distance of 0.25 m/9.8 inches is useful for close-ups of nearly 1/4 life-size. The focusing system and filter size of the EF 35mm f/2 are the same as the EF 28mm f/2.8.



EF 28mm f/2.8 • 1/250 • f/5.6 • ISO 100



EF Standard Zoom Lenses Provide Outstanding Convenience and Versatility



EF 28-70mm f/2.8L USM • 1/250 • f/8 • ISO 64



With a standard zoom lens, the most commonly used focal lengths — wide-angle, normal, and short telephoto — are always available. Carrying one lens instead of three is a real weight and cost savings that can make your photography much more enjoyable. Using a zoom lens lets you experiment with angle of view and magnification while looking through the viewfinder, so you can try out various alternatives until you decide which shot you like best.

EF 35-80mm f/4-5.6 USM,
EF 35-80mm f/4-5.6III &
EF 35-105mm f/4.5-5.6 USM

These zooms feature outstanding sharpness and contrast throughout their entire focusing range. The EF 35-80mm f/4-5.6 USM boasts excellent close-focusing capability, producing magnifications up to 1/4 life-size. The EF 35-105mm f/4.5-5.6 USM employs a glass molded aspherical (GMO) lens element, reducing its length to only 63mm/2.5 inches. Compact, light and affordable, these zooms are compelling evidence of Canon's leadership in zoom lens technology.

EF 28-70mm f/2.8L USM

The EF 28-70mm f/2.8L USM is a high-performance standard zoom lens which features a constant maximum aperture throughout the zoom range. This L-series professional zoom lens incorporates a super-precision aspherical lens element which ensures excellent image quality, sharpness and contrast at all focusing distances. Additionally, thanks to the advanced optical design techniques, low distortion performance similar to a single focal length lens is achieved. The use of an inner focusing

EF 28-80mm f/3.5-5.6II USM,
EF 28-105mm f/3.5-4.5 USM
& EF 35-135mm f/4-5.6 USM

These lenses form the mid-range in standard zooms for the EF line. Similar in style and finish, they share several other common characteristics, including high image quality and compact size plus an advanced Ultrasonic Motor for autofocus.

The EF 28-80mm f/3.5-5.6II USM is a good choice as a moderately priced standard zoom, while the EF 28-105mm f/3.5-4.5 USM and EF 35-135mm f/4-5.6 USM provide extended range for superb versatility.

design, minimizing the weight of the mobile focusing lens group, and utilizing a high-speed response ring USM drive realizes super-fast, whisper-quiet autofocus plus full-time mechanical manual focusing.



EF 28-80mm f/3.5-5.6 USMII · 1/60 · f/4.5 · ISO 64





EF 85mm f/1.2L USM • 2 second • f/2.8 • ISO 25

When Lighting Conditions are Tough, These Fast EF Lenses Come Through

A fast lens is indispensable when lighting conditions are poor and you need to stop action without using flash. Yet, creating the optical formula for a high-speed lens is a highly demanding task, and the diameter of the lens mount becomes a limiting factor as lens speed increases.

Canon took all these factors into account when designing the EOS system. One visible result



is the 54mm inner diameter of the EF lens mount, the largest of any 35mm camera. This extra-wide mount enables better optical performance with high speed lenses, especially when used at their maximum apertures. Canon has also taken a strong lead in the development of large-aperture aspherical lenses, such as the EF 50mm f/1.0L USM and EF 85mm f/1.2L USM. Their specially cut lens elements produce noticeably superior picture quality at all apertures.

EF 50mm f/1.0L USM & EF 85mm f/1.2L USM

These are the two fastest lenses in the EOS system—in fact, the EF 50mm f/1.0L USM is fastest standard lens ever made for SLRs. Both produce extremely sharp photographs with high contrast and superb color balance, even at full aperture, making them your best insurance against unwanted camera shake. Autofocusing is silent and accurate with Canon's exclusive Ultrasonic Motor, and manual focusing is exceptionally smooth with a light touch. The EF 50mm f/1.0L USM is unsurpassed as a high-speed standard lens, while the EF 85mm f/1.2L USM is particularly well suited for candid portraiture.

EF 50mm f/1.4 USM &
EF 50mm f/1.8II

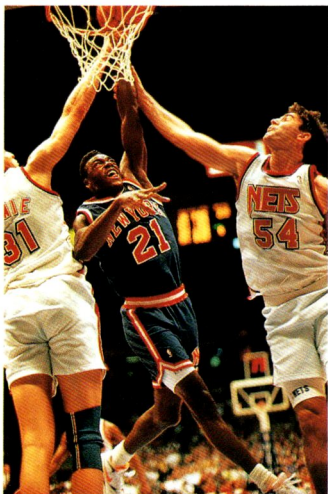
Both of these standard EF lenses combine high-quality optical performance with quick AF speed. Not only the lightest, most compact EF lens at only 130 grams/4.6 oz., the EF 50mm f/1.8II is also the most economically priced. The EF 50mm f/1.4 USM features full-time manual focusing, providing versatility in addition to a larger maximum aperture.

EF 85mm f/1.8 USM &
EF 100mm f/2 USM

These moderate telephoto lenses offer high speed, compact size and superb optical performance at affordable prices. The EF 85mm f/1.8 USM and EF 100mm f/2 USM are just right for a wide variety of shooting situations such as portraiture, fashion, and sports. High speed AF is assured due to inner focusing and Canon's exclusive Ultrasonic Motor.



EF 50mm f/1.8II • 1/160 • f/5.6 • ISO 100



EF 50mm f/1.0L USM • 1/320 • f/1.0 ISO 200



Mid Range EF Telephoto Zoom Lenses Offer Value and Convenience

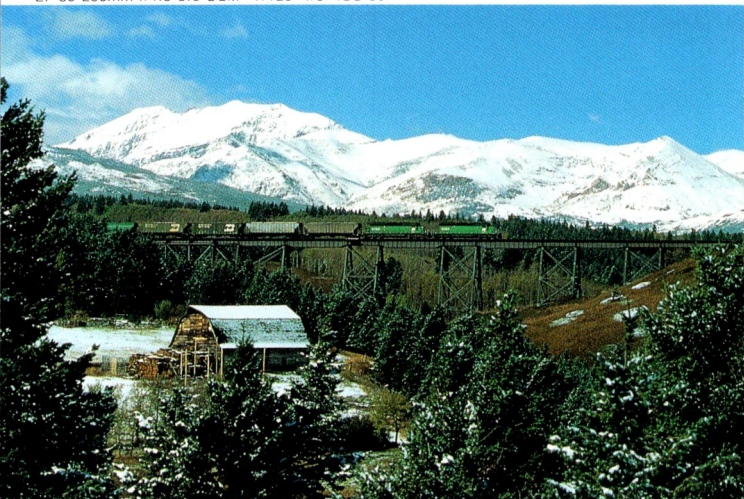


EF 80-200mm f/4.5-5.6II

Telephoto zoom lenses are useful for many shooting situations, from travel snapshots through sports action as well as nature photography. In fact, almost any time when you can't (or don't want to) get physically close to your subject, a telephoto zoom lens is a smart choice. Since telephoto lenses are generally larger and heavier than most other types, using a telephoto zoom can be much more convenient than carrying several single focal lengths in your gadget bag. Canon's full selection of EF zoom lenses ensures one just right for your photographic needs and budget.

This is Canon's most affordable telephoto zoom lens. It's also incredibly lightweight at 250 grams/8.8 oz., and so compact that it can be stored in the standard camera case for the EOS 1000/Rebel series. But don't let the small size and light weight fool you; this lens is a first-class optical performer, capable of producing impressive picture quality.

EF 80-200mm f/4.5-5.6 USM · 1/125 · f/8 · ISO 50



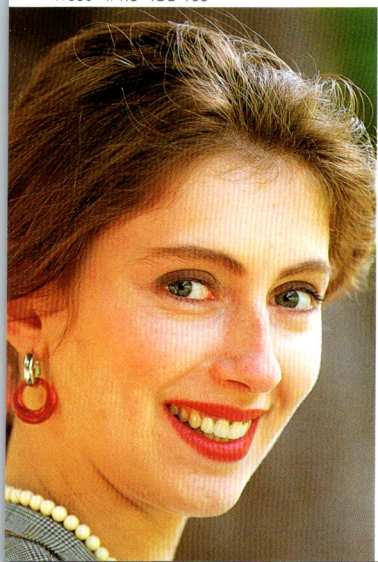


EF 70-200mm f/2.8L USM · 1/60 · f/5.6 · ISO 64

EF 70-210mm f/3.5-4.5 USM

In addition to slightly more focal length range at both ends of the zoom ring, the EF 70-210mm f/3.5-4.5 is up to a full f/stop faster than the EF 80-200mm f/4.5-5.6, thus permitting the use of higher shutter speeds when desired. The EF 70-210mm f/3.5-4.5 also focuses down to just 1.2m/3.9ft. and is provided with both a distance scale and a metal mount. Inner focusing combined with the silent USM results in extremely quick auto-focusing, as well as a non-rotating 58mm filter thread.

EF 70-210mm f/3.5-4.5 USM
· 1/350 · f/4.5 · ISO 100



EF 70-200mm f/2.8L USM

The EF 70-200mm f/2.8L USM is a fast lens which maintains a constant f-number up to f/2.8 throughout its zooming range. It succeeds the renowned EF 80-200mm f/2.8L which greatly impacted the lens market with an image quality similar to that of comparable single-focal length lenses. The following major improvements have been made mainly in response to suggestions by professional users:

1. Built-in Ultrasonic Motor (USM) with full-time mechanical manual focusing
2. Shorter minimum focusing distance at 1.5m/4.9ft. (compared to 1.8m/5.9ft of the EF 80-200mm f/2.8L)
3. Full compatibility with the Extenders EF 1.4X and 2X (zoom range increases to 98-280mm f/4 and 140-400mm f/5.6 respectively, with auto-focusing intact)
4. Higher peripheral brightness
With four ultra-low refraction/dispersion UD glass elements, the lens' optical performance with excellent contrast and sharpness at all shooting distances. The lens is also easy to handle and use, allowing its optical potential to be fully realized. Such characteristics earn the nickname of "super-performance telephoto zoom."

You Have a Choice in Long Range EF Telephoto Zooms



EF 100-300mm f/5.6L • 1/125 • f/5.6 • ISO 64

EF 35-350mm f/3.5-5.6L USM

While providing an incredible zoom range, this lens is extremely compact and convenient for hand-held operation. AF is swift and silent, and manual focusing is impressively smooth. Equipped with 2 UD glass elements for razor-sharp image quality. A specially designed lens hood protects the lens from stray light, and a detachable tripod collar improves handling.

EF 100-300mm f/5.6L

The affordable yet professional quality EF 100-300mm f/5.6L is a lighter, longer range alternative to the EF 80-200mm f/2.8L. Popular with nature photogra-

phers, this is an extremely sharp zoom lens with full-range continuous macro capability that can produce magnifications better than 1/4 life-size at optimum working distances for flash.

EF 75-300mm f/4-5.6II USM

Much lighter than even most single focal length 300mm lenses, its 4X zoom ratio provides impressive framing flexibility. Extremely compact, the EF 75-300mm f/4-5.6II USM is well balanced in use, and stores easily in your gadget bag. Its new super-quiet Micro USM produces excellent AF speed.

EF 100-300mm f/4.5-5.6 USM

Just as compact as the EF 75-300mm zoom lens, the EF 100-300mm f/4.5-5.6 USM offers even faster autofocus speed due to an advanced 5-group zoom design in which only 3 inner elements move for focusing. Additional benefits include a distance scale as well as a non-rotating 58mm filter thread, which is excellent for special effects filters such as Canon's PL-C Circular Polarizer.



Single Focal Length EF Telephotos Offer Speed with Compact Size

EF 135mm f/2.8 with Soft Focus

Featuring Soft Focus in addition to tack sharp images at its normal setting, this bright, light-weight telephoto is well suited for both portraiture and landscapes. Combining the continuously adjustable soft focus ring with the lens's aperture setting, the photographer can achieve a broad range of creative effects, unlike conventional soft focus filters which produce only a fixed effect.

EF 200mm f/2.8L USM

With a 9-element optical formula and 2 UD glass elements for superb sharpness, this L-Series lens is fully compatible with EF Extenders 1.4x and 2x. Features include silent, high-speed AF and focusing range selection as well as smooth, full-time mechanical manual focusing.

EF 300mm f/4L USM

Similar in concept to the EF 200mm f/2.8L USM, this lens is lightweight and extremely comfortable for hand-held shooting. An outstanding choice for nature photographers, the EF 300mm f/4L USM is also excellent for sports and fashion.



EF 300mm f/4L USM • f/4 • 1/250 • ISO 100

EF 400mm f/5.6L USM

Like the EF 300mm f/4L USM, the EF 400mm f/5.6L USM is a high-performance single focal length telephoto targeted at photographers who want a lens that's easy to handle at an affordable price. While offering the superior optical performance of Canon's L-Series, this lens is light enough to carry on extended field trips and convenient for hand-held operation. Equipped with Canon's exclusive USM for high-speed AF, this lens is also compatible with both EF Extenders for manual focusing with automatic exposure.



EF 400mm f/5.6L USM • 1/125 • f/5.6 • ISO 100



Every Day, More Pros Switch to EOS Because of These Lenses



EF 200mm f/1.8L USM • 1/640 • f/1.8 • ISO 64

Exceptional in Every Way

Canon's L-Series EF super telephoto lenses combine rugged reliability with unparalleled optical performance, making them a hit with professional photographers at world-class sporting events all over the world, as well as in fashion and photojournalism. Every EF super telephoto offers the largest maximum aperture in its class for AF, so you can continue shooting when slower lenses are useless. All feature USM for superior AF accuracy and UD glass ele-

ments to control chromatic aberration. The EF 300mm f/2.8L USM, EF 500mm f/4.5L USM and EF 600mm f/4L USM include fluorite crystal elements as well, for brightness, color fidelity and contrast that leave conventional lenses far behind. The EOS AF system ensures sharp focus to help you make the most of your investment. Combined with the EOS-1/Power Drive Booster E1 camera system, each EF super telephoto can be used at shooting speeds up to 4.5 frames per second with high-speed predictive AI Servo AF.



EF 300mm f/2.8L USM & EF Extender 1.4X · 1/500 · 1/4 · ISO 100

EF 200mm f/1.8L USM & EF 300mm f/2.8L USM

These unique lenses have done a great deal to establish the fine reputation of the EOS system with professional photographers around the world. Optically superb, both the 200mm f/1.8L USM and 300mm f/2.8L USM are often selected because of their unique ability to blur backgrounds into insignificance while maintaining exceptionally sharp focus on the main subject. They are ideal for indoor sports such as tennis and basketball as well as outdoor activities including sports, fashion and nature photography. The EF 200mm f/1.8L USM in particular is the world's fastest 200mm lens for 35mm SLRs, while the 300mm f/2.8L USM offers the fastest aperture available in its focal length for autofocus.

Extenders EF 1.4x & EF 2x

Optional EF Extenders increase the magnification of the prime lens while preserving maximum optical quality. Each one features AE control with every compatible lens and full AF when the effective maximum aperture of the lens/extender combination is at least f/5.6. Compatible with single focal length EF lenses 200mm and up.



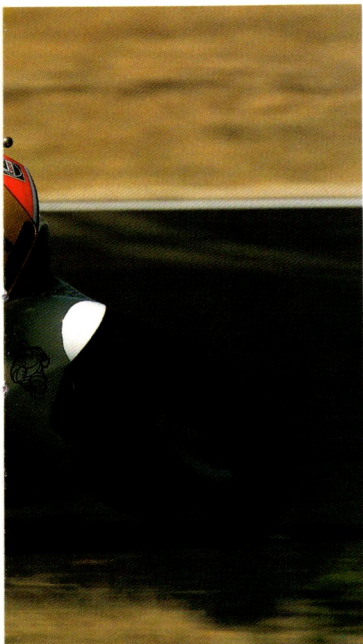


EF 400mm f/2.8L USM

Canon was the first to offer this important focal length/aperture combination with the FD 400mm f/2.8L. Now it's available with full autofocus capability, as well as UD glass elements to control chromatic aberration and the exclusive Ultrasonic Motor for fast and silent AF. Fully compatible with EF Extenders.



EF 400mm f/2.8L USM • f/5.6 • 1/250 • ISO 100



EF 500mm f/4.5L USM • f/11 • 1/250 • ISO 64

EF 500mm f/4.5L USM

A favorite with motorsports and nature photographers, its advanced rear-focusing design with fluorite and UD glass in a 7-element formula give the EF 500mm f/4.5L first-rate optical performance. Half the weight of either the EF 400mm f/2.8L USM or EF 600mm f/4L USM, this 3kg/6.6 lb., 10-power lens is extremely well-balanced and a pleasure to use. Compatible with EF Extenders for AE and manual focus.

EF 600mm f/4L USM

One of the finest long-range super telephoto lenses ever made, with 1 fluorite and 2 UD glass elements in a 9-element optical formula, the EF 600mm f/4L USM's clarity and snap must be experienced to be appreciated. Like other EF super telephotos, manual focusing can be set for either half, normal or double speed. Compatible with EF Extenders.



EF 400mm f/2.8L USM



EF 500mm f/4.5L USM



EF 600mm f/4L USM

EF 600mm f/4L USM • f/4 • 1/640 • ISO 50

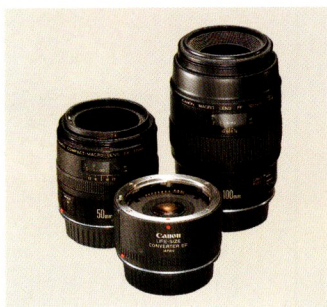




Explore the Fascinating World of the Very Small with EF Macro Lenses

EF 50mm f/2.5 Compact Macro & Life Size Converter EF

Nothing surpasses a true macro lens for close-up quality and convenience. Unlike conventional lenses fitted with close-up diopters or extension tubes, macro lenses can focus from infinity to extreme close-up range without accessories, making them convenient for a wide range of shooting situations. The EF 50mm f/2.5 Compact Macro focuses from infinity to 0.5X magnification (1/2 life-size) and can also be used as a standard lens. Life Size Converter EF contains its own optics to increase focal length by 40%, for high quality AF shooting from 1/4 life-size up to full life-size.





EF 50mm f/2.5 Compact Macro · f/11 · 1/60 · ISO 50

EF 100mm f/2.8 Macro

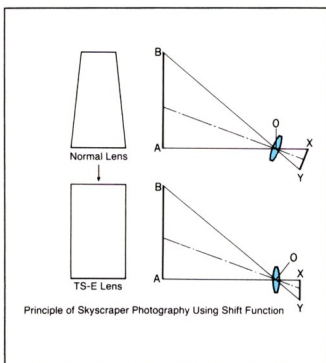
This macro's broad shooting range, from infinity all the way down to 1X magnification (full life-size) without accessories, provides working room between the front of the lens and the subject, making it ideal for close-ups of insects and flowers. The medium-telephoto focal length produces a pleasing perspective with small three-dimensional subjects, creating a noticeably different visual effect compared to the 50mm Compact Macro. With its bright f/2.8 maximum aperture, the EF 100mm Macro can also be used for conventional subjects such as portraits. A "focusing limiter" controls the focusing range, thus improving AF response.



EF 100mm f/2.8 Macro · f/8 · 1/125 · ISO 100

Tilt-Shift Lenses Produce Special Effects Impossible With Ordinary Lenses

The optical axis of a TS-E lens can literally be tilted up to $\pm 8^\circ$ and shifted up to $\pm 11\text{mm}$ from the normal position. These unique manual focus, auto diaphragm lenses are available in a variety of focal lengths, from **24mm f/3.5L** wide-angle through **45mm f/2.8** standard to **90mm f/2.8** telephoto. Their portability and 35mm format make them both practical and economical.



Shifting

Shifting corrects converging lines in the subject. For example, a skyscraper's converging lines can be corrected by shifting the lens upwards, making the photo look as if it were taken from a much higher position. TS-E lenses are invaluable for professional-looking 35mm architectural photography.



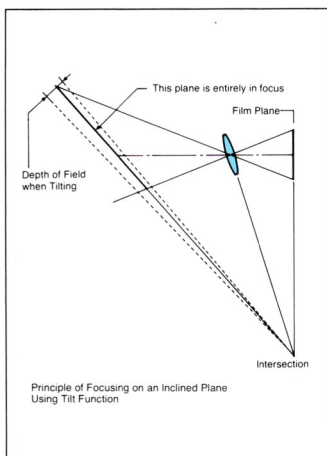
TS-E 24mm f/3.5L · f/11 · 1 second · ISO 50 · Uncorrected



TS-E 24mm f/3.5L · f/11 · 1 second · ISO 50 · Corrected by Shift

Tilting

Ordinary lenses must rely on decreasing the aperture to increase depth of field. However, tilting the lens controls apparent depth of field by adjusting the plane of focus. The ability to control the plane of focus is extremely useful for, among others, nature photographers because it minimizes the need for small apertures, resulting in faster shutter speeds to control subject movement such as delicate flowers moving in the wind.



TS-E 24mm f/3.5L · f/3.5 · 1/60 · ISO 50 · Corrected by Tilt



TS-E 24mm f/3.5L · f/3.5 · 1/60 · ISO 50 · Uncorrected



Technical Innovation Yields Superior Performance

The following exclusive Canon technologies put EF lenses in a class all their own.

EF Lens Mount

With the only fully electronic body-lens interface for 35mm SLR cameras, the EF lens mount surpasses previous designs for reliability and flexibility for future developments. Maximum handling stability enhances performance with all lenses, especially EF super-telephotos. Large aperture lenses take advantage of the large mount for improved optical performance, too. Best of all, electronic contacts replace moving parts, resulting in virtually noiseless operation.

Self-Controlled EF Lens Motors

AF and aperture-drive mechanisms are placed in every EF lens, enhancing speed and precision as well as reducing noise. A built-in microprocessor transmits up to 50 items of information through the contacts of the EF lens mount. This self-controlled design enables AF and AE control with a variety of imaging devices in addition to 35mm cameras, and also enables further development of internal components.

Ultrasonic Motors (USM)

Developed and manufactured entirely within Canon, the USM motor

creates a rotational force which drives the focusing section of the lens. This unique design combines quiet operation with high torque, exceptional speed and unmatched starting and stopping precision. The introduction of the new, cylindrical Micro USM, in addition to the standard ring-type USM enables Canon's lens designers to select the optimum AF drive for every EF lens regardless of size or price.

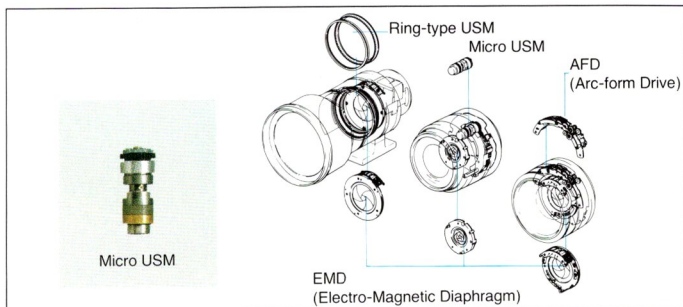
Focusing Options

L-Series EF super telephoto lenses offer some exciting options: Focusing speed control lets you adjust the sensitivity of manual focusing to half, normal or double speed to suit the subject. Focus Preset memorizes a distance setting so you can return to it in a fraction of a second—ideal for sports.

Electro-Magnetic Diaphragm (EMD)

A standard iris diaphragm driven by a stepping motor, Canon's EMD provides consistent exposure accuracy with every EF lens. The EMD's electronic control is one of the main reasons that EF lenses will continue to maintain full compatibility with future imaging devices.

Canon has developed a wealth of advanced technologies to meet rigorous standards of resolution, color and image fidelity, reliability and ease of use. The keys to Canon's



leadership in this field are aspherical lens technologies, fluorite and UD glass applications, advanced lens coating technologies, plus focusing system and zoom lens design technologies.

Moreover, Canon is diligently developing new lens elements including lead-free elements to help preserve the environment. Lead free elements have already been introduced in Canon's entry-level lenses.

Aspherical Lenses

Conventional lens elements tend to bend light rays entering at the edge of the lens more than those entering at the center. Known as spherical aberration, this defect results in poor sharpness and contrast, as well as image-degrading flare. Aspherical lenses correct this aberration by adjusting the shape of the lens so that all light rays reach a common focal point at the film plane. Despite the extreme difficulty of manufacturing aspherical lens elements, Canon is now able to produce them in large volume at reasonable costs. More than 20 years of research have culminated in Canon's original manufacturing techniques for ground and polished as well as glass-molded and composite aspherical lens elements.

Fluorite & UD Glass

Daylight passing through standard optical glass breaks up into a broad spectrum of color wavelengths that cannot be focused simultaneously in one plane. This type of chromatic aberration results in blur, flare and poor color reproduction. Although

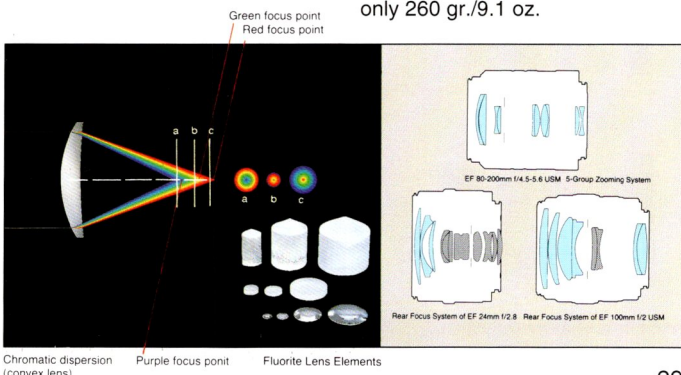
combinations of standard optical glass can largely correct this, residual chromatic aberration (also called secondary spectrum) remains a serious problem with telephoto lenses. Fluorite (an artificially crystallized form of calcium fluoride developed by Canon) and UD glass (a hybrid optical glass blended with fluorides) are extremely effective in minimizing secondary spectrum.

Super Spectra Coating

Every glass-to-air surface can reflect up to 4-10% of the light entering it, resulting in unacceptable light loss with today's complex multi-element lens formulas. Canon's multiple-layer Super Spectra Coating, used with every EF lens, provides extremely efficient anti-reflection performance for maximum contrast and ghost-free imaging. Also, Canon-exclusive lens coating materials are skillfully selected with the aid of a proprietary computer program which automatically compensates for variations in spectral transmission to achieve perfect, consistent color balance.

Focusing System & Zoom Lens Design

The inner or rear focusing systems of selected EF lenses reduce the weight of moving components to a minimum, resulting in maximum AF speed. Additional benefits of these systems include superior handling and improved sharpness at close range. Canon's multi-group zoom lens designs also drastically reduce size and weight. For example, the EF 80-200mm f/4.5-5.6 USM is just 78.5mm/3.1 inches long and weighs only 260 gr./9.1 oz.



Chromatic dispersion (convex lens)

Purple focus point

Fluorite Lens Elements

EF Lens Map



EF20-35mm f/2.8L



EF20-35mm f/3.5-4.5



EF28-70mm f/2.8L



EF28-80mm f/3.5-5.6II



EF35-135mm f/4-5.6



EF70-210mm f/3.5-4.5



EF75-300mm f/4-5.6II



EF100-300mm f/5.6L



EF50mm f/2.5 Compact-Macro



Life-Size Converter



EF100mm f/2.8 Macro



EF28mm f/2.8



EF35mm f/2



EF50mm f/1.0L



EF 50mm f/1.4



EF50mm f/1.8II



EF85mm f/1.2L



EF200mm f/2.8L



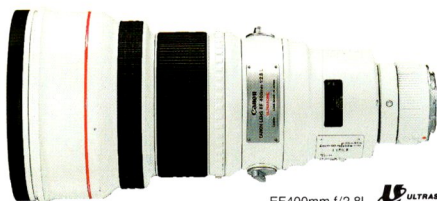
TS-E24mm f/3.5L



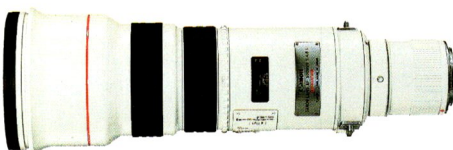
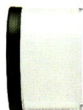
TS-E45mm f/2.8



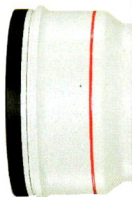
TS-E90mm f/2.8



EF400mm f/2.8L



EF500mm f/4.5L





EF28-105mm f/3.5-4.5



EF35-80mm f/4-5.6III



EF35-80mm f/4-5.6



EF35-105mm f/4.5-5.6



EF70-200mm f/2.8L



EF80-200mm f/4.5-5.6II



EF100-300mm f/4.5-5.6



EF14mm f/2.8L



Fish-eye EF15mm f/2.8



EF20mm f/2.8



EF24mm f/2.8



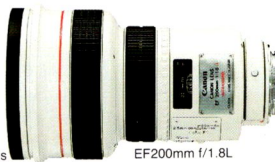
EF85mm f/1.8



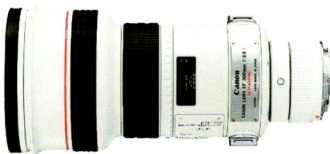
EF100mm f/2



EF135mm f/2.8 with Softfocus



EF200mm f/1.8L



EF300mm f/2.8L



EF300mm f/4L



EF400mm f/5.6L



EF35-350mm f/3.5-5.6L



EF600mm f/4L



Extender EF 2X

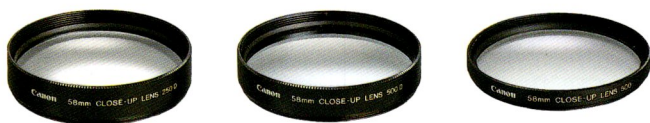


Extender EF 1.4X

The EF Lens System is Backed by a Complete Range of Accessories Designed to Ensure Optimum Results

Close-up Lenses

An economical easy way to get closer to your subject. Canon manufactures three types of close-up lenses: 250D for two sizes of filter threads ($\phi 52$ and 58), 500D and 500 for four sizes of filter threads ($\phi 52$, 58 , 72 and 77), respectively. Multi-layer coating offers optimum color balance. Moreover, 250D and 500D feature high performance, double-element achromatic formulas.



Extension Tubes EF12 & EF25

Extends the close-focusing range of most EF lenses. Primarily for macro but also helpful with telephoto lenses. Compatible with EOS-1_N, EOS A2/A2E, EOS 10_S and EOS Elan. Manual focusing is recommended and spot metering should not be used with EOS-1 and EOS A2/A2E.



PL-C Filters

Polarizing filters reduce reflections in substances like glass or water and help to bring out a blue sky. Available in 52mm, 58mm, 72mm & 77mm sizes for most EF lenses. Canon also offers an exclusive 48mm drop-in type adjustable PL-C filter for use with all EF super telephoto lenses.



Softmat Filters

Available in two strengths, Softmat filters create a “soft-focus” effect by slightly blurring the image. Made in 52mm and 58mm sizes.



Gelatin Filter Holders

Often used by professional photographers to compensate for variations in lighting quality and film emulsion numbers. Available in 52mm, 58mm, 72mm, & 77mm sizes for most EF lenses. Supplied in 48mm drop-in size with EF super telephoto lenses.



EF Lens Accessory Chart

Lens	Extension Tube EF12*1	Extension Tube EF25*1
EF 14mm f/2.8L USM	NR	NR
Fish-eye EF 15mm f/2.8	NR	NR
EF 20mm f/2.8 USM	0.72X	NR
EF 24mm f/2.8	0.64X	1.22X
EF 28mm f/2.8	0.56X	1.09X
EF 35mm f/2.0	0.58X	1.00X
EF 50mm f/1.0L USM	0.36X	NR
EF 50mm f/1.4 USM	0.39X	0.68X
EF 50mm f/1.8II	0.39X	0.68X
EF 50mm f/2.5 Compact-macro	0.74X	1.04X
Life-size Converter EF (exclusive for EF 50mm f/2.5 Compact-macro)	—	—
EF 85mm f/1.2L USM	0.25X	0.42X
EF 85mm f/1.8 USM	0.27X	0.44X
EF 100mm f/2 USM	0.27X	0.42X
EF 100mm f/2.8 Macro	1.17X	1.38X
EF 135mm f/2.8 (with softfocus)	0.22X	0.33X
EF 200mm f/1.8L USM	0.15X	0.23X
EF 200mm f/2.8L USM	0.23X	0.31X
EF 300mm f/2.8L USM	0.16X	0.21X
EF 300mm f/4L USM	0.18X	0.24X
EF 400mm f/2.8L USM	0.15X	0.19X
EF 400mm f/5.6L USM	0.16X	0.21X
EF 500mm f/4.5L USM	0.14X	0.17X
EF 600mm f/4.0L USM	0.13X	0.16X
EF 1200mm f/5.6L USM	0.12X	0.13X
EF 20- 35mm f/2.8L	0.66X (at 20mm)	0.92X (at 35mm)
EF 20- 35mm f/3.5-4.5 USM	0.7 X (at 20mm)	NR
EF 28- 70mm f/2.8L USM	0.52X (at 28mm)	1.05X (at 28mm)
EF 28- 80mm f/3.5-5.6II USM	0.57X (at 28mm)	1.15X (at 28mm)
EF 28-105mm f/3.5-4.5 USM	0.53X (at 28mm)	0.75X (at 28mm)
EF 35- 80mm f/4-5.6 USM	0.51X (at 35mm)	0.99X (at 35mm)
EF 35- 80mm f/4-5.6III	0.50X (at 35mm)	0.97X (at 35mm)
EF 35-105mm f/4.5-5.6 USM	0.36X (at 35mm)	0.75X (at 35mm)
EF 35-135mm f/4-5.6 USM	0.42X (at 35mm)	0.86X (at 35mm)
EF 35-350mm f/3.5-5.6L USM	0.43X (at 35mm)	0.82X (at 35mm)
EF 70-200mm f/2.8L USM	0.2 X (at 70 & 200mm)	0.41X (at 70mm)
EF 70-210mm f/3.5-4.5 USM	0.25X (at 70 & 210mm)	0.47X (at 70mm)
EF 75-300mm f/4-5.6II USM	0.31X (at 300mm)	0.39X (at 75 & 300mm)
EF 80-200mm f/4.5-5.6II	0.23X (at 80mm)	0.39X (at 80mm)
EF 100-300mm f/5.6L	0.32X (at 300mm)	0.39X (at 300mm)
EF 100-300mm f/4.5-5.6 USM	0.26X (at 300mm)	0.37X (at 100mm)
TS-E 24mm f/3.5L	0.62X	1.21X
TS-E 45mm f/2.8	0.44X	NR
TS-E 90mm f/2.8	0.43X	0.60X
Extender EF 1.4X	—	—
Extender EF 2X	—	—
Extension Tube EF 12	—	—
Extension Tube EF 25	—	—

*1 Maximum magnification at closest focusing distance when combined with the Extension

*2 With hood adaptor ring

NR: Not recommended

LENS HOOD	LENS CAP	HARD CASE	SOFT CASE
Built-in	Exclusive	LH -C13	ES-C13
Built-in	E-73	LHP-C10	ES-C9
EW-75	E-72U	LH -C13	—
EW-60	E-58	LHP-B9	ES-C9
EW-65	E-52	LHP-B9	ES-C9
EW-65	E-52	LHP-B9	ES-C9
ES-79	E-72U	LH -D12	—
ES-71	E-58U	LHP-C10	ES-C13
ES-62* ²	E-52	LHP-B9	ES-C9
—	E-52	LH -C10	ES-C9
—	R-F-3	LH -B8	ES-C9
ES-79	E-72U	LH -D12	—
ET-65II	E-58U	LH -B12	ES-C13
ET-65II	E-58U	LH -B12	ES-C13
—	E-52	LH -C16	ES-C13
ET-65II	E-52	LH -B15	ES-C13
ET-123	E-162	Exclusive	—
Built-in	E-72U	LH -D18	—
ET-118II	E-137	Exclusive	—
Built-in	E-77U	LH -D26	—
ET-161BII	E-180BII	Exclusive	—
Built-in	E-77U	LH -D29	—
ET-123B	E-130	Exclusive	—
ET-161II	E-180II	Exclusive	—
Built-in	Exclusive	Exclusive	—
EW-75	E-72	LH -D13	—
EW-83	E-77U	LH -D11	—
EW-83B	E-77U	LH -D16II	—
EW-60C	E-58U	LH -C13	ES-C9
EW-63	E-58U	LH -C13	ES-C13
EW-54II	E-52U	LH -C13	ES-C9
EW-54II	E-52	LH -C13	ES-C9
EW-60B	E-58U	LH -B12	ES-C9
EW-62	E-58U	LH -C13	ES-C13
EW-78	E-72U	LH -D22	—
ET-83	E-77U	LH -D24B	—
ET-65II	E-58U	LH -C16	ES-C17
ET-60	E-58U	LH -C16	ES-C17
ET-54	E-52U	LH -B12	ES-C13
ET-62II	E-58	LH -C21	ES-C20
ET-65II	E-58U	LH -C16	ES-C17
EW-75B	E-72	LH -D14	—
EW-79B	E-72	LH -D14	—
ES-65II	E-58	LH -D14	—
—	Exclusive	LH -B8	ES-C9
—	Exclusive	LHP-B9	ES-C9
—	R-F-3	—	Exclusive
—	R-F-3	LH -B8	ES-C9

Tubes.

EF Lens Technical Specifications

Single Focal Length Lenses	Actuator			Optical Construction					Full Macro
	USM	AFD	MM	G-E	New	AL	CaF ₂	UD	
EF 14mm f/2.8L USM	■			10-14	■	■			
EF 15mm f/2.8 FE		■		7-8	■				
EF 20mm f/2.8 USM	■			9-11	■				
EF 24mm f/2.8		■		10-10	■				
EF 28mm f/2.8		■		5-5	■	■			
EF 35mm f/2		■		5-7	■				
EF 50mm f/1.0L USM	■			9-11	■	2■			
EF 50mm f/1.4 USM	■			6-7	■				
EF 50mm f/1.8II			■	5-6	■				
EF 50mm f/2.5 Macro		■		8-9	■				■
EF 85mm f/1.2L USM	■			7-8	■	■			
EF 85mm f/1.8 USM	■			7-9	■				
EF 100mm f/2 USM	■			6-8	■				
EF 100mm f/2.8 Macro			■	9-10	■				■
EF 135mm f/2.8 SF		■		6-7	■	■			
EF 200mm f/1.8L USM	■			10-12	■			3■	
EF 200mm f/2.8L USM	■			7-9	■			2■	
EF 300mm f/2.8L USM	■			8-10			■	■	
EF 300mm f/4L USM	■			7-8	■			2■	
EF 400mm f/2.8L USM	■			9-11				2■	
EF 400mm f/5.6L USM	■			6-7	■			2■	
EF 500mm f/4.5L USM	■			6-7			■	■	
EF 600mm f/4L USM	■			8-9	■		■	2■	
EF 1200mm f/5.6L USM	■			10-13			2■		
Zoom Lenses									
EF 20-35mm f/2.8L		■		12-15	■	■			
EF 20-35mm f/3.5-4.5 USM	■			11-12	■				
EF 28-70mm f/2.8L USM	■			11-16	■	■			■
EF 28-80mm f/3.5-5.6II USM	■			9-9	■	2■			■
EF 28-105mm f/3.5-4.5 USM	■			12-15	■				■
EF 35-80mm f/4-5.6III			■	8-8	■	■			■
EF 35-80mm f/4-5.6 USM	■			8-8	■				■
EF 35-105mm f/4.5-5.6 USM	■			12-13	■	■			■
EF 35-135mm f/4-5.6 USM	■			12-14	■	■			■
EF 35-350mm f/3.5-5.6L USM	■			15-21	■			2■	■
EF 70-200mm f/2.8L USM	■			15-18	■			4■	
EF 70-210mm f/3.5-4.5 USM	■			10-14	■				■
EF 75-300mm f/4-5.6II USM	■			9-13					■
EF 80-200mm f/4.5-5.6II			■	7-10					■
EF 100-300mm f/4.5-5.6 USM	■			10-13	■				■
EF 100-300mm f/5.6L		■		10-15			■	■	■
Tilt-Shift Lenses									
TS-E 24mm f/3.5L		Manual		9-11	■	■			
TS-E 45mm f/2.8		Manual		9-10	■				
TS-E 90mm f/2.8		Manual		5-6	■				
Extenders									
Extender EF 2x		NA		5-7					
Extender EF 1.4x		NA		4-5					
Life Size Converter EF		NA		3-4					

USM = Ultrasonic Motor
 G-E = Groups-Elements
 CaF₂ = Fluorite Element
 I/R = Inner/Rear Focus
 FP = Focus Preset
 Float = Floating Effect

AFD = Arc Form Drive
 New = New optical design compared to FD
 UD = Ultra-low Dispersion Glass
 E-M = Electronic Manual Focusing
 FS = Focusing Range Selector
 FR = Filter Rotation

Focusing Characteristics						Float	F R
I/R	E-M	FT-M	FP	FS	SF		
■		■				■	
■							
■		■				■	N
■						■	N
							N
							N
	■			■		■	N
		■					N
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■		■					N
		■					N

MM = Micro Motor
 AL = Aspherical Lens
 Full Macro = Full Range Macro
 FT-M = Full-Time (Mecha) Manual
 SF = Soft Focus
 Figures at the left of ■ indicate the number of elements.

EF Lens Specifications

Lens	Angle of View (Horizontal · Vertical · Diagonal)	No. of Diaphragm Blades	Minimum Aperture	Closest Focusing Distance
EF 14mm f/2.8L USM	104° · 81° · 114°	5	22	0.25m/0.8ft
Fish-eye EF 15mm f/2.8	141°54' · 91°73' · 180°	5	22	0.2m/0.7ft
EF 20mm f/2.8 USM	84° · 62° · 94°	5	22	0.25m/0.8ft
EF 24mm f/2.8	74° · 53° · 84°	6	22	0.25m/0.8ft
EF 28mm f/2.8	65° · 46° · 75°	5	22	0.3m/1ft
EF 35mm f/2.0	54° · 38° · 63°	5	22	0.25m/0.8ft
EF 50mm f/1.0L USM	40° · 27° · 46°	8	16	0.6m/2ft
EF 50mm f/1.4 USM	40° · 27° · 46°	8	22	0.45m/1.5ft
EF 50mm f/1.8II	40° · 27° · 46°	5	22	0.45m/1.5ft
EF 50mm f/2.5 Compact-macro	40° · 27° · 46°	6	32	0.23m/0.8ft
Life-size Converter EF (exclusive for EF 50mm f/2.5 Compact-macro)	—	—	—	0.24–0.42m/0.8–1.4ft
EF 85mm f/1.2L USM	24° · 16° · 28°30'	8	16	0.95m/3.1ft
EF 85mm f/1.8 USM	24° · 16° · 28°30'	8	22	0.85m/2.8ft
EF 100mm f/2 USM	20° · 14° · 24°	8	22	0.9m/3ft
EF 100mm f/2.8 Macro	20° · 14° · 24°	8	32	0.31m/1ft
EF 135mm f/2.8 (with softfocus)	15° · 10° · 18°	6	32	1.3m/4.3ft
EF 200mm f/1.8L USM	10° · 7° · 12°	8	22	2.5m/8.2ft
EF 200mm f/2.8L USM	10° · 7° · 12°	8	32	1.5m/4.9ft
EF 300mm f/2.8L USM	6°50' · 4°35' · 8°15'	8	32	3m/9.8ft
EF 300mm f/4L USM	6°50' · 4°35' · 8°15'	8	32	2.5m/8.2ft
EF 400mm f/2.8L USM	5°10' · 3°30' · 6°10'	8	32	4m/13.1ft
EF 400mm f/5.6L USM	5°10' · 3°30' · 6°10'	8	32	3.5m/11.5ft
EF 500mm f/4.5L USM	4° · 2°45' · 5°	9	32	5m/16.4ft
EF 600mm f/4.0L USM	3°30' · 2°20' · 4°10'	8	32	6m/19.7ft
EF 1200mm f/5.6L USM	1°45' · 1°10' · 2°05'	8	32	14m/45.9ft
EF 20-35mm f/2.8L	84°–54° · 62°–38° · 94°–63°	6	22	0.5m/1.6ft
EF 20-35mm f/3.5-4.5 USM	84°–54° · 62°–38° · 94°–63°	5	27*1	0.34m/1.1ft
EF 28-70mm f/2.8L USM	65°–29° · 46°–19°30' · 75°–34°	8	22	0.5m/1.6ft
EF 28-80mm f/3.5-5.6II USM	65°–25° · 46°–17° · 75°–30°	5	22–38*1	0.38m/1.3ft
EF 28-105mm f/3.5-4.5 USM	65°–19°20' · 46°–13° · 75°–23°20'	5	22–29	0.5m/1.6ft
EF 35-80mm f/4-5.6 USM	54°–25° · 38°–17° · 63°–30°	5	22–32	0.38m/1.3ft
EF 35-80mm f/4-5.6III	54°–25° · 38°–17° · 63°–30°	5	22–32	0.4m/1.3ft
EF 35-105mm f/4.5-5.6 USM	54°–19°20' · 38°–13° · 63°–23°30'	5	22–27*1	0.85m/2.8ft
EF 35-135mm f/4-5.6 USM	54°–15° · 38°–10° · 63°–18°	5	22–32	0.75m/2.5ft
EF 35-350mm f/3.5-5.6L USM	54°–6° · 38°–4° · 63°–7°	8	22–32*1	0.6m/2ft
EF 70-200mm f/2.8L USM	29°–10° · 19°30'–7° · 30°–12°	8	32	1.5m/4.9ft
EF 70-210mm f/3.5-4.5 USM	29°–9°20' · 19°30'–6°20' · 34°–11°20'	8	22–27*1	1.2m/3.9ft
EF 75-300mm f/4-5.6II USM	27°–6°50' · 18°11'–4°35' · 32°11'–8°15'	7	32–45	1.5m/4.9ft
EF 80-200mm f/4.5-5.6II	25°–10° · 17°–7° · 30°–12°	5	22–32	1.5m/4.9ft
EF 100-300mm f/5.6L	20°–6°50' · 14°–4°35' · 24°–8°15'	8	32	1.4m/4.6ft
EF 100-300mm f/4.5-5.6 USM	20°–6°50' · 14°–4°35' · 24°–8°15'	8	32–38*1	1.5m/4.9ft
TS-E 24mm f/3.5L	74° · 53° · 84° (without tilt or shift)*2	8	22	0.3m/1ft
TS-E 45mm f/2.8	44° · 33° · 51° (without tilt or shift)*2	8	22	0.4m/1.3ft
TS-E 90mm f/2.8	22°37' · 15°11' · 27° (without tilt or shift)*2	8	32	0.5m/1.6ft
Extender EF 1.4X	—	—	—	—
Extender EF 2X	—	—	—	—
Extension Tube EF 12	—	—	—	—
Extension Tube EF 25	—	—	—	—

Extension Tube EF 12 is not compatible with the EF 14mm f/2.8L USM and the Fish-eye 15mm f/2.8.
 Extension Tube EF 25 is compatible with most EF lenses except: EF 14mm f/2.8L USM, Fish-eye EF 15mm f/2.8, EF 20mm f/1.0L USM and the wide end of EF 20-35mm f/2.8L, EF 28-70mm f/3.5-4.5II, EF 28-80mm f/2.8-4L USM and EF 28-80mm f/3.5-5.6II USM.

*1 Data based on EOS models with exposure display in 1/2-stop increments. It varies slightly with the EOS-1. *2 Image circle

Extender EF 1.4X					
When used with EF Lens	200mm f/1.8L USM	200mm f/2.8L USM	300mm f/2.8L USM	300mm f/4L USM	400mm f/2.8L USM
Focal Length, Max. Aperture	280mm f/2.5	280mm f/4	420mm f/4	420mm f/5.6	560mm f/4
Focusing	Autofocus	Autofocus	Autofocus	Autofocus	Autofocus
Max. Magnification	0.12X	0.22X	0.15X	0.18X	0.16X

Extender EF 2X					
When used with EF Lens	200mm f/1.8L USM	200mm f/2.8L USM	300mm f/2.8L USM	300mm f/4L USM	400mm f/2.8L USM
Focal Length, Max. Aperture	400mm f/3.5	400mm f/5.6	600mm f/5.6	600mm f/8	800mm f/5.6
Focusing	Autofocus	Autofocus	Autofocus	Manual Focus	Autofocus
Max. Magnification	0.18X	0.32X	0.22X	0.26X	0.23X

- Use of the Extenders EF 1.4X and EF 2X decreases the effective aperture of the prime lens by 1 f/stop or 2 f/stops respectively.
- The EOS Camera viewfinder data and LCD panel display the effective aperture. There is no change necessary in normal metering

*1 Data based on EOS-1n. Exposure display varies slightly with other EOS models.

Maximum Magnification (X)	Filter Size (mm)	Length×Max. Diameter (mm/in)	Weight (g/oz)
0.1	Gelatin	89×77/3-1/2"×3-3/16"	560/19.6
0.14	Gelatin	62.2×73/2-1/16"×2-1/8"	330/11.6
0.14	72	70.6×77.5/2-3/16"×3-1/16"	405/14.2
0.16	58	48.5×67.5/1-15/16"×2-3/8"	270/9.5
0.13	52	42.5×67.4/1-11/16"×2-3/8"	185/6.5
0.23	52	42.5×67.4/1-11/16"×2-3/8"	210/7.4
0.11	72	81.5×91.5/3-3/16"×3-3/8"	985/2.2 lbs.
0.147	58	50.5×73.8/2"×2-15/16"	290/10.2
0.15	52	41×68.2/1-3/8"×2-11/16"	130/4.6
0.5	52	63×67.6/2-1/2"×2-11/16"	280/9.8
1	—	34.9×67.6/1-3/8"×2-11/16"	160/5.6
0.11	72	84×91.5/3-3/16"×3-5/8"	1,025/2.3 lbs.
0.13	58	71.5×75/2-13/16"×2-15/16"	425/14.9
0.137	58	73.5×75/2-7/8"×2-15/16"	460/16.1
1	52	105.3×75/4-1/8"×2-15/16"	650/22.8
0.124	52	98.4×69.2/3-7/8"×2-3/8"	390/13.7
0.09	48 DI	208×130/8-3/16"×5-1/8"	3,000/6.6 lbs.
0.16	72	136.2×83.5/3-3/16"×3-1/4"	790/27.7
0.11	48 DI	253×125/9-15/16"×4-15/16"	2,855/6.3 lbs.
0.13	77	213.5×90/8-3/8"×3-3/8"	1,300/2.9 lbs.
0.11	48 DI	348×167/13-11/16"×6-7/16"	6,100/13.4 lbs.
0.12	77	256.5×90/10-1/8"×3-1/2"	1,250/2.8 lbs.
0.11	48 DI	390×130/15-3/8"×5-1/8"	3,000/6.6 lbs.
0.11	48 DI	456×167/17-15/16"×6-7/16"	6,000/13.2 lbs.
0.09	48 DI	835.3×228/32-1/8"×8-15/16"	16,500/36.3 lbs.
0.09 (at 35mm)	72	89×79.2/3-1/2"×3-1/8"	570/20
0.13 (at 35mm)	77	68.9×83.5/2-11/16"×3-1/4"	340/11.9
0.18 (at 70mm)	77	117.6×83.2/4-5/8"×3-1/4"	880/30.8
0.25 (at 80mm)	58	68.5×65.6/2-11/16"×2-3/8"	210/7.4
0.19 (at 105mm)	58	75×72/2-15/16"×2-13/16"	365/12.8
0.25 (at 80mm)	52	61×65/2-3/8"×2-3/16"	170/6
0.23 (at 80mm)	52	63.5×65/2-1/2"×2-3/16"	175/6.1
0.16 (at 105mm)	58	63×68/2-1/2"×2-11/16"	280/9.8
0.15 (at 135mm)	58	86.4×72/3-3/8"×2-3/4"	425/14.9
0.25 (at 135mm)	72	167.4×85/6-3/16"×3-3/16"	1,385/3.05 lbs.
0.13 (at 200mm)	77	193.6×84.6/7-3/8"×3-3/16"	1,275/2.8 lbs.
0.17 (at 210mm)	58	121.5×73/4-3/4"×2-7/8"	550/19.3
0.25 (at 300mm)	58	122.1×71/4-13/16"×2-13/16"	495/17.3
0.16 (at 200mm)	52	78.5×69/3-1/8"×2-11/16"	250/8.8
0.26 (at 300mm)	58	166.6×75/6-3/16"×2-15/16"	695/24.3
0.2 (at 300mm)	58	121.5×73/4-3/4"×2-7/8"	540/18.9
0.14	72	86.7×78/3-1/16"×3-1/16"	570/20
0.158	72	90.1×81/3-3/16"×3-3/16"	645/22.6
0.293	58	88×73.6/3-7/16"×2-7/8"	565/19.9
—	—	27.3×67.6/1-1/16"×2-11/16"	200/7
—	—	50.5×67.6/1-15/16"×2-11/16"	240/8.4
—	—	12.3×66.5/1/2"×2-3/8"	66/2.3
—	—	27.3×67.6/1-1/16"×2-11/16"	125/4.4

2.8 USM, EF 24mm f/2.8, TS-E 24mm f/3.5L, EF 28mm f/2.8, TS-E 45mm f/2.8, EF 50mm 3.5-5.6 USM

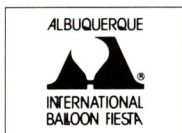
— = ϕ 58.6mm/ ϕ 2-3/16" DI: Drop-in filter

00mm f/5.6L USM	500mm f/4.5L USM	600mm f/4L USM	1200mm f/5.6L USM	70-200mm f/2.8L USM
560mm f/8	700mm f/6.3*	840mm f/5.6	1680mm f/8	98-280mm f/4
Manual Focus	Manual Focus	Autofocus	Manual Focus	Autofocus
0.12X	0.15X	0.15X	0.126X	0.223X

00mm f/5.6L USM	500mm f/4.5L USM	600mm f/4L USM	1200mm f/5.6L USM	70-200mm f/2.8L USM
800mm f/11	1000mm f/9**	1200mm f/8	2400mm f/11	140-440mm f/5.6L
Manual Focus	Manual Focus	Manual Focus	Manual Focus	Autofocus
0.175X	0.22X	0.21X	0.18X	0.327X

procedures with EOS cameras or external exposure meters.

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