



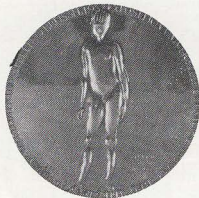
Canon

INTERCHANGEABLE LENSES

FT

INSTRUCTIONS

English Edition



Grand Prix Award



Invention Award

Along with the various models of Canon cameras, Canon lenses have also won wide acclaim for their wonderful photographic performances. Used by camera lovers all over the world, they have displayed their excellent qualities in all fields of photography. The importance of interchangeable lenses is understood and appreciated when the camera is actually being used. Canon's superior skills and techniques have produced a whole series of interchangeable lenses for the Canon Pellix QL, FT QL, Pellix, FX. Gratifying results can be expected from these lenses which are completely free from aberrations, maximum bright, and spectra coated. We invite you to attain satisfaction from these interchangeable lenses.

TYPES OF LENSES

WIDE ANGLE LENS With a wide angle of view and a deep depth-of-field, this lens allows you to photograph expansive scenery group of people, as well as the interior of buildings, when distance of subject-to-camera is limited. Although the sense of distance will be exaggerated because of the special characteristics of the wide angle lens, its use will produce varied and interesting compositions.

STANDARD LENS This lens is an all-purpose lens. It is ideally suited for scenery snapshots, portraiture, close-ups, and copying work. Night photography is also easy with brightness of F 1.2 or F 1.8 lens.

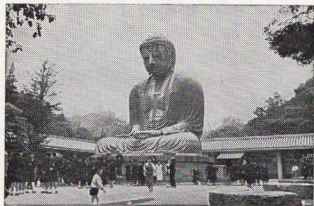
LONG FOCUS LENS Distance is reflected naturally. It is most suitable for portrait

photography in which the hazy background blends beautifully. It is also especially convenient for taking stage pictures, night pictures, and snapping news and sports events as well as merchandise.

TELEPHOTO LENS It is particularly suitable for photographing vivid close-ups of distant scenes and hard-to-reach subject such as mountains and sporting scenes. Besides being excellent for news photography, it may also be used to great advantage for portrait and commercial photography. For a long focus lens, it is comparatively light.

ZOOM LENS It can continuously vary the focal distance, operating functionally like a series of interchangeable lenses. It can be conveniently carried around.

EFFECTS OF INTERCHANGEABLE LENSES (Change of Field-of-View)



35mm



50mm



135mm

When pictures are taken at a given distance with different focal distance lenses illustrated here, the pictorial effects become most pronounced. Generally, as the focal distance increases, while the subject appears larger the scope is narrower. On the contrary when the focal distance becomes shorter while the scope widens the subject decreases in size. So if you wish to take a pic-

ture of a group of persons or a large section of a wall in a small room, or a big building, where backing-up space is limited, a short focal distance lens or a wide angle lens, becomes necessary. On the other hand, if you cannot get near a subject or a small section which you wish to sharply photograph, the long focus lens or telephoto lens will produce the desired results.

(Change of perspective)



35mm



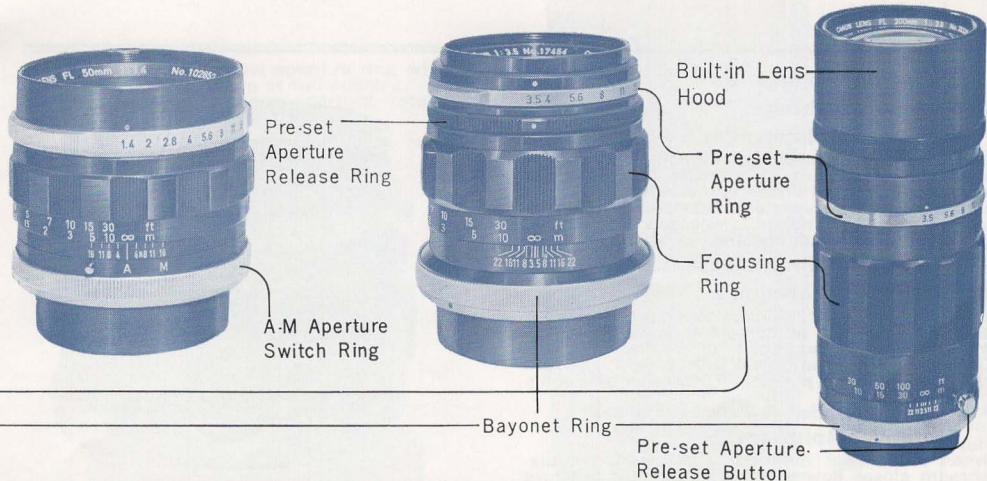
50mm



135mm

When photographing the main subject in the same size with different distances by moving the position of camera, the difference in the perspective can be distinctly noticed. The person above—the main subject—is about the same size in each of the snaps, but the background varies widely. The shorter the lens the more the sense of distance becomes exaggerated. There is also a great difference in the obscurity of the background. The use

of a long focus lens brings the subject and background nearer to each other and strongly accentuates the former. Besides the change in field-of-view and perspective, there is also the difference in the depth-of-field in accordance with the size of the lens aperture. Ultimately the key to better pictures is to fully utilize—as circumstances demand—the three types of lenses wide angle, standard and telephoto.



2. Automatic <For Lenses With A-M Aperture Switch Ring>

3. Automatic <For Lenses With Automatic Aperture Release Ring>

4. Automatic <For Lens With Pre-set Aperture Release Button>

2 Diaphragm operation

● Pre-set diaphragm

Automatic diaphragm

This is the mechanism for adjusting the size of aperture. If the pre-set aperture ring is turned and set the desired F-stop to the index, the lens is closed down to the preselected aperture stop for the instant when the shutter is released. Ordinarily, the diaphragm is full opening.

● Pre-set diaphragm release

Manual diaphragm 1

Lens with Automatic/Manual aperture ring such as 50mm F1.4 can be completely switchovered to manual aperture control at "M" position.

Desiable F-stop can be set with pre-set aperture ring. At "A" mark position, it works as automatic mechanism.

At "M" mark position, it works as manual.

Manual diaphragm 2

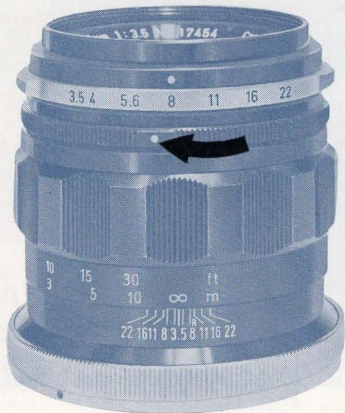
When the pre-set aperture is released, the diaphragm closes down to the pre-selected aperture stop. So the depth-of-field at a certain aperture can be checked.

A-M Ring



Diaphragm worked by turning the pre-set aperture ring

- * Do not turn the manual aperture ring when the pre-set aperture ring is at full opening.
- * After checking the lens aperture, return the manual aperture ring to open.



Manual diaphragm 3

The lens aperture can be seen by pressing the release button. When fingers are removed, the diaphragm reopens to full aperture opening.

DEPTH-OF-FIELD

DEPTH-OF-FIELD This is the scope of sharpness in front and behind a subject focused. This scope will vary with the F-stop selected. For instance, when the subject is focused at a distance of 3m with a 50mm lens, using an aperture of F 8, the distance on both sides of the index of 8 will read approximately 2.3m and 4.3m respectively, indicating that the subject will be clearly photographed within that distance. Similarly, when the aperture is dropped to F16, the distance within focus will range from 1.9m to 7.6m. The depth-of-field will be deeper

the smaller the lens aperture.

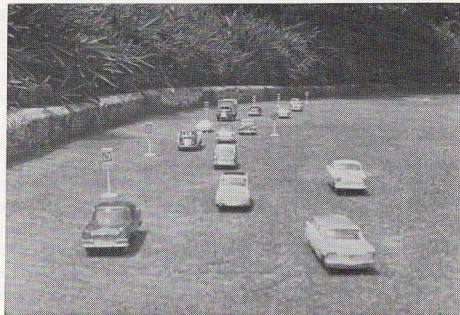
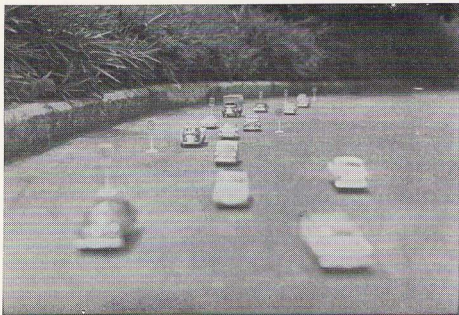
the shorter the lens focal distance.

the farther the distance of the subject.

The depth-of-field can be seen by adjusting the manual aperture ring in the FL lenses.



- Distance Scale
- Distance Index Mark
- Depth-of-Field Scale



F8 50 mm
Depth-of-Field about 2.3 m-4.3 m
Focused at 3 m



F16 50 mm
Depth-of-Field about 1.9 m-7.6 m
Focused at 3 m



LENS gets darker in direct proportion to the increase in the numerical value of aperture scale. One F-stop difference on the aperture scale normally means double or one-half of the light amount. Thus, when the aperture is dropped by one F-stop, the exposure time must be doubled, or when the aperture is dropped by two F-stops the exposure time must be increased four times. Intermediate points on the aperture scale may also be used. There are some lenses which do not reduce the light amount by one-half only between the aperture stop of the largest opening and the next stop on the scale.

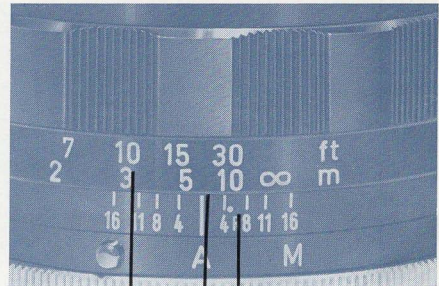


Aperture Stop	1.2	1.4	1.8	2.0	2.8	(3.5)	4.0	5.6	8.0	11	16	22
Exposure Ratio	2.7	2	1.25	1	1/2	(1/3)	1/4	1/8	1/16	1/32	1/64	1/128

Distance scale reading indicates the distance between the subject in focus and the surface of the film.

INFRARED INDEX MARK R Infrared photography being different from ordinary photography, slight modifications must be made in the position of the focus. First of all, set the focus in the usual manner. Then, fix that distance to the infrared index mark "R". If the focus is adjusted at 10 on the distance scale, simply move the 10 mark to the "R" position.

The infrared mark is indexed on the basis of the use of a film with the greatest sensitivity to a wave-length of about $800m\mu$ and an infrared filter (for instance, Kodak IR 135 film and Wratten 87 filter).



Distance Scale

Infrared Index
Mark "R"

Distance Index Mark

CHANGING OF LENS



HOW TO REMOVE THE LENS After turning the bayonet ring to the left, pull it out toward the front.

HOW TO MOUNT THE LENS Make the insertion after fitting the red dots of the camera and lens, then tighten by turning the bayonet ring to the right.

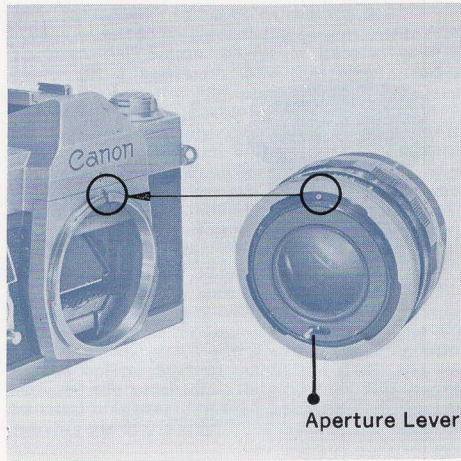
Avoid dust and other particles adhering to the surface of the washer between the camera and lens. When the lens has been removed, immediately put the dust cap.

Unless the red dot of the lens is placed above the distance index, insertion will not be possible. There is a pre-set aperture lever at the back end of the lens. As this lever opens and closes the aperture, when removing the lens, be sure to protect this important part by covering it with the dust cap.

※When the lens has been removed, be careful not to touch the mirror with the finger. When the camera is not being used for a long time, always have covered.

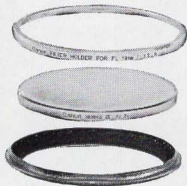
※Avoid changing lens in direct sunlight. Make the change as quickly as possible. It is important to do this in the shade, but in unavoidable circumstances shade the camera with your body.

※When mounting the 19mm, first of all turn the mirror lock lever of the camera upward. In this case, take special precaution to block light and make the change as quickly as possible.





FL 19 mm F 3.5R



Filter & Holder

CANON LENS FL 19mm F 3.5R

An FL automatic aperture system super wide angle lens of the retrofocus type that can be attached and used regardless of the mirror. This lens features a 96° angle-of-view in the viewfinder of the Pellix QL, Pellix, with its stationary pellicle mirror, and the FT QL and FX, with their movable mirrors. Like the 19mm lens for movable mirror use, it has the highest delineation power.

Use of Filters

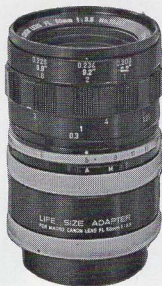
Fit the series of exclusive No.9 filters into the filter holder and attach onto the front frame of the lens.

Series No. 9 filters

UV	for common use
Skylight	for color
Y3 R1	for black & white
Color Conversion	for color
CCA4, CCA8, CCA (12 equiv.)	
CCB4, CCB8, CCB (12 equiv.)	

Other instructions regarding handling are exactly the same as for other FL lenses.

FL 50mm F 3.5
with life-size adapter



FLP 38mm F 2.8

MACRO CANON LENS FL 50mm F 3.5

A lens of super high resolving power. Aside from its high delineation power in general photography, it is especially effective when used in close-up, copy and macrophotography. Its large protruding length makes possible close-up shots up to approximately 23cm. Moreover life-size pictures can be taken with the life-size adapter which comes as an accessory. The lens is so designed that, in close-up photography, you only have to follow the indication of the meter needle because of the automatic exposure correction mechanism.

CANON LENS FLP 38mm F 2.8

A semi wide-angle lens exclusively for the Pellix QL with its stationary pellicle mirror. It is most ideally designed for taking snapshots. The stationary mirror has made possible the installation of the optical system inside the body and has reduced the protruding length. This lens cannot be used on other cameras because the movable mirrors get in the way.

INTRODUCTION OF NEW CANON LENSES

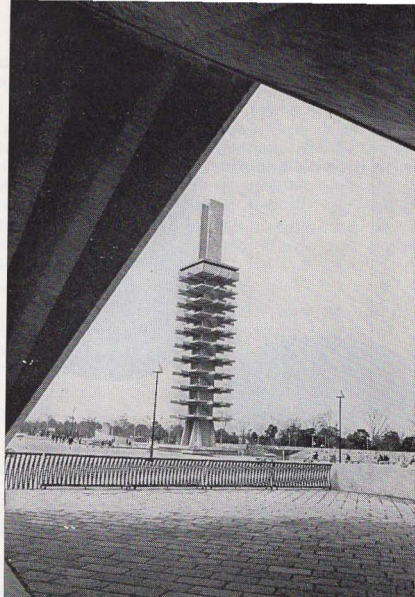


FL 35mm F 3.5

CANON LENS FL 35mm F 3.5

(6 elements in 6 components)

The FL 35mm F 3.5 is the latest addition to Canon's Compact Lens Series. Ideal for taking snapshots, this wide-angle lens is light and has an excellent performance in keeping with the other lenses in the Compact Series.



NEWLY DEVELOPED COMPACT LIGHTWEIGHT TELEPHOTO LENSES



FL 135mm
F 3.5



FL 200mm
F 4.5



FL 100-200mm
F 5.6

CANON ZOOM LENS FL 100mm-200mm F 5.6 (8 element in 5 component lens composition) (with built-in lens hood)

The latest edition to Canon compact series lenses.

Designed compact, light, it is suitable to take scenery, snapshots.

Adopted with optical compensation system, zooming can be made by just protruding the lens.

FL LENS 135mm F 3.5 (4 element in 3 component lens composition)

FL LENS 200mm F 4.5 (5 element in 4 component lens composition) (with built-in hood)
Compact, lightweight lenses with high resolving power at reasonable price.

Proudly recommend these lenses for taking distant scenes and hard-to-reach subject.

Revolutionary new editions to Canon interchangeable FL series lenses.

FILTERS

FILTER FACTOR	TYPE	FILTER CHARACTERISTICS
1 x	UV (SL 39 3 C) for black & white and color	Absorbs only ultra-violet rays. Especially effective at seaside, high mountains where there is much ultra-violet rays. Recommended for use in color photography.
1.5 x	Y 1 (SY 44 2 C)	<ul style="list-style-type: none"> Increases contrast of black & white film. Enhances clouds, darkening the blue sky. Brightens red and yellow.
2 x	Y 3 (SY 50 2 C)	
3 x	O 1 (SO 56 2 C)	
6 x	R 1 (SR 60 2 C)	
3 x	G 1 (MG 55 C)	Darkens blue, increases yellow and red values perceptibly. Good for contrasts in distant landscapes.
1 x	Skylight	Makes strong contrasts. Renders day almost into night. May also be used with infrared film.
4 x	ND 4	Prevents red from turning radically into white. Lightens sky and face appropriately, and reflects the lightness of fresh greenery.
8 x	ND 8	Acts to harmonize the blue sky and shade.
1.5 x	CCA 4 (Amber)	ND 4 reduces light volume by 1/4, ND 8 by 1/8. No effects on the reproduction of colors of color film.
2 x	CCA 8 (Amber)	For using daylight type film under the cloud.
2 x	CCA (12 equiv.) (Amber)	For using universal type (color negative) film under the cloud or tungsten type film under the morning sun or sunset.
1.5 x	CCB 4 (Blue)	For using tungsten type film under sunlight.
2 x	CCB 8 (Blue)	For using daylight type film under the morning sun or sunset.
3 x	CCB (12 equiv.) (Blue)	For flash photography using daylight type film with clear flash bulb.
		For using daylight type film under the artificial light.

PROPER CARE OF LENSES

- When dust gathers on the surface of the lens, remove this gently with a clean soft feather. Should it be very soiled, wipe the lens with the clean cotton cloth lightly dipped in alcohol. Gently wipe the cloth.
By rubbing strongly or using dirty cloth, the lens will be scratched.
- Avoid keeping the lens in a warm and humid place for a long period. In such cases, store it together with a desiccant such as silica gel.

CANON BELLOWS FL

Canon Bellows FL is attached to Canon single-lens reflex cameras Pellix QL, FT QL, Pellix, FX for extreme close-up photography.

LENS HOOD

When taking pictures, always use the lens hood. It blocks harmful light.

LEATHER CASE

The hood for a telephoto lens can be inversely capped and then be placed in the case.

CANON BELLOWS M

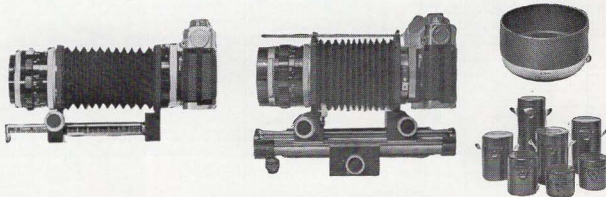
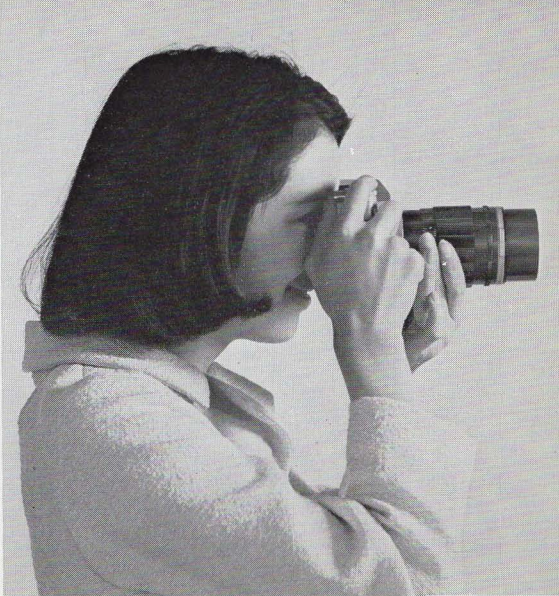
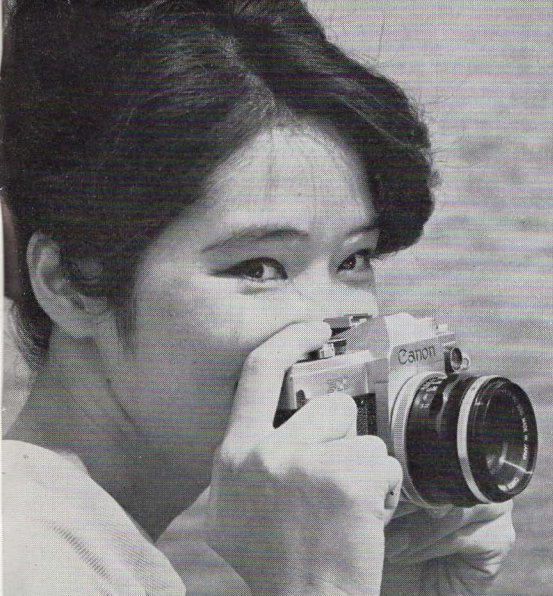


TABLE OF INTERCHANGEABLE LENSES FOR CANON SINGLE LENS REFLEX CAMERAS

Lens	Type	Angle of view	Aperture system	Pre-set aperture release mechanism	Magnification	Lens composition	Minimum aperture	Distance scale		Attachment size (mm)		Hood	Case	Coating	Weight	
								In feet	In meter	Cap size	Filter size				g	lb.-oz.
FL19mm F3.5R	Super wide angle	96°	Automatic	By A-M ring	0.38X	11 elements in 9 components	16	1.75-20∞	0.5-7∞	80	Series No. 9		Exclusive	Amber	500	1- 1-3/4
FL28mm F3.5	Super wide angle	75°	Automatic	By A-M ring	0.56X	7 elements in 7 components	16	1.5-10∞	0.4-3∞	60	58	W-60-B	C	Amber	240	8-3/4
FL35mm F2.5	Wide angle	64°	Automatic	By Aperture release ring	0.7X	7 elements in 5 components	16	1.5-10∞	0.4-3∞	60	58	W-60-	C	Magenta	352	12-3/4
FL35mm F3.5	Wide angle	64°	Automatic	By A-M ring	0.7X	6 elements in 6 components	16	1.5-10∞	0.4-30∞	50	48	W-50	C	Multi layer	270	9-3/4
FLP38mm F2.8	Wide angle	59°	Automatic	By Aperture release ring	0.76X	4 elements in 3 components	16	3-30∞	0.8-8∞	60	48		Exclusive	Magenta	210	7-3/4
FL50mm F3.5	Standard (Macro)	46°	Automatic	By A-M ring	1X	4 elements in 3 components	22	9.2m-20∞	0.234-5∞	60	58	S-60	Exclusive	Amber	295	10-3/4
FL50mm F1.8	Standard	46°	Automatic	By A-M ring	1X	6 elements in 4 components	16	2-30∞	0.6-10∞	50	48	S-50	C	Magenta, Purple	280	9-3/4
FL50mm F1.4	Standard	46°	Automatic	By A-M ring	1X	7 elements in 6 components	16	2-30∞	0.6-10∞	60	58	S-60	C	Amber, Purple	340	12
FL55mm F1.2	Standard	43°	Automatic	A-M ring	1.1X	7 elements in 5 components	16	2-30∞	0.6-10∞	60	58	S-60	C	Purple, Amber	480	1- 3/4
FL85mm F1.8	Long-focus	29°	Automatic	By Aperture release ring	1.7X	5 elements in 4 components	16	3.5-60∞	1-20∞	60	58	T-60	D	Magenta, Purple	445	15-3/4
FL100mm F3.5	Telephoto	24°	Automatic	By Aperture release ring	2X	5 elements in 4 components	22	3.5-30∞	1-10∞	50	48	T-50	H	Purple	278	9-3/4
FL135mm F3.5	Telephoto	18°	Automatic	By A-M ring	2.7X	4 elements in 3 components	22	5-100∞	1.5-30∞	50	48	T-50	E	Magenta	434	15-3/4
FL135mm F2.5	Telephoto	18°	Automatic	By Aperture release ring	2.7X	6 elements in 4 components	16	5-100∞	1.5-30∞	60	58	T-60	F	Magenta	645	1- 6-3/4
FL200mm F3.5	Telephoto	12°	Automatic	By Aperture release button	4X	7 elements in 5 components	22	8-100∞	2.5-30∞	60	58	Built-in	G	Magenta	680	1- 8
FL200mm F4.5	Telephoto	12°	Automatic	By A-M ring	4X	5 elements in 4 components	22	8-100∞	2.5-30∞	50	48	Built-in	Exclusive	Magenta, Purple	555	1- 3-3/4
FL55-135mm F3.5	Zoom	43°-18°	Automatic	By Aperture release button	1.1-2.7X	13 elements in 10 components	22	7-100∞	2-30∞	60	58	S-60	Exclusive	Amber	790	1-11-3/4
FL100-200mm F5.6	Zoom	24°-12°	Automatic	By A-M ring	2-4X	8 elements in 5 components	22	8-100∞	2.5-30∞	57	55	Built-in	Exclusive	Magenta	650	1- 6-3/4
FL85-300mm F5	Zoom	29°-8°	Automatic	By Aperture release button	1.7-6X	15 elements in 9 components	22	12-200∞	4-50∞	75	72	Built-in	Exclusive	Magenta	1,840	4- 3/4
R300mm F4	Long-telephoto	8°	Manual		6X	5 elements in 4 components	22	5	1.5	Special	48	Special	Special	Magenta	1,200	2-10-3/4
R400mm F4.5	Long-telephoto	6°	Manual		8X	5 elements in 4 components	22	10.2	3.1	Special	48	Special	Special	Magenta	1,700	3-12
R600mm F5.6	Extra-long-telephoto	4°	Manual		12X	2 elements in 1 components	32	20	6.4	Special	48	Special	Special	Purple	1,800	3-15-3/4
R800mm F8	Extra-long-telephoto	3°	Manual		16X	2 elements in 1 components	32	44.3	13.5	Special	48	Special	Special	Purple	1,900	4- 3
R1000mm F11	Extra-long-telephoto	2.4°	Manual		20X	2 elements in 1 components	32	69	21	Special	48	Special	Special	Purple	1,800	3-15-3/4
FL-F300mm F5.6	Long-telephoto	8°	Automatic	By A-M ring	6X	7 elements in 6 components	22	13-200∞	4-50∞	60	58	Built-in	Exclusive	Magenta	850	1-14
FL-F500mm F5.6	Long-telephoto	5°	Automatic	By Pre-set release button	10X	6 elements in 5 components	22	33-600∞	10-200∞	106	55	Built-in	Exclusive	Amber	2,700	5-15-3/4

Note: FLP 38mm F2.8 is for use with Pellicle QL.

For lenses longer than 300mm, there are no distance scales. The shortest focusing distance is listed for reference.



Canon

CANON INC.

9-9, Ginza 5-chome, Chuo-ku, Tokyo 104, Japan

CANON U.S.A., INC.

64-10 Queens Blvd., Woodside, New York 11377, U.S.A.

CANON OPTICS & BUSINESS MACHINES CO., INC.

636 South Serrano Ave., Los Angeles, California 90005, U.S.A.

CANON AMSTERDAM N.V.

Gebouw 70, Schiphol Oost, Holland

CANON LATIN AMERICA, INC.

Apartado 7022, Panama 5, Panama

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