



# RF

## 7-14mm F2.8-3.5 **L** FISHEYE STM

### Instructions

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# Thank you for purchasing a Canon product.

The Canon RF7-14mm F2.8-3.5 L FISHEYE STM is a fisheye zoom lens for use with EOS R series cameras.

- “STM” stands for Stepping Motor.

## Conventions used in these instructions

 Warning to prevent lens or camera malfunction or damage.

 Supplementary notes on using the lens and taking pictures.

## Camera Firmware and Camera Applications

Please use the latest versions of firmware and applications with the camera in use. For details on whether the firmware and applications in use are the latest version or not, and for details on updating them, please check the Canon website.

# Safety Precautions

Precautions to ensure that the camera is used safely. Read these precautions thoroughly. Make sure all details are observed in order to prevent risks and injury to the user and other people.



## Warning

Details pertaining to risks that may result in death or serious injury.

- **Do not look directly at the sun or other strong light sources through a lens.** This may result in loss of sight.
- **Do not leave a lens in the sun without the lens cap attached.** The lens may concentrate entering sunlight and cause a malfunction or fire.



## Caution

Details pertaining to risks that may result in injury or damage to other objects.

- **Do not leave the product in places exposed to extremely high or low temperatures.** The product may cause burns or injury when touched.
- **Do not insert your hand or fingers into the product.** This may result in injury.

# General Precautions

## Handling Precautions

- Do not leave the product in excessive heat such as in a car in direct sunlight. High temperatures can cause the product to malfunction.
- If the lens is taken from a cold environment into a warm one, condensation may develop on the lens surface and internal parts. To prevent condensation in this case, first put the lens into an airtight plastic bag before taking it from a cold to warm environment. Then take out the lens after it has warmed gradually. Do the same when taking the lens from a warm environment into a cold one.
- In order to optimize aperture control, there are occasions in which the aperture blades will move during zooming and focusing, even when the aperture value is set for aperture-priority AE or manual exposure, etc.
- Please also read any lens related handling precautions listed in your camera's instruction manual.

## Shooting Precautions

- This lens has a short focus length, which means dirt or dust on the surface of the front lens will show up easily on photos. Use a commercially-available blower to remove dirt or dust from the front lens surface.
- This lens has an extremely wide shooting angle, meaning sunlight or other strong light sources can enter the image easily. This can lead to flares or ghosts under certain shooting conditions. To prevent this, we recommend being aware of where the light source is, such as photographing from shadows or other places where a strong light source will not enter the lens.
- When shooting hand-held shots, be careful that your body does not appear in the image. And when using a tripod, be careful that the leg of the tripod does not appear in the image. Check the camera viewfinder or monitor carefully.
- This lens is an interchangeable lens, so the center of the circular fisheye image circle may not always be the center of the photographed image. In the same way, the vignetting around the four corners may not always be even.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Do not make any changes or modifications to the equipment unless otherwise specified in the instructions. If such changes or modifications should be made, you could be required to stop operation of the equipment.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

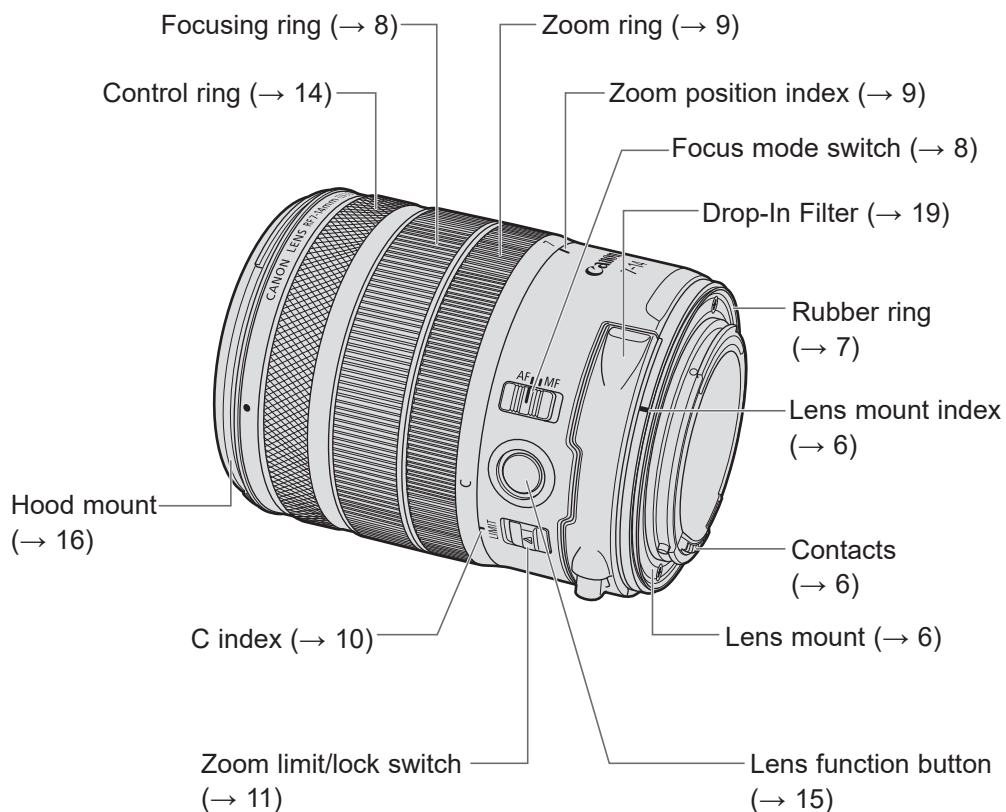
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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CAN ICES-3 (B) / NMB-3 (B)

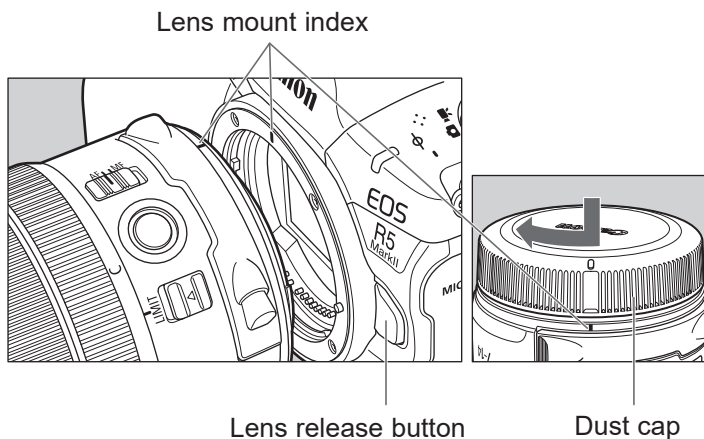
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# Nomenclature



- For detailed information, reference page numbers are provided in parentheses (→ \*\*).

# 1. Attaching and Detaching the Lens



## Attaching the Lens

Align the lens mount indexes of the lens and camera, and turn the lens clockwise until you hear a click.

## Detaching the Lens

Turn the lens counterclockwise while pressing the camera's lens release button. Detach the lens once it has stopped turning.

Please refer to the camera's instructions for details.

## Attaching and Detaching the Lens



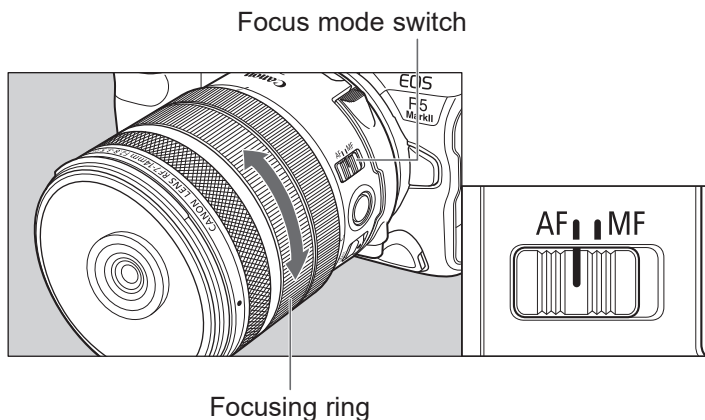
- Set the camera's power switch to OFF when attaching or detaching the lens.
- Attach the hood and lens cap before detaching the lens from the camera.
- After detaching the lens, place the lens with the rear end up and attach the dust cap to prevent the lens surface and contacts from getting scratched. Make sure the lens and dust cap mount indexes are aligned when attaching the dust cap.
- Contacts that are scratched, soiled, or have fingerprints on them may result in faulty connections or corrosion, which may lead to malfunctions. If the contacts get soiled, clean them with a soft cloth.
- The lens mount has a rubber ring to improve dust-resistance and water-resistance performance. This rubber ring may cause friction marks to appear around the camera's lens mount, although this will have no effect on usage.



- The rubber ring can be replaced at a Canon Service Center. (Chargeable)

## 2. Setting the Focus Mode

To shoot in autofocus (AF) mode, set the focus mode switch to AF. To use only manual focusing (MF), set the focus mode switch to MF, and focus by turning the focusing ring.



- Delayed focus may occur if the focusing ring is quickly turned.

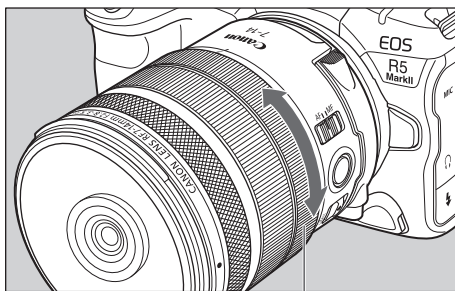


- The lens' focusing ring is electronic.
- This lens supports electronic manual focusing and electronic full-time manual focusing.
- When movie recording, the AF speed will be slower than the still image shooting mode. It is possible to adjust the AF speed on the camera by setting the Movie Servo AF parameter to [Enable].

Please refer to the camera's instructions for details.

### 3. Zooming

To zoom, turn the lens' zoom ring.

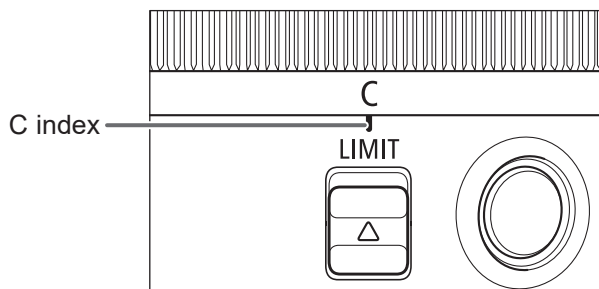


Zoom ring



- Be sure to finish zooming before focusing. Zooming after focusing can affect the focus.
- Blurring may temporarily occur if the zoom ring is quickly turned.

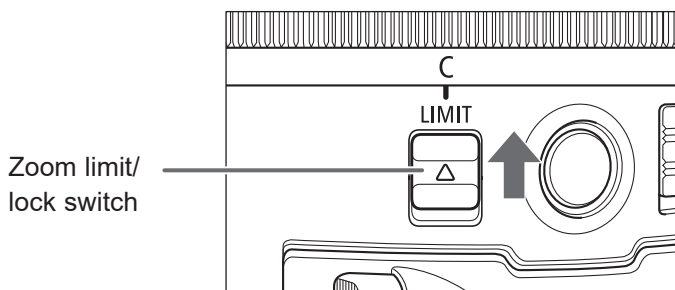
## Zooming



### “C” Mark

The “C” mark on the zoom ring is a guide to ensure diagonal fisheye photography can be done without vignetting using APS-C EOS R series cameras.

Match the C index with the “C” mark on the zoom ring.



### Zoom Limit/Lock Switch

The zoom limit/lock switch can be used to limit the zoom range.

- When using a fullframe camera, stable circular fisheye photography is possible as the zoom range is fixed at the wide end.

After matching the zoom index with the “7”, slide the switch towards “LIMIT” to engage the zoom lock.

- When using an APS-C camera, this limits the zoom range at the wider side, and ensures that diagonal fisheye photography can be done without vignetting.

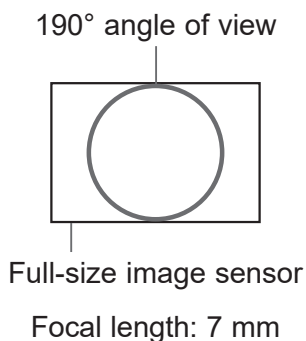
After matching the C index with the “C” mark on the zoom ring, slide the switch towards “LIMIT” to limit the zoom. When the C index is at the “C” mark on the zoom ring, diagonal fisheye photography is possible. At other positions, vignette-free photography is possible.

### Explanation of fisheye photography

This section explains circular fisheye and diagonal fisheye photography using this lens.

#### • Circular Fisheye Photography

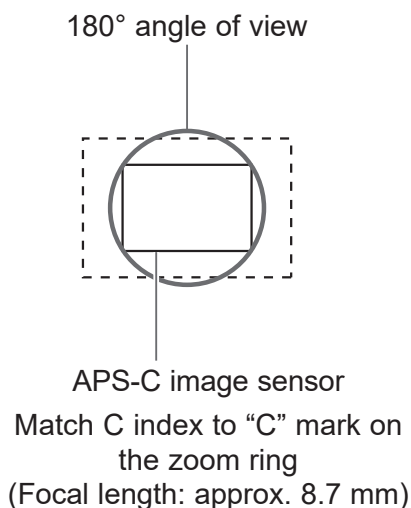
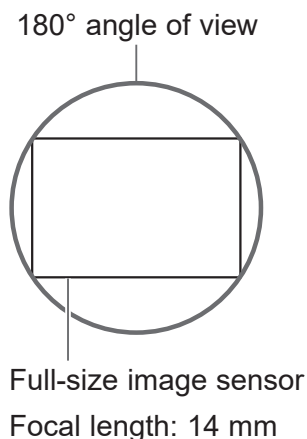
This captures a  $190^\circ$  angle of view within the image sensor short side. This is when using a full-frame camera at the wide end (7 mm focal length).



- \* The size of the circle for each focal length is the scope of the image circle on the focal plane.
- \* Outside the circle is outside the image circle, and will be vignetted.

### • Diagonal Fisheye Photography

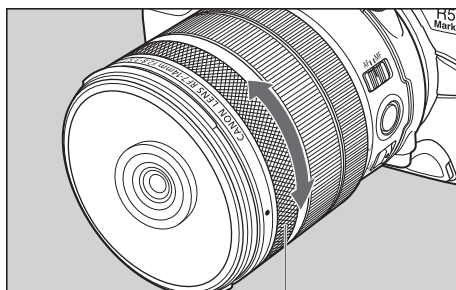
This captures a 180° angle of view within the image sensor diagonal. Images will not be vignetted if using a full-frame camera at the telephoto end (14 mm focal length) or an APS-C camera with the C index set to the “C” mark on the zoom ring (approx. 8.7 mm focal length).



- If the AF frame is outside the image circle, autofocus or exposure may not function correctly. Move the AF frame to inside the image circle. Please refer to the camera's instructions for details.

## 4. Control Ring

The control ring can be assigned the functions that are commonly used with cameras, such as shutter speed and aperture settings.



Control ring

The click action of the control ring allows you to have a sense of how much it is being turned.

Please refer to the camera's instructions for details on how to use the control ring.



- Control ring operation sounds may be recorded when recording movies.



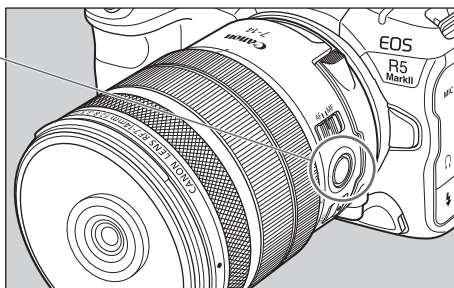
- The clicking sensation of the control ring can be removed by the Canon Service Center. (Chargeable)

## 5. Lens Function Button (AF Stop Button)

In the default settings, the lens function button serves as an AF stop button. You can assign different functions to the button from the [Customize buttons] section of the camera.

Please refer to the camera's instructions for details.

Lens function button  
(AF stop button)



### Use as an AF Stop Button

During autofocus operation, you can press an AF stop button to temporarily pause autofocus, and then release the button to resume. Press an AF stop button to maintain a focusing distance or to avoid focus search.

Press the shutter button while holding down an AF stop button to shoot at that focusing distance.

- Useful when autofocus is operating mostly in Servo AF.

## 6. Hood

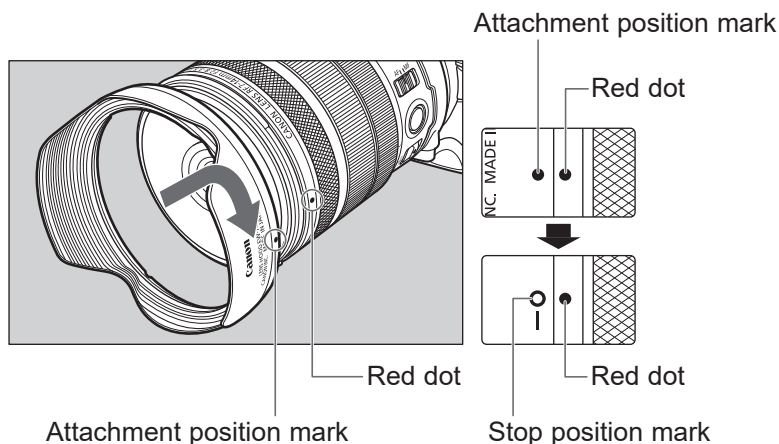
The custom lens hood reduces unwanted light that causes flare and ghosting and protects the front of the lens from rain, snow, and dust. When using the lens hood, the zoom ranges where vignette-free photography is possible are as follows.

- Full frame :Telephoto end only
- APS-C : Range between telephoto end and “C” (range when using the zoom limit/lock switch)

Detach the hood to photograph in other situations.

### Attaching the Hood

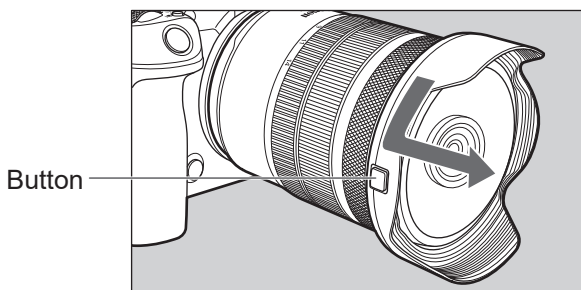
Align the red attachment position mark on the hood with the red dot on the front of the lens, and then turn the hood in the direction of the arrow until you hear a click.



### Detaching the Hood

Keep your finger pressed down on the button located on the side of the hood, and then turn the hood in the direction of the arrow until the attachment position mark on the hood is aligned with the red dot on the front of the lens to detach it.

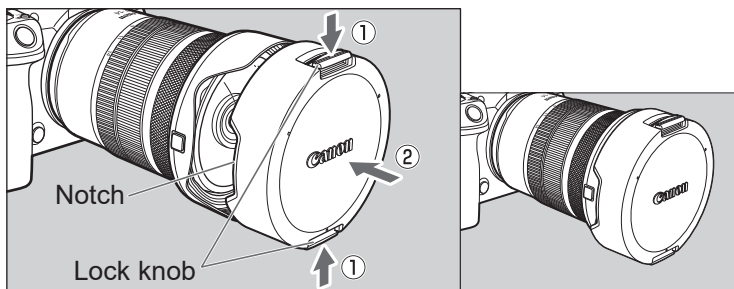
Note that the hood cannot be reverse-mounted on the lens for storage.



- If the hood is not attached properly, vignetting (darkening of the perimeter of the picture) may occur.
- The lens cap can be attached while the hood is mounted.
- Grasp and turn the base of the hood when attaching and detaching it. There are cases in which it may become deformed if the hood is turned with it grasped near to the rim.

## 7. Lens Cap

With the attached lens hood on, the lens cap is attached by matching the button on the side of the hood with the notch on the cap.

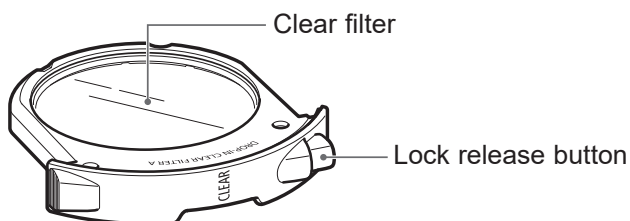


- The lens cap is attached by catching the hooks on the top and bottom inside the front end of the hood.

## 8. Drop-In Filters

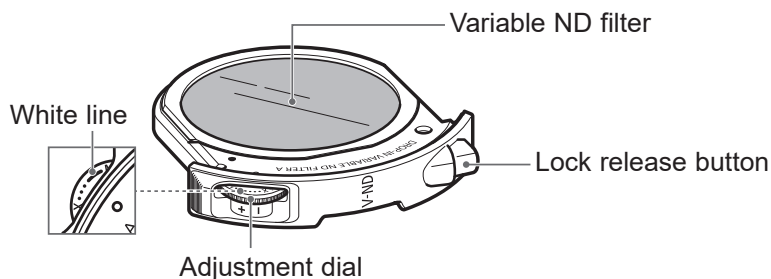
Drop-In Filters can be attached at the rear of the lens. Three types of Drop-In Filters are available (sold separately). This lens comes packaged with a Drop-In Clear Filter (same product as i. Drop-In Clear Filter A).

### i. Drop-In Clear Filter A



Transparent glass filter

### ii. Drop-In Variable ND Filter A

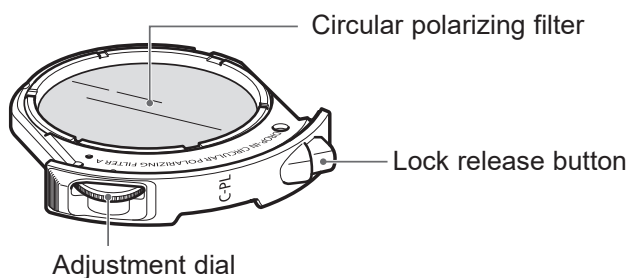


Density can be adjusted by turning the adjustment dial.

Adjustment range: ND3 - 500 (equivalent to 1.5 to 9 stops of aperture)

## Drop-In Filters

### iii. Drop-In Circular Polarizing Filter A



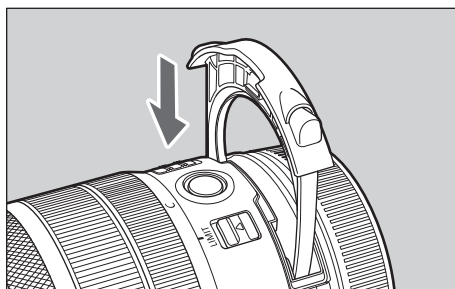
Polarization angle can be adjusted by turning the adjustment dial.

## Detaching Drop-In Filters

Pull out the Drop-In Filter while pressing the lock release button.

## Attaching Drop-In Filters

Push down on the Drop-in Filter until you hear a click.



## Drop-In Filters



- Attaching or detaching the Drop-In Filter should be done before attaching the lens on the camera. If the Drop-In Filter is inserted or removed with the lens on the camera, it could interfere with other camera accessories attached to the camera.
- This lens must be used with one of the Drop-In Filters. If a filter is not used, the image will be affected by unnecessary light, etc.
- When the Drop-in Variable ND Filter A is used, the range where the white line on the adjustment dial is not visible (generally ND250 and above) can lead to a blue tint or variations in density.
- When the Drop-In Variable ND Filter A is used, the tint or density of the filter can change after years of use.

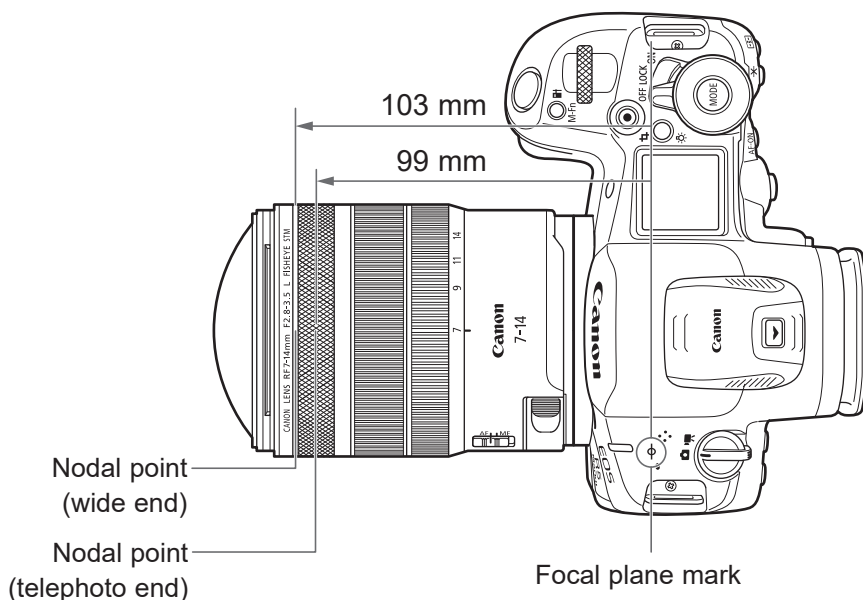
## 9. Nodal Point

The nodal point is the rotation center position where the lens parallax is smallest.

Rotating the lens around the position shown here will reduce parallax, making it suitable for stitching multiple images together.

The nodal point location is the distance from camera's focal plane mark for each focal length, and its values are as follows.

| Focal Length                            | 7 mm<br>(wide end) | 14 mm<br>(telephoto end) |
|-----------------------------------------|--------------------|--------------------------|
| Distance from camera's focal plane mark | 103 mm             | 99 mm                    |



# Specifications

|                                 |                                                                            |
|---------------------------------|----------------------------------------------------------------------------|
| <b>Focal Length/Aperture</b>    | 7-14mm f/2.8-3.5                                                           |
| <b>Lens Construction</b>        | 11 groups, 16 elements                                                     |
| <b>Maximum Aperture</b>         | f/2.8-3.5                                                                  |
| <b>Minimum Aperture</b>         | f/22-29 (1/3 stops), f/22-27 (1/2 stops)                                   |
| <b>Angle of View</b>            | Horizontal: 190°-149°45',<br>Vertical: 190°-99°50',<br>Diagonal: 190°-180° |
| <b>Min. Focusing Distance</b>   | 0.15 m/0.49 ft.                                                            |
| <b>Max. Magnification</b>       | 0.35x (at 14mm)                                                            |
| <b>Filter</b>                   | Drop-In Filter                                                             |
| <b>Max. Diameter and Length</b> | Approx. 76.5 x 109.4mm/3.01 x 4.31 in.                                     |
| <b>Weight</b>                   | Approx. 476 g/16.79 oz.                                                    |
| <b>Hood</b>                     | EW-76*                                                                     |
| <b>Lens Cap</b>                 | Lens Cap 7-14*                                                             |
| <b>Lens Dust Cap</b>            | Lens Dust Cap RF/RF II*                                                    |
| <b>Case</b>                     | LP1219*                                                                    |

\* Comes included with the lens, but can also be purchased separately.

## Specifications

- The lens length is measured from the lens mount surface to the front end of the lens.  
Add 27.6 mm/1.09 in. when the included lens cap, hood, and dust cap are attached.
- The maximum diameter, length, and weight listed are for the lens itself only.
- The Close-up Lens 250D/500D cannot be attached because there is no size that fits the lens.
- Extenders cannot be used.
- Movie Digital IS is not possible when using this lens on certain cameras.\*  
\* EOS R, RP, Ra
- The image may degrade when zooming during continuous shooting.
- All data listed is measured according to Canon standards.
- Product specifications and appearance are subject to change without notice.
- When the aperture is changed from the maximum aperture by an amount equivalent to one click only, the display of the aperture value may not change, or may change by an amount equivalent to two clicks. This phenomenon is due to restrictions related to the display of the aperture values, but the actual exposure control is being performed properly.

