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CF 65mm F2.8

CA-Dreamer Macro 2X

使用手册
Instruction Manual

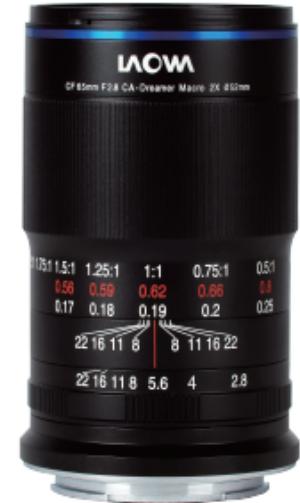
LAOWA 老蛙

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design and specifications at any time without notice and
to the final interpretation of the *Instruction Manual*.



PREFACE

Thank you very much for purchasing LAOWA CF 65mm F2.8 CA-Dreamer Macro 2X Lens. This lens can cover the mirrorless APS-C sensor size and provide 2:1 magnification. This lens also features an apochromatic (APO) design. It delivers a crystal sharpness image from 2:1 magnification to infinity. It allows photographers to capture subjects at small sizes, like small insects and jewelry.



FEATURES

- LAOWA CF 65mm F2.8 CA-Dreamer Macro 2X lens is different from the traditional macro lens. Based on the high-performance of the mirrorless APS-C system, this lens delivers high-resolution images from macro to infinity and achieves 2:1 magnification when shooting macro. This lens features an apochromatic (APO) design. No visible chromatic aberration even at 2:1 magnification. The wider magnification range allows more creative space for users.
- This lens only has φ57mm*100mm and weighs 335g. The tiny size and lightweight match perfectly with the mirrorless cameras.
- The 14 elements in 10 groups optics design, which including 3 extra-low dispersion elements, delivers high image quality. Housing full metal, which ensures long-term usage.
- This lens adopts the fully enclosed design, which is not easy to enter dust and reduces the cleaning and maintenance work in the later stage.

PRECAUTIONS

⚠ Safety Precautions

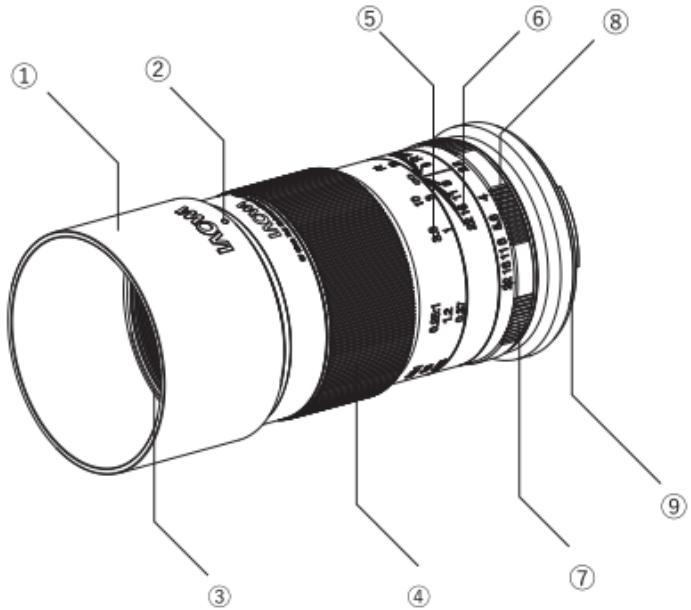
- Do not disassemble, modify the lens by yourself. Do not touch the internal parts that become exposed as the result of external force.
- Do not leave the lens where it will be exposed to high temperatures, such as in direct sunlight and an enclosed vehicle. Excessive heat may deform the glass elements and other parts of the lens.
- Do not leave the lens under the sun. If sunlight is focused on a nearby object, it may cause a fire. Keep the lens cap attached when it's not in use.
- Do not place the sun in the frame center when shooting with backlight. Doing so might cause a fire or harm your eyes.
- The camera's built-in flash will cause barrel shadow if used with this lens. For best results, please only use an external flash unit.
- Because this lens is designed for mirrorless APS-C cameras system, vignetting will occur when mounted on full format cameras. Make sure that you switch to mirrorless APS-C shooting mode when mounting this lens on full format cameras.

PRECAUTIONS

Maintenance Precautions

- Do not touch the lens contacts. Clean by a lens cloth or a blower. Always place the lens cap on the lens when storing.
- Try a circular motion from the center outward when using a lens tissue or a cleaning cloth to remove oil, fingerprints, and grime on the lens surface.
- If your lens is brought directly from a cold place to a warm place, condensation may appear on the lens. To avoid this, be sure to take some action to protect the lens.

NOMENCLATURE



①Lens hood

②Lens hood mounting index

③Filter (lens cap) mounting
thread

⑤Distance (magnification) scale

⑥Depth of field scale

⑦Aperture ring

⑧Aperture scale

⑨Lens mounting index

INSTRUCTIONS

■ To attach the Lens

- Remove the rear lens cap. Align the mounting index on the lens bayonet with the mounting index on the camera, then insert the lens into the camera mount and rotate it in the direction for your lens version until it locks. Do not use excessive force during installation to avoid damage to the bayonet.

■ To remove the lens

- Turn the camera off. While pressing and holding the lens release button on the camera, rotate the lens in the reverse direction for attaching the lens until it stops, then detach the lens.
- After attaching the lens, please try to rotate the lens to make sure it mounted onto the camera properly.

INSTRUCTIONS

■ Attaching/detaching lens hood

- Align the mounting index on the lens hood and the lens. Turn the hood clockwise until it locks.
- For detaching lens hood, rotate it counterclockwise.
- It is recommended that you use a lens hood to reduce strong light and protect the front element.
- Lens hood may be unavailable when using certain filters.
- When storing, turn over the lens hood and place it onto the lens backward.
- When shooting with a flash, the lens hood may block light and cause vignetting. So when shooting with the camera' s built-in flash or with the external flash unit that is not high enough, please remove the hood before shooting. Selecting a dedicated macro ring flash is also a great option.

■ Focusing

- This is a fully manual lens. Rotate the focusing ring④ slowly to get focus.
- Turn the focus ring slowly and gently to prevent the focus mechanism from damage.
- The distance scale⑤ and depth of field scale⑥ are for instructional purposes. Actual focus and DOF may slightly differ from those scale indications.
- To get precise focus, it is recommended to focus wide open when the camera position is fixed. Get focus first, then set the desired aperture by turning the aperture ring.
- Turn on the focus peaking on the camera to help focusing. (Note that the function depends on camera models.)

INSTRUCTIONS

■ Setting the Aperture

- According to the shooting situation and desired depth of field, rotate the aperture ring⑦ on the lens to the corresponding aperture.
- This lens cannot provide actual aperture value to the camera since there's no CPU data.
- Aperture-priority is a better option than Shutter-priority for the lens because of its manual aperture. (Note that metering precision depends on the camera models.)

■ Macro Shooting

- This lens features 2:1 magnification. The minimum focus distance is 17cm. The minimum distance between the subject and the first glass of the lens is about 5.8cm.

INSTRUCTIONS

■ Focusing Tips

Method 1 Magnification Priority

- ① Set the magnification first, and then turn the focus ring to the desired magnification mark on the lens.
- ② Check the frame by viewfinder or [Live View] on the camera and try to get focus by moving the camera back and forth until obtaining the proper focal length.
- ③ Rotate the focus ring to achieve precise focus.

Method 2 Framing Priority

Set the frame first. Turn the focus ring while you are checking the image through viewfinder or [Live View] on the camera, and then follow steps 2, 3 as the method 1 above.

- *For high magnification close-ups, because of the extremely short working distance, please be careful not to touch the subject.*
- *Magnification refers to the proportional relationship between the size of an image recorded on a sensor or film and the actual size of the subject.*

DEPTH OF FIELD

	Infinity		0.25x	
FNo.	back	front	back	front
2.8	INF	68390.86	1059.48	368.65
4	INF	49617.52	1063.67	368.52
5.6	INF	35121.26	1071.47	367.94
8	INF	24870.85	1082.73	367.13
11	INF	17622.72	1099.11	366
16	INF	12497.51	1123.27	364.41

0.5x		0.75x	
back	front	back	front
242.96	242.2	203.38	202.99
243.08	242.09	203.4	202.96
243.29	241.88	203.5	202.87
243.59	241.59	203.63	202.74
244.01	241.19	203.81	202.56
244.61	240.62	204.08	202.31

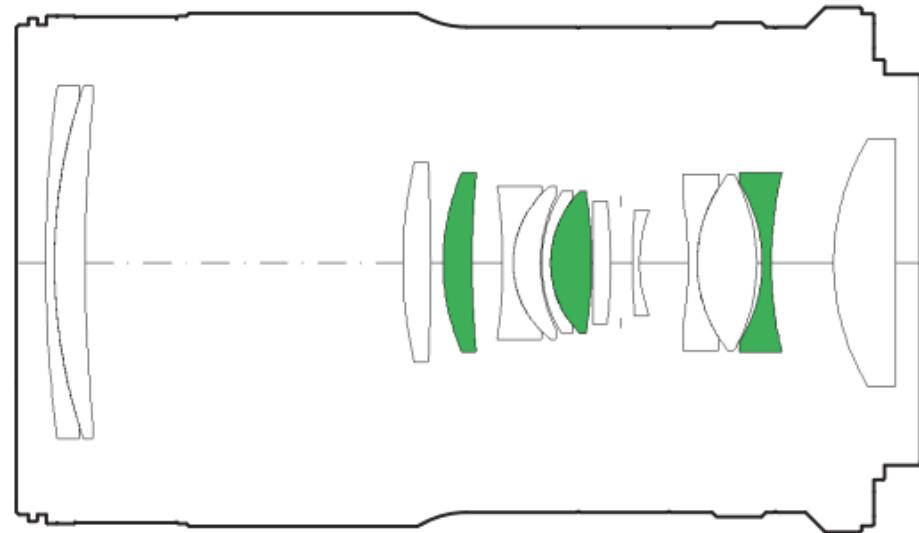
1x		1.25x		1.5x	
back	front	back	front	back	front
185.84	185.59	177.09	176.91	172.71	172.57
185.89	185.54	177.12	176.89	172.72	172.56
185.97	185.47	177.16	176.84	172.75	172.53
186.07	185.37	177.23	176.78	172.79	172.48
186.22	185.23	177.32	176.69	172.86	172.42
186.43	185.02	177.46	176.56	172.95	172.33

1.75x		2x	
back	front	back	front
170.79	170.68	170.39	170.29
170.79	170.68	170.4	170.27
170.82	170.65	170.43	170.25
170.85	170.62	170.47	170.21
170.9	170.57	170.53	170.16
170.97	170.51	170.6	170.08

SPECIFICATIONS

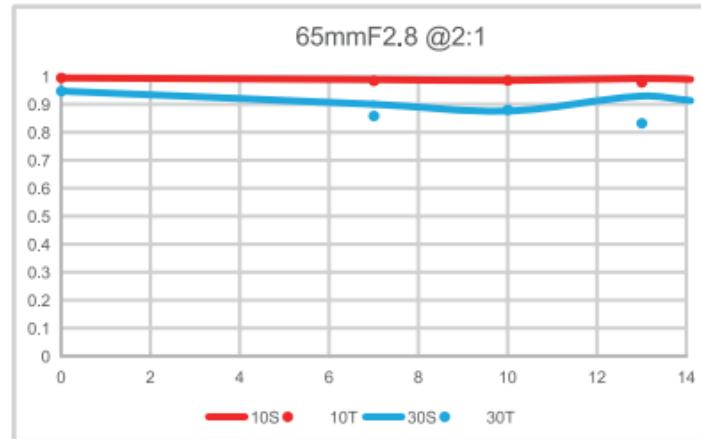
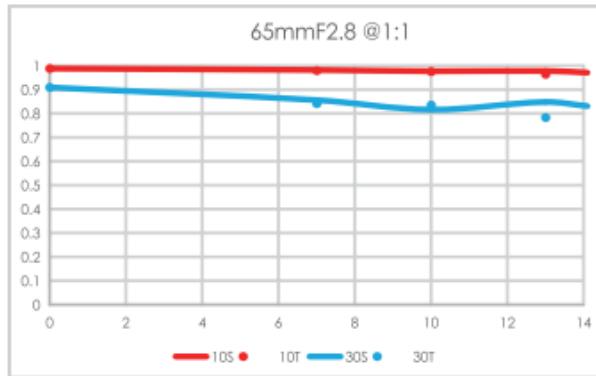
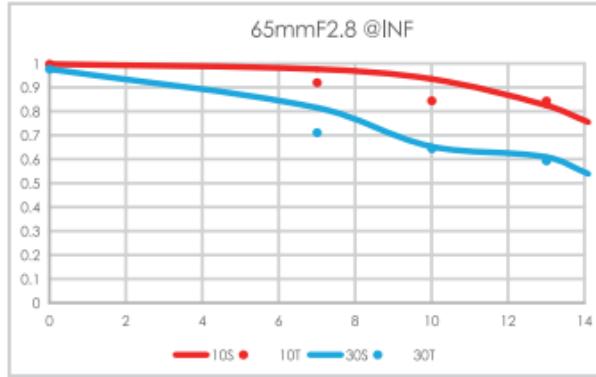
CF 65mm F2.8 CA-Dreamer Macro 2X	
Lens No.	CF 65mm F2.8 CA-Dreamer Macro 2X
Format	mirrorless APS-C
Focal Distance	65mm
Max. Aperture	F2.8
Angle of View	24.4°
Lens Construction	14 elements/ 10 groups (ED glass x3)
Aperture Blades	9
Min. Aperture	F22
Min. Shooting Distance	17cm
Max. Magnification	2x
Focusing	MF
Filter Thread	Φ52mm
Dimensions	φ57mm*100mm
Weight	335g
Mounts	Sony E / Fujifilm X / Canon EF-M

LENS CONSTRUCTION



Extra-low Dispersion Glass

MTF



LAOWA

NEW IDEA . NEW FUN.