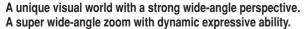
# The EF Lens World

Zoom lenses



EF 16-35mm f/2.8L USM-1/4sec.-f/19



The greatest appeal of a wide-angle lens lies in the wide angle and the perspective, which become more profound the more you learn about them. Super wide-angle zooms give you the pleasure of finding just the right framing while dynamically adjusting the perspective. Even with digital cameras, which often have a screen size even smaller than that of 35mm cameras, it is possible to enjoy photography over a wide range of angles and focusing distances.

Of course, to get the most out of these features and achieve the ultimate photographic expression, you need to have an experienced eye, but the process of accumulating that experience is fun in and of itself, because the deeper you dig, the more

effective the techniques become. Since the perspective, which is the most powerful effect of wide-angle photography, is stronger at shorter focusing distances, close objects appear closer and distant objects appear more distant. One example is photographing a vast landscape: you might, for instance, introduce some clouds behind the main subject to give it some depth, making the sky seem like it just goes on forever, or place a solitary withered tree in the composition to emphasise the loneliness of the spot. In portraiture, you can get two or three steps closer to the subject to give some unity to the subject and the background, giving the shot a documentary touch.

#### ■ EF 16-35mm f/2.8L USM

This super wide-angle zoom boasts the best angle of view, large-

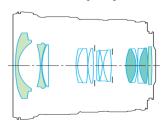
aperture, and broad zoom area in its class. In addition to the three types of aspherical lens elements (ground, replica, glass mold), two UD lens elements are used to correct a variety of aberrations and achieve sharp, high-contrast pictures of unrivaled quality. Use of a circular aperture diaphragm brings out the beauty in the blurred areas. Uncompromising dust-proof and drip-proof\* design specifications have been incorporated. Magnification-type chromatic aberrations, flare, and ghosting are also thoroughly controlled. So no matter whether you are using a regular film camera or a digital camera, outstanding imaging performance is virtually guaranteed.

\* Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D



## EF 16-35mm f/2.8L USM

- Focal length and maximum aperture: 16-35 mm 1:2.8
- Lens construction: 14 elements in 10 groups Diagonal angle of view: 108° 10' 63°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.28 m/ 0.9 ft., 0.22 x magnification
- Zoom system: Rotation type Filter size: 77 mm
- Max. diameter x length, weight: Ø 83.5 x 103 mm, 600 g/ 3.3" x 4.1", 1.3 lbs.



Aspherical lens UD lens

Wide-angle zoom lenses



## A wide-angle zoom lens lets you get right up close to the subject, bringing out the breadth and depth of its uniqueness.

Using the broad angle of view of a zoom lens at short focal lengths makes it possible to capture not only landscapes but also narrow interiors as well as large groups of people - a truly versatile lens. In small interiors which do not allow you to get far enough away from the subject you can take advantage of the wide angle of view to not only photograph large groups of people but also capture the surroundings. For snapshots of moving objects you can follow the subject at the shortest focal length and then zoom in to frame it when the moment is just right. Of course, you can also bring out a contrast between the subject and its surroundings by using the short focal length effect to the fullest. In portraiture this effect can be used to bring out a sense of presence by getting in close to the subject. The possibilities are endless. One thing you should watch out for is taking photographs at the widest angle which wind up "subject-less" and lacking a center of attention. You should avoid over-relying on the wideness of the angle of view, instead keeping

in mind the three elements that will bring focus (no pun intended) to your photography: breadth, depth, and theme.

#### ■ EF 17-40mm f/4L USM

This super wide-angle zoom lens allows you to take wide photographs even with digital SLR cameras which have a screen size smaller than 35mm, covering the range from a super wide-angle 17mm to a standard 40mm. Three aspherical lens elements which come in two types deliver both a wide zoom range and high image quality, while the super UD lens elements provide excellent correction of the magnification-type chromatic aberration. Flaring and ghosting have been minimised to make possible optical characteristics on par with the EF 16-35mm f/2.8L USM. The circular aperture diaphragm which brings out a nuanced blur and the achievement of a closest focusing distance of 0.28m over the whole range of the zoom, not only help you in composition, but the quiet, high-speed autofocus and the outstanding dust-proof and drip-proof\* construction make this

EF 17-4011111 1/4L OSW11/300SeC.1/11

lens extremely mobile. The front filter mount does not rotate during focusing, so there is no problem when using circular PL filters or other filters, and in combination with the EF 70-200mm f/4L IS USM you can get the right shot almost anywhere you go.

#### ■ EF 20-35mm f/3.5-4.5 USM

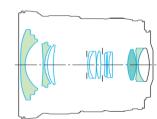
This is a reasonably priced lightweight, compact wide-angle zoom lens which covers the most popular wide-angle focal lengths. The large diameter of the front element and the inner zoom construction help correct distortion and other aberrations. Several flare-cut diaphragms are placed within each element group, providing outstanding image performance throughout the focusing range. In addition to the quiet, rapid autofocus, a full-time manual focus, a non-rotating front lens group, and a broad zoom ring work together to make this lens very easy to use. A petal hood which blocks out stray light is also available.

 $^\star$  Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D



## EF 17-40mm f/4L USM

- Focal length and maximum aperture: 17-40 mm 1:4
- Lens construction: 12 elements in 9 groups Diagonal angle of view: 104°-57° 30'
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.28 m/ 0.9 ft., 024 x magnification Zoom system: Rotating type
- Filter size: 77 mm Max. diameter x length, weight: Ø 83.5 x 96.8 mm, 475 g/ 3.3" x 3.8", 1 lb.

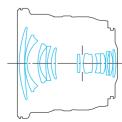


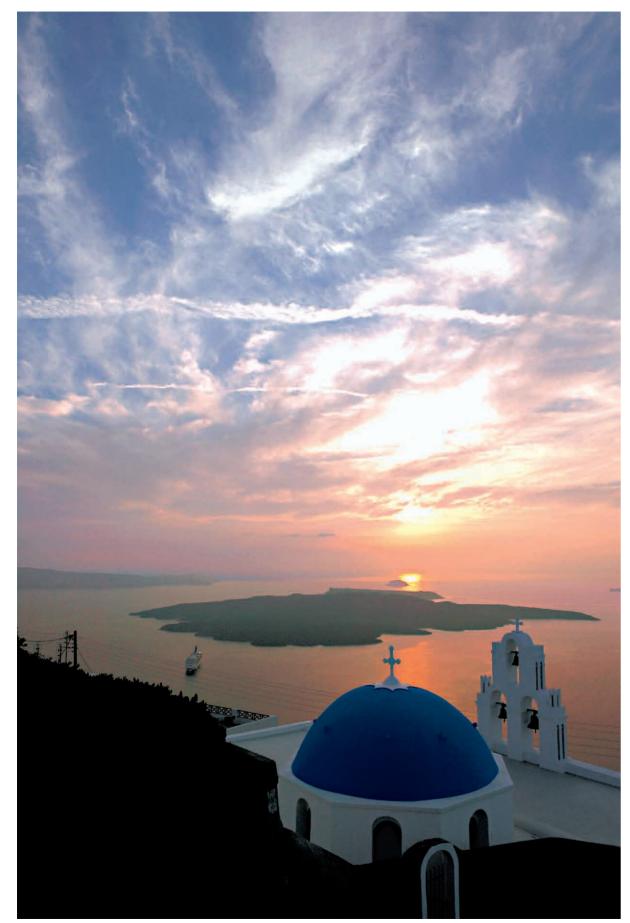
Aspherical lensUD lens



## EF 20-35mm f/3.5-4.5 USM

- Focal length and maximum aperture: 20-35mm 1:3.5-4.5
- Lens construction: 12 elements in 11 groups Diagonal angle of view: 94°-63°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.34 m/ 1.1 ft., 0.13 x magnification
- Zoom system: Rotating type Filter size: 77mm
- Max. diameter x length, weight: Ø 83.5 x 68.9mm, 340 g/ 3.3" x 2.7", 12 oz.





EF 24-70mm f/2.8L USM·1/160sec.·f/13

#### A standard zoom lens will give you your own voice.

The standard zoom lens, with coverage from wide-angle to standard and beyond to medium telephoto, is often a budding photographer's first step into the world of lenses. Centered on a focal length of 50mm, which is closest to the normal perspective of the human eye, the zoom region goes from an expansive wide angle which can take in a whole scene to concentrating on one particular spot – very much like the human eye.

You can take photographs of the world just as you see it with this lens, especially since it is so easy to use for shots of the family on vacation, and other situations you may encounter in everyday life. One handy way of using the lens is to take in the whole scene with the zoom set to wide angle, then zoom in on any particular detail that happens to catch your attention. As you get a feel for the lens, you'll learn your own preferences in terms of the different angles of view and perspectives at each focal length, and the changes in the blur quality of background items that are out of focus. That is one of the advantages of using a lens like this, because it is very good for expressing exactly what you see when you look at your subject.

If you are looking for superior low light performance and the best image quality in its class, choose the EF 24-70mm f/2.8L USM, but for more carefree lens work with excellent image quality we recommend the EF 24-85mm f/3.5-4.5 USM because of its light weight and compact design.

#### ■ EF 24-70mm f/2.8L USM

This is a large-aperture standard zoom with a short minimum focal length of 24mm. It is also good for wide-angle photography using digital SLR cameras which have a screen size smaller than 35mm. Use of two types of aspherical lens elements and a UD lens element corrects the magnification-type chromatic aberration often seen at wider angles, for extremely high picture quality. While on the one hand employing a no-compromise dust-proof and drip-proof\* construction, on the other hand the quiet and fast autofocus, the mechanical full-time manual focus, and the broad zoom ring make the lens easy to use, while the circular diaphragm delivers a beautiful blur effect. The closest focusing distance is 0.38m, and the magnification is 0.29x, making the lens ideal for close-up photography.

#### ■ EF 24-85mm f/3.5-4.5 USM

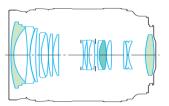
A wide-angle standard zoom lens with a broad 3.5x zoom ratio. Use of a multi-group movable zoom and an aspherical lens element deliver sharp picture quality throughout the zoom range as well as a lightweight, compact design. The ring-type USM autofocus drive combines with the inner focusing system to deliver silent and rapid performance. A full-time manual focus that lets you make small adjustments to the focus without switching out of autofocus mode and the non-rotating filter mount work together to improve operability. A petal-type hood is also available, great for keeping out unwanted light at wide angles.

\* Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D



## EF 24-70mm f/2.8L USM

- Focal length and maximum aperture: 24-70 mm 1:2.8
- Lens construction: 16 elements in 13 groups Diagonal angle of view: 84° 34°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.38 m/ 1.3 ft. (Macro), 0.29 x magnification
- Zoom system: Rotating type Filter size: 77 mm
- Max. diameter x length, weight: Ø 83.2 x 123.5 mm, 950 g/ 3.3" x 4.9", 2.1 lbs.

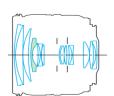


Aspherical lens UD lens



## EF 24-85mm f/3.5-4.5 USM

- Focal length and maximum aperture: 24-85 mm 1:3.5-4.5
- Lens construction: 15 elements in 12 groups Diagonal angle of view: 84° 28° 30′
- $\bullet \ \textbf{Focus adjustment} \hbox{: Ring-type USM, inner focusing system, full-time manual focus}$
- Closest focusing distance: 0.5 m/ 1.6 ft., 0.16 x magnification
- Zoom system: Rotating type Filter size: 67 mm
- Max. diameter x length, weight: Ø 73 x 69.5 mm, 380 g/ 2.9" x 2.7", 13.4 oz.



Aspherical lens



#### Capturing impressive scenes close to the subject.

## A high-performance standard zoom lens exhibiting strength under harsh conditions.

The lens covers a range from 24mm with the striking perspective effect of a wide-angle lens to 105mm, which is suitable for medium zoom portraiture and landscape photography. This is a standard zoom lens able to handle a broad range of photographic expression including impressive wide-angle shots that emphasise perspective by approaching the subject so that it fills the frame, standard photography with a similar definition to the human eye and medium telephoto shots that highlight the expressions of people by adding a beautiful blur to the background. In addition to achieving the high image quality typical of L-series lenses, the lens incorporates an image stabilizing mechanism effective for counteracting the effects of camera shake by approximately three shutter speed steps, enabling users to pursue subjects without missing any photo opportunities. Moreover, it offers excellent durability and weather resistance due to a highly dust-proof and

drip-proof construction enabling shooting in harsh conditions such as deserts, jungles, beaches, glaciers and mountainous regions. In addition to professional news, sports and documentary photojournalism, it is also able to beautifully portray a variety of subjects in day-to-day life or on holidays including scenery shots, souvenir shots of the family, snap shots in town, portraits and indoor photography.

#### ■ EF 24-105mm f/4L IS USM

This is a standard zoom lens covering a wide range from 24mm wide-angle to 105mm medium-telephoto shooting. In addition to achieving a broad zoom range, the optical system made up of 18 elements in 13 groups contains only environmentally-friendly lead-free glass. The various types of aberration are well compensated using one super UD lens and three aspherical lenses (replica and molded glass), and this enables high quality images befitting L-series lenses. In addition, optimisation of lens positioning and coating minimises the flare and ghosting to

EF 24-105mm f/4L IS USM·1/125sec.·f/10

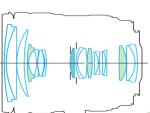
which digital cameras are susceptible, while an image stabilizer mechanism is incorporated to offer camera-shake compensation for approximately three shutter speed steps. Furthermore, the highly dust-proof and drip-proof\* structure enabling shooting in harsh conditions, and full-time manual focusing make this a high-performance lens able to meet the high demands of professionals and highly skilled amateurs.

\* Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D



## EF 24-105mm f/4L IS USM

- Focal length and maximum aperture: 24-105 mm 1:4
- Lens construction: 18 elements in 13 groups Diagonal angle of view: 84° 23° 20′
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.45 m/ 1.48 ft., 0.23 x magnification
- Zoom system: Rotating type Filter size: 77 mm
- Max. diameter x length, weight: Ø 83.5 x 107 mm, 670 g/ 3.3" x 4.2", 1.5 lbs.



Aspherical lensUD lens



EF 28-90mm f/4-5.6 II ·1/200sec.·f/13

Never miss an opportunity, always stay on your toes.

## A lightweight, compact standard zoom lens goes after that moving expression.

A standard zoom lens that covers the range from moderate wide angle to medium telephoto is very close to the range of the human eye, which means it can flexibly photograph the subject as it is seen by the eye. It is therefore good for all sorts of photography, from landscapes and indoor snapshots to group pictures and natural shots. For example, when you are taking a landscape photograph, not only does it capture the vastness, but you can frame the picture any way you want, focusing on one particular spot, describing the surroundings by including them too, or just framing the momentary movement of the subject.

The ability to use a standard zoom well involves using its mobility and framing. Zoom in on the smile of a running child and then zoom out to capture the whole scene. This is what is possible if you know how to get the best out of a lightweight, compact zoom lens.

### ■ EF 28-90mm f/4-5.6 III

This is a lightweight, compact high performance zoom lens at low cost. This 3x magnification zoom is designed like the EF 28-90mm f/4-5.6 II USM, featuring an optical system that minimises overall length with an all-moving four-group construction, an aspherical lens used as the 9th element, and more. It gives outstanding correction for aberration fluctuations, and high picture quality over the entire zoom range with a minimum of lens elements. The micromotor autofocus is quiet and fast.

In addition, it has a new distance metering information mechanism for compatibility with the E-TTL II flash system. This allows the camera to take lens distance information into account during autoflash.





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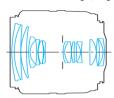
## EF 28-90mm f/4-5.6 **I**II

- Focal length and maximum aperture: 28-90 mm 1:4-5.6
- Lens construction: 10 elements in 8 groups Diagonal angle of view: 75° 27°
- $\bullet$  Focus adjustment: Front group rotating extension system with micro motor
- Closest focusing distance: 0.38 m/ 1.3 ft., 0.3 x magnification
- Zoom system: Rotating type Filter size: 58 mm
- Max. diameter x length, weight: Ø 67 x 71.2 mm, 190 g/ 2.6" x 2.8", 6.7 oz.



### EF 28-105mm f/3.5-4.5 II USM

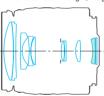
- Focal length and maximum aperture: 28-105 mm 1:3.5-4.5
- Lens construction: 15 elements in 12 groups Diagonal angle of view: 75° 23° 20′
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.5 m/ 1.6 ft. (Macro), 0.19 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- Max. diameter x length, weight: Ø 72 x 75 mm, 375 g/ 2.8" x 3", 13.2 oz.





### EF 28-105mm f/4-5.6 USM

- Focal length and maximum aperture: 28-105 mm 1:4-5.6
- Lens construction: 10 elements in 9 groups Diagonal angle of view: 75° 23° 20′
- Focus adjustment: Inner focusing system with micro USM II
- Closest focusing distance: 0.48 m/ 1.6 ft., 0.19 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- Max. diameter x length, weight: Ø 67 x 68 mm, 210 g/ 2.6" x 2.7", 7.4 oz.

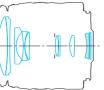


Aspherical lens

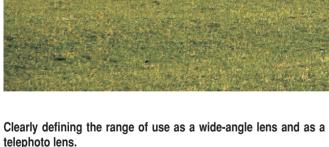


## EF 28-105mm f/4-5.6

- Focal length and maximum aperture: 28-105 mm 1:4-5.6
- Lens construction: 10 elements in 9 groups Diagonal angle of view: 75° 23° 20'
- Focus adjustment: Inner focusing system with micro motor
- Closest focusing distance: 0.48 m/ 1.6 ft., 0.19 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- Max. diameter x length, weight: Ø 67 x 68 mm, 210 g/ 2.6" x 2.7", 7.4 oz.



Aspherical lens



#### The 28-105mm standard zoom – more fun with angles of view than might properly be considered decent by most people.

You could say that this lens brings together all those features that make a zoom lens so attractive. It lets you go back and forth between wide-angle and telephoto in the blink of an eye, seeing whether the scene calls for that particularly emphasised perspective attained by a wide angle at 28mm or the more compressed perspective offered by the telephoto end of the range at 105mm - both centered around the standard, unforced effect of 50mm. Its lightweight and compact body makes it a very mobile lens that can be used for all types of scenes, from close-ups of the main subject, to expansive vistas of rolling landscapes - all in one lens.

#### ■ EF 28-105mm f/3.5-4.5 II USM

The use of a multi-group zoom system delivers a lightweight and compact zoom lens that achieves high picture quality over all focal lengths. Covering a broad range from a wide-angle 28mm to a medium telephoto 105mm, the lens delivers a closest focusing distance of 0.5m. The autofocus employs a ring-type USM and inner focusing system, so it is as quiet as it is quick. It also has a full-time manual focusing mechanism that allows small changes to be made to the focus very quickly, without leaving autofocus mode. The wide zoom ring and non-rotating front lens element offer outstanding operability.

#### ■ EF 28-105mm f/4-5.6 USM

This lens delivers focal lengths up to 105mm with the barrel length of a 28-90mm class zoom lens. This standard zoom achieves the lightest weight in its class. The newly designed optical system consists of 5 element groups. Use of an aspherical lens element compensates for all aberrations, attaining beautiful picture quality

at all focusing distances. The inner focusing system and the micro USM II combine to give you the pleasure of a very silent autofocusing mechanism that is very fast. The circular aperture diaphragm offers a beautiful blur effect as well as a closest focusing distance of 0.48m for photography that is very up-close and personal. The non-rotating front lens element makes using

EF 28-105mm f/3.5-4.5 II USM·1/180sec.·f/8

circular PL filters and other accessories easier than ever.

#### ■ EF 28-105mm f/4-5.6

This lens employs the same optical system as the EF 28-105mm f/4-5.6 USM. The aspherical lens element provides outstanding picture quality throughout the focus range, while the circular aperture diaphragm delivers a beautiful blur effect. The closest focusing distance of 0.48m lets you get right in your subject's face, and the compact design of the micro motor for the autofocus drive actuator, together with the optimised RPM and gear ratio, give this lens a highly commendable cost-to-performance ratio as well as quiet and speedy autofocus.





# A large-magnification zoom lens for freedom in framing. Take photographs like a professional – from wide-angle to telephoto.

A standard zoom lens that achieves focusing distances of 28mm on the wide-angle side and 135mm and 200mm on the telephoto side, along with high magnification between 5x and 7x. This is a workhorse lens, great for traveling light, and great for times when you just don't have the space to haul a bunch of lenses all over creation. This single lens gives you three-in-one versatility – wide-angle, standard, and telephoto capabilities, and with magnification you just can't beat.

This lens can bring the player's quick movements right into the view-finder, put spatial perspective between a subject and the background, and do other things that telephoto lenses can do, while at the same time bringing you the close-up capabilities of wide-angle lenses for taking photos of flowers and other expressions of mother nature's beauty, all with the ability to decide the right framing in the flash of an eye. The 28-135mm/200mm can zoom from a wide angle to a telephoto angle faster than the human eye, making this a lens that will help you discover new worlds of photographic and artistic expression.

#### ■ EF 28-135mm f/3.5-5.6 IS USM

This standard zoom lens comes equipped with an Image Stabilizer mechanism that lets you drop down two shutter speeds\* farther than you would normally be able to use during hand-held photography. Despite the roughly 5x large magnification zoom, the lens size itself is very compact, thanks to use of a compact EMD and a multi-group zoom system, which means this lens works well in fast-moving photographic situations. The optical system uses glass-mold aspherical lenses. Suppressing the curvature of field, spherical aberration, and other distortions common in long focal lengths over the whole zoom range and correcting for other aberrations makes for sharp picture quality. The autofocus is quick and quiet thanks to the ring-type USM and inner focusing system. The full-time manual focus, non-rotating front lens element, and wide zoom ring make the lens a dream to use. The hood for this lens is the petal-type EW-78BII.

 $^\star$  Based on a shutter speed of "1/focal length" seconds, said to be the limit for hand-held photography without image stabilization.

#### EF 28-135mm f/3.5-5.6 IS USM·1/125sec.·f/8

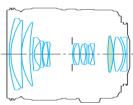
#### ■ EF 28-200mm f/3.5-5.6 USM

This zoom lens boasts a 7x magnification. Use of a replica aspherical lens in the 4th lens element and a glass-mold aspherical lens in the 14th element makes possible high picture quality over the entire zoom range and a compact body. The two-group inner focusing system achieves a closest focusing distance of 0.45m. The micro USM drive keeps the autofocus quick and quiet. Operability with accessories is a breeze thanks to the non-rotating front lens element.



### EF 28-135mm f/3.5-5.6 IS USM

- Focal length and maximum aperture: 28-135 mm 1:3.5-5.6
- Lens construction: 16 elements in 12 groups Diagonal angle of view: 75° 18°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.5 m/ 1.6 ft. (Macro), 0.19 x magnification
- Zoom system: Rotation type Filter size: 72 mm
- Max. diameter x length, weight: Ø 78.4 x 96.8 mm, 540 g/ 3.1" x 3.8", 1.2 lbs.

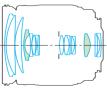


Aspherical lens



## EF 28-200mm f/3.5-5.6 USM

- Focal length and maximum aperture: 28-200 mm 1:3.5-5.6
- Lens construction: 16 elements in 12 groups Diagonal angle of view: 75° 12°
- Focus adjustment: Inner focusing system with micro USM
- Closest focusing distance: 0.45 m/ 1.5 ft., 0.28 x magnification
- $\bullet$  Zoom system: Rotation type  $\bullet$  Filter size: 72 mm
- Max. diameter x length, weight: ø 78.4 x 89.6 mm, 500 g/ 3.1" x 3.5", 1.1 lbs.



Aspherical lens

Telephoto zoom lense



EF 55-200mm f/4.5-5.6 II USM-1/125sec.-f/5

## Light, compact telephoto zoom lens with easy operation. High-speed AF to quickly capture every instant of the action.

This telephoto zoom lens is fully compatible with all EOS cameras, and covers the range from a standard 55mm focal length that is close to normal human vision, to a powerful 200mm telephoto focal length that brings distant objects into sharp detail in an instant. Not only scenery and commemorative shots, but also portraits that never miss a single facial nuance, and shots of sports events and animals, in which the subject is moving dynamically, are easy with this nimble and comfortable telephoto zoom lens. When used with the EOS 30D/EOS 400D DIGITAL and other models, the combination of the standard zoom EF-S 18-55mm f/3.5-5.6 II USM, EF-S 18-55mm f/3.5-5.6 II and telephoto zoom EF 55-200mm f/4.5-5.6 II USM provides a standard zoom of 29-88mm and a telephoto zoom of 88-320mm (35mm film equivalents), covering the range from wide angle through telephoto.

The camera and lenses are also easy to carry, making them ideal for traveling.

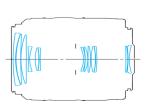
#### ■ EF 55-200mm f/4.5-5.6 II USM

This light, compact telephoto zoom lens provides coverage from standard to telephoto. The lens system contains 13 air-spaced elements and uses environmentally friendly lead-free glass. In addition to a compact design for an overall length of only 97.3mm/3.8 inches when retracted, this lens employs a rubber zoom ring for easy operation. Innovations such as a lens coating optimised for digital photography help minimise flare and ghosts, which often occur with digital cameras. The lens also adopts a newly developed high-speed CPU and an AF algorithm that ensures the ideal AF drive for various shooting conditions, providing precise and instantaneous operation from zooming to image capture.



## EF 55-200mm f/4.5-5.6 II USM

- Focal length and maximum aperture: 55-200mm 1:4.5-5.6
- Lens construction: 13 elements in 13 groups Diagonal angle of view: 43° 12°
- Focus adjustment: Front group rotating extension system with micro USM
- Closest focusing distance: 1.2 m/3.94 ft., 0.21 x magnification
- Zoom system: Rotation type Filter size: 52 mm
- $\bullet$  Max. diameter x length, weight: ø 70.4 x 97.3 mm, 310 g/2.8" x 3.8", 10.9 oz.



elephoto zoom lenses



EF 70-200mm f/2.8L IS USM·1/1500sec.·f/4

## Capturing natural perspective and dramatic scenes. This lens is for serious telephoto work.

You survey the landscape before your eyes and find one spot that catches your attention. You frame it and it's yours. The satisfaction of moments like this is only possible when using a telephoto lens. These lenses cover the range from a 70mm or 80mm medium telephoto focal length with a natural perspective, to 200mm with its substantial telephoto effect. The visual effect changes a great deal, so if you are serious about your photography, this is the ideal lens for you to experience the feeling of working with a true telephoto lens.

Sports photography, with its fast action and rapidly changing distances, can only be captured accurately with fast autofocusing

and zooming. The evanescent expression of the subject in a portrait demands to be set off from the background with a nice blur effect, up close. Finally, landscape photographs really put zoom lenses to the test, using the zoom at all positions to find just the right composition. The EF 70-200mm telephoto zoom lenses are all L-type, which means you can count on all of them to deliver unequalled picture quality, despite individual differences in Image Stabilizing or maximum aperture.

#### ■ EF 70-200mm f/2.8L IS USM

This large-aperture telephoto zoom lens has an Image Stabilizer that can compensate for approximately 3 shutter speeds $^{\star 1}$ . With thorough dust-proof and drip-proof $^{\star 2}$  treatment, this lens can be

used under harsh conditions. The optical system uses four UD lens elements for high-contrast, sharp picture quality. The circular aperture diaphragm offers a beautiful blur effect. It is also equipped with a full-time manual focus that can be used in autofocus mode.

#### ■ EF 70-200mm f/2.8L USM

This lens corrects colour aberration with four low-refraction, low dispersion UD lens elements. It makes good use of available light for sharp, clear imaging performance. The ring-type USM and inner focusing system deliver quick and quiet autofocusing. Operability is enhanced by the full-time manual focus system as well as the possibility of autofocus at 98-280mm f/4 or 140-400mm f/5.6 when used together with the Extender EF 1.4xII or EF 2xII.

#### ■ EF 70–200mm f/4L IS USM

This compact telephoto lens comes with an Image Stabilizer that compensates for camera shake so you can shoot at up to 4 shutter speed steps slower without blur. The lens's optical system uses one fluorite lens element and two UD lens elements to render high-resolution, high-contrast image quality at all zoom lengths. Another attraction of this lens is its circular aperture diaphragm, which creates beautiful blur. The dust-proof and drip-proof\*2 construction, along with fast and quiet AF and manual focus override, makes this lens an excellent performer in the field.

#### ■ EF 70-200mm f/4L USM

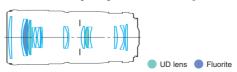
With a low weight of 705g, this light and compact telephoto zoom lens is easy to carry around. It corrects for secondary spectrum with its one fluorite lens element and two UD lens elements, offering excellent imaging performance throughout the range of the zoom. With a closest focusing distance of 1.2m, close-up photography at a magnification of 0.21x is possible. And if used along with the EF 17-40mm f/4L USM, you will be able to enjoy photography with a much higher efficiency than having to carry a dozen lenses around.

- \*1 Based on a shutter speed of 1/focal length x 1.6 seconds, which is considered the limit for handheld photography without image stabilization.
- \*2 Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N. EOS-1D Mark II. EOS-1D. Extender EF 1.4x II. Extender EF 2x II
- When the EF 1.4x II or EF 2x II Extender is attached to the EF 70-200mm f/2.8L USM, the AF function on multi-focus-point EOS cameras is limited to the center focus point only.



## EF 70-200mm f/4L USM

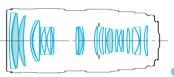
- Focal length and maximum aperture: 70-200 mm 1:4
- Lens construction: 16 elements in 13 groups Diagonal angle of view: 34° 12°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 1.2 m/ 3.9 ft., 0.21 x magnification
- Zoom system: Rotation type Filter size: 67 mm
- Max. diameter x length, weight: Ø 76 x 172 mm, 705 g/ 3" x 6.8", 1.6 lbs.





## EF 70-200mm f/2.8L IS USM

- Focal length and maximum aperture: 70-200 mm 1:2.8
- Lens construction: 23 elements in 18 groups Diagonal angle of view: 34° 12°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 1.4 m/ 4.6 ft., 0.17 x magnification
- Zoom system: Rotation type Filter size: 77 mm
- Max. diameter x length, weight: Ø 86.2 x 197 mm, 1,470 g/ 3.4" x 7.8", 3.2 lbs.

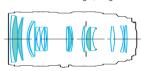


UD lens



## EF 70-200mm f/2.8L USM

- Focal length and maximum aperture: 70-200 mm 1:2.8
- Lens construction: 18 elements in 15 groups Diagonal angle of view: 34° 12°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 1.5 m/ 5.0 ft., 0.16 x magnification
- Zoom system: Rotation type Filter size: 77 mm
- Max. diameter x length, weight: Ø 84.6 x 193.6 mm, 1,310 g/ 3.3" x 7.6", 2.9 lbs.

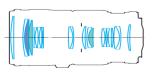


IID lone



## EF 70-200mm f/4L IS USM

- Focal length and maximum aperture: 70-200 mm 1:4
- Lens construction: 20 elements in 15 groups Diagonal angle of view: 34° 12°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 1.2 m/ 3.94 ft., 0.21 x magnification
- Zoom system: Rotation type Filter size: 67 mm
- Max. diameter x length, weight: Ø 76 x 172 mm, 760g/ 3" x 6.8", 1.7 lbs.



UD lens
Fluorite



EF 70-300mm f/4.5-5.6 DO IS USM·1/400sec.·f/8

#### Newly developed triple-layered DO lens realising a high-imagequality ultracompact telephoto zoom lens

Covering the 300mm telephoto range, this lens is a mere 99.9 mm in length. By employing the newly developed triple-layered DO lens, this telephoto zoom lens realises both high image quality comparable with an L lens and an ultracompact design. It covers the range from 70mm midrange telephoto, which offers natural perspective, to 300mm, providing full-scale telephoto effects. Its compact design makes it highly mobile, and it comes with an advanced image stabilization mechanism to greatly expand its suitability for hand-held telephoto zoom shooting. Whether you are shooting portraits or scenery, sporting events or birds in the wild, this lens ensures that you won't miss a single photo opportunity. With the sharp and clear imaging performance only a DO lens can provide, the lens also lets users enjoy highly mobile lens work.

#### ■ EF 70-300mm f/4.5-5.6 DO IS USM

With the newly developed triple-layered DO lens and a glass-mold (GMo) aspherical lens, this telephoto zoom lens achieves high imaging quality comparable with L lenses in an ultracompact size, approximately two-thirds that of conventional lenses\*1. The DO lens has a three-layer structure suited to zoom optics to resolve the problem of unwanted diffraction flares generated when zooming. While realising a truly compact size, it compensates for chromatic and spherical aberration and offers the high-resolution and high-contrast imaging performance of an L lens. This lens also maximises operability with an image stabilization mechanism with approximately 3 shutter speed\*2 correction capability, a zoom ring lock that maintains the lens at its shortest length when carried, and a full-time manual focus system. This lens employs environmentally friendly lead-free glass, and with an optimised lens coating and optical design, it minimises flare and ghosts, which often occur with digital cameras.

Like the EF 400mm f/4 DO IS USM, this lens bears a green line on the lens barrel, symbol of a revolutionary lens.

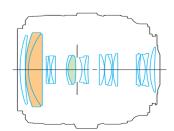
- \*1 Compared with the EF 75-300mm f/4-5.6 IS USM, which has approximately the same focal length and f number value.

  \*2 Based on a shutter speed of "1/focal length" seconds, said to be the limit for hand-held
- \*2 Based on a shutter speed of "1/focal length" seconds, said to be the limit for hand-hel photography without image stabilization.



## EF 70-300mm f/4.5-5.6 DO IS USM

- Focal length and maximum aperture: 70-300 mm 1:4.5-5.6
- Lens construction: 18 elements in 12 groups
- Diagonal angle of view: 34° 8°15'
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 1.4 m/4.6 ft., 0.19 x magnification
- Zoom system: Rotation type
- Filter size: 58 mm
- Max. diameter x length, weight: Ø 82.4 x 99.9 mm, 720 g/3.2" x 3.9", 1.6 lbs.



Aspherical lens DO lens



# A series of telephoto zoom lenses appropriate for covering a wide range of subject matter from portraits with natural perspective to impressive telephoto shots.

These lenses cover a zoom range of approximately four times spanning from medium telephoto focal lengths for portraiture with beautiful natural expression to full 300mm focal length capable of bringing distant subjects very close to provide an enhanced perspective compression effect. All forms of photographic expression are made possible, including impressive images that take full advantage of the perspective compression effect and also those that highlight sharply focused subjects by isolating them against beautifully blurred backgrounds.

The key point is how to effectively incorporate the variety of perspective and background blur effects resulting from changes in the angle of view. The high zoom ratio exhibits its real strength in photography from limited shooting positions, such as stage, sports, and wildlife photography. It fully covers the range from expansive scenic vistas to close-up shots, and offers the appeal of flexibility by enabling shooting at the optimal angle of view.

#### ■ EF 70-300mm f/4-5.6 IS USM

This user-friendly telephoto zoom lens covers a broad zoom range from 70mm to 300mm. The built-in image stabilizer (IS) mechanism counteracts the effects of camera shake by approximately three shutter speed steps. In addition to "camera shake correction mode 1" suited for shooting stationary objects, this lens is also provided with "camera shake correction mode 2" that offers the easy enjoyment of panning filled with a sense of speed. Only environmentally-friendly lead-free glass is used in the optical system made up of 15 elements in 10 groups and a UD lens, which achieves high image quality at all focal lengths, is employed in the first lens of the third group. Furthermore, the optimisation of lens positioning and coating minimises the flare and ghosting that often occur in digital cameras. A zoom ring lock keeps the lens at its shortest length in the wide position and prevents the lens barrel from extending and striking any objects when the lens is being carried attached to a camera with a strap. The use of micro USM lens drive, a high-speed CPU and an optimised autofocus algorithm ensures autofocusing that is both quiet and fast. The image stabilizer mechanism and the optical

#### EF 70-300mm f/4-5.6 IS USM-1/500sec.-f/11

system utilising a UD lens, combined with other features such as the zoom ring lock function and relatively compact size and weight, make this a highly advanced and user-friendly lens.

#### ■ EF 75-300mm f/4-5.6 II USM

This high-magnification zoom lens is the smallest and lightest in its class, offering ideal cost-performance. A lightweight glass material was used for the first element group - the heaviest group in the optical system - to reduce operational load during autofocus operation. Combined with the micro USM, the autofocus is quick and quiet. The slim exterior and smooth zooming makes this lens a delight to use.

#### ■ EF 75-300mm f/4-5.6 III

With the same optical system as the EF 75-300mm f/4-5.6 III USM, this lens is lightweight, compact, and has a high-magnification zoom. Able to cover the entire range from 75mm to 300mm (the most commonly used focal distances), it will let you stay on your feet looking for that perfect shot. The autofocus drive system has a micro motor.

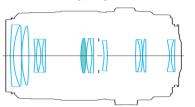
## EF 70-300mm EF 75-300mm

Telephoto zoom lense



### EF 70-300mm f/4-5.6 IS USM

- Focal length and maximum aperture: 70-300 mm 1:4-5.6
- Lens construction: 15 elements in 10 groups Diagonal angle of view: 34° 8°15′
- Focus adjustment: Front group rotating extension system with micro USM
- Closest focusing distance: 1.5 m/ 4.9 ft., 0.26 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- Max. diameter x length, weight: Ø 76.5 x 142.8 mm, 630 g/ 3.0" x 5.6", 1.4 lbs.

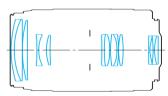


UD lens



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

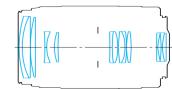
- Focal length and maximum aperture: 75-300 mm 1:4-5.6
- Lens construction: 13 elements in 9 groups Diagonal angle of view: 32°11' 8°15'
- Focus adjustment: Front group rotating extension system with micro USM
- Closest focusing distance: 1.5 m/ 4.9 ft., 0.25 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- Max. diameter x length, weight: Ø 71 x 122 mm, 480 g/ 2.8" x 4.8", 1.1 lbs.





## EF 75-300mm f/4-5.6 III

- Focal length and maximum aperture: 75-300 mm 1:4-5.6
- Lens construction: 13 elements in 9 groups Diagonal angle of view: 32°11′ 8°15′
- Focus adjustment: Front group rotating extension system with micro USM
- Closest focusing distance: 1.5 m/ 4.9 ft., 0.25 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- $\bullet$  Max. diameter x length, weight: ø 71 x 122 mm, 480 g/ 2.8" x 4.8", 1.1 lbs.



elephoto zoom lenses



EF 90-300mm f/4.5-5.6 USM·1/125sec.·f/16

A telephoto zoom lens can help you build an efficient lens system.

## Combine one with a standard zoom to achieve full coverage from wide angle to telephoto.

When you want to cover the telephoto range up to 300mm, the relatively easy choice is the 90-300mm telephoto zoom lens. When used in combination with a standard zoom lens, especially the EF 28-90mm f/4-5.6 III, you will have coverage up to the telephoto range. Which means you will have the entire range of focusing distances from a wide angle 28mm to the super telephoto region at your disposal. Not only that, but at a reasonable price, considering the range of coverage.

As telephoto lenses, these lenses are light, compact and have outstanding mobility. For example, if you want to take a photograph of children playing in a park and include the surroundings with a standard lens, it is possible with a telephoto zoom lens to capture the children's expressions up close. Of course, these lenses are at their lightweight, compact, and mobile best for sports photography, which is imbued with the tension of a compressed perspective, or when taking nature photos that bring wild animals in a distant field close up. They also have the fastest autofocusing in their class.

#### ■ EF 90-300mm f/4.5-5.6 USM

A light, compact telephoto zoom lens with high cost performance. The newly designed optical system with 13 elements in 9 groups uses only eco-friendly lead-free glass. The circular aperture diaphragm brings out a characteristically beautiful blur effect. With a closest focusing distance of 1.5m and a maximum magnification of 0.25x this lens is great for close-up photography. A new high-speed CPU has been incorporated in the focus control. A new algorithm performs optimal autofocus drive in accordance with the conditions.

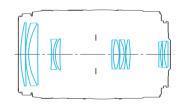
#### EF 90-300mm f/4.5-5.6

With the same optical system as the EF 90-300mm f/4.5-5.6 USM, this telephoto zoom lens has high cost-performance because a micro motor has been added to the autofocus drive. If combined with the EF 28-90mm f/4-5.6 III or other lenses, it can cover from 28mm to 300mm without any gaps.



## EF 90-300mm f/4.5-5.6 USM

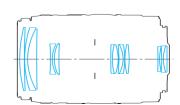
- Focal length and maximum aperture: 90-300 mm 1:4.5-5.6
- Lens construction: 13 elements in 9 groups Diagonal angle of view: 27° 8°15′
- Focus adjustment: Front group rotating extension system with micro USM
- Closest focusing distance: 1.5 m/ 4.9 ft., 0.25 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- Max. diameter x length, weight: ø 71 x 114.7 mm, 420 g/ 2.8" x 4.5", 14.8 oz.





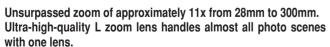
## EF 90-300mm f/4.5-5.6

- $\bullet$  Focal length and maximum aperture: 90-300 mm 1:4.5-5.6
- Lens construction: 13 elements in 9 groups Diagonal angle of view: 27° 8°15′
- Focus adjustment: Front group rotating extension system with micro motor
- ◆ Closest focusing distance: 1.5 m/ 4.9 ft., 0.25 x magnification
   ◆ Zoom system: Rotation type ◆ Filter size: 58 mm
- Max. diameter x length, weight: Ø 71 x 114.7 mm, 420 g/ 2.8" x 4.5", 14.8 oz.





EF 28-300mm f/3.5-5.6L IS USM·1/320sec.·f/5.6



This single lens handles a variety of compositional needs from the 28mm wide-angle setting, with its broad linear perspective, to the powerful 300mm telephoto setting, which is extremely effective for pulling in faraway subjects and compressing perspective. Because it covers a zoom ratio of approximately 11x, users need only carry this one lens to shoot almost any subject. Capture magnificent landscape scenes at 28mm wide angle, and zoom in on distant subjects at 300mm. Track and capture the dexterous footwork of soccer players in a huge stadium. Take the photographs you want, of anything you can see, setting the frame for close-ups or pull-away shots to get just the framing you desire.

And the image stabilization mechanism lets you enjoy the full image quality of an L-series lens while taking active indoor shots.

#### ■ EF 28-300mm f/3.5-5.6L IS USM

This ultra-high-quality zoom lens covers the entire zoom range from 28mm wide-angle to 300mm telephoto. With three UD lenses and three aspherical lenses, chromatic aberration and distortions are thoroughly suppressed, realising an approximately 11x zoom range with image quality suited to an L lens. And because the lens comes with an image stabilization mechanism that can compensate for approximately 3 shutter speeds\*1, users can take advantage of its full capabilities during handheld shooting at 300mm telephoto and in locations with insufficient lighting. The lens uses environmentally friendly lead-free glass,

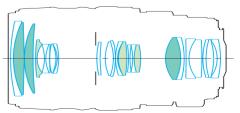
and with an optimised lens coating and optical design, it minimises flare and ghosts, which often occur with digital cameras. In addition, it features a zoom ring friction control mechanism, making it possible to freely set zoom operations, and enhanced dust-proof and drip-proof \*2 design for shooting under severe conditions. The lens also comes with high-speed AF and full-time manual focus system. This ultrahigh-performance zoom lens meets the demands of all users from professionals to photo enthusiasts.

- \*1 Based on a shutter speed of "1/focal length" seconds, said to be the limit for hand-held photography without image stabilization.
- \*2 Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D



## EF 28-300mm f/3.5-5.6L IS USM

- Focal length and maximum aperture: 28-300mm 1:3.5-5.6
- Lens construction: 23 elements in 16 groups
- Diagonal angle of view: 75° 8°15'
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.7 m/2.3 ft., 0.3 x magnification
- Zoom system: Linear
- Filter size: 77 mm
- Max. diameter x length, weight: Ø 92 x 184 mm, 1,670 g/3.6" x 7.2", 3.7 lbs.



Aspherical lensUD lens



elephoto zoom lenses



EF 100-400mm f/4.5-5.6L IS USM·1/80sec.·f/14

# Expanding the expressive region of telephoto lenses. Telephoto lenses which can capture a moment and keep it from dying in captivity.

The tension of an image with the background encroaching on the subject, all perspective compressed. With an extraordinarily shallow depth of field, only the subject which has been captured using pinpoint focus is in focus – all else is blurred out. The effects created by telephoto lenses are actually quite profound. To bring out those depths, you need a telephoto zoom lens. Of course, to make sure these effects are brought out at their best, the lenses are designed so that the 300mm and 400mm super telephoto regions are guaranteed to deliver fresh imaging and beautifully contrasted colour reproduction. Light and compact, these lenses are mobile enough to be used for hand-held photography without a tripod. In the field of journalistic photography, rapid-fire sports, freemoving stage production, and free-ranging wildlife, these zoom

lenses show you their worth. These zoom lenses can be carried by the photographer when taking mountain photographs which are artistic, focusing on one small flower growing in a crevice on a distant unapproachable mountain.

#### ■ EF 100-300mm f/4.5-5.6 USM

A 3x telephoto lens which is light, compact, and can be carried easily. With a five-group zoom system, it maintains outstanding imaging performance at all focusing distances, while still retaining a compact size. The USM drive combines with the 4th group to deliver outstanding quick and quiet autofocusing. The closest focusing distance at all focal lengths is 1.5m, and the maximum photographic magnification at telephoto distances is 0.2x, making this lens fully usable for macro work. The broad zoom ring, the full-time manual focus, and the non-rotating front lens element work together to create outstanding operability.

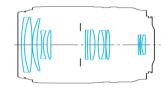
#### ■ EF 100-400mm f/4.5-5.6L IS USM

The EF 100-400mm zoom lens is a telephoto zoom lens which also delivers very clear picture quality with an Image Stabilizing mechanism. With a 4x zoom ratio and high-contrast colour reproduction, it has everything you could want from a telephoto zoom lens. The 6-group zoom system with 5 moving groups thoroughly eliminates secondary spectrum thanks to the fluorite and super UD lens elements. All aberrations are corrected in the middle focusing distances thanks to the rear focusing system and the floating system – a first for a zoom lens. The closest focusing distance is 1.8m, and the autofocus is quick and quiet thanks to the ring-type USM. A full-time manual focus, an adjustment ring which can adjust how the zoom ring feels, and much else besides combine to bring you outstanding operability.



### EF 100-300mm f/4.5-5.6 USM

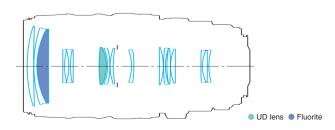
- Focal length and maximum aperture: 100-300 mm 1:4.5-5.6
- Lens construction: 13 elements in 10 groups Diagonal angle of view: 24°-8° 15'
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
   Closest focusing distance: 1.5 m/ 4.9 ft. (Macro), 0.2 x magnification
- Zoom system: Rotation type Filter size: 58 mm
- Max. diameter x length, weight: Ø 73 x 121.5 mm, 540 q/ 2.9" x 4.8", 1.2 lbs.





## EF 100-400mm f/4.5-5.6L IS USM

- Focal length and maximum aperture: 100-400 mm 1:4.5-5.6
- Lens construction: 17 elements in 14 groups Diagonal angle of view: 24°- 6° 10′
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- $\bullet$  Closest focusing distance: 1.8 m/ 5.9 ft., 0.2 x magnification
- Zoom system: linear Filter size: 77 mm
- Max. diameter x length, weight: Ø 92 x 189 mm, 1,380 g/ 3.6" x 7.4", 3.0 lbs.



## EF LENS WORK III The Eyes of EOS

September 2006, Eighth edition

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