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4mm F2.8 210°

CIRCULAR FISHEYE

使用手册

Instruction Manual

LAOWA 老蛙


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Please note we reserve the right to change our product's
design and specifications at any time without notice and
to the final interpretation of the *Instruction Manual*.



前言

真诚地感谢您选购 LAOWA 4mm F2.8 210° Circular Fisheye 全手动圆周鱼眼镜头。此镜头是无反系统镜头，拥有约 210° 圆周视角，主打摄影创意与乐趣，助您拍摄更富创意的作品。



 为了操作上的安全，使用本产品前请务必仔细阅读使用手册与注意事项，并将手册放在需要时容易取得的地方。如遇到不能解决的问题请通过售后电话获取技术支持。

主要特色

- 4mm F2.8 拥有无反半画幅系统的 210°圆周视野，可以拍摄具有创意性的圆周广角照片。
- 两张照片即可拍摄出 360°全景照片，带给你不一样的拍摄体验。
- 为了使用更加方便，镜头在对焦环上增加了拇指拨杆，可以帮助您在拍摄时更方便单手操作。
- 4mm F2.8 镜头体积小巧，重量仅约 135g，省出了背包空间同时减轻了使用者的负担。
- 镜头每块镜片均采用低反射多层镀膜，尽可能的消除了鬼影和炫光，且前端镜片采用蛙眼仿生镀膜，使水滴、灰尘不易附着。

注意事项

△ 安全注意事项

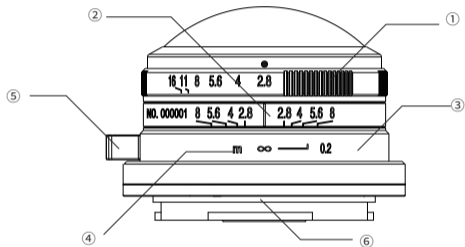
- 切勿自行拆解、修改或改装。当产品由于外力原因破损，切勿触碰外露部分或破损边缘处。
- 切勿放置于直射阳光下、封闭车辆中或其余高温处，否则过高的温度会使镜片和其他部件产生伸缩变形。
- 不使用镜头时，请将镜头前盖盖上或置于没有阳光照射处。凸透镜反射出的光线可能会聚集在附近物体上，导致发生火灾。
- 在逆光拍摄时，切勿将太阳置于画面中心，应该使太阳充分偏离画角，否则阳光会在相机内部聚集并导致火灾或灼伤眼睛。
- 在使用相机内置闪光灯拍摄时，由于镜头本身会遮挡光线而产生渐晕，因此建议您使用外设闪光灯拍摄。

注意事项

■ 长期使用保养注意事项

- 避免触摸镜头表面，应用专用镜头布或气吹去除镜头表面的尘埃，不使用镜头时，应将镜头盖盖上。
- 使用镜头纸或镜头布清洁时，以螺旋的方式从中间向外擦拭镜头上的污垢以及指印。
- 镜头从寒冷的环境突然转移至温暖的环境时，镜头的外部以及内部镜片将会凝结水雾，所以在转移时应采取防潮保护措施。
- 镜头前端是凸出的镜片，且后端也有凸出的镜头模组，更换镜头时应注意安装后盖，镜头水平向上放置。

各部件名称



①光圈环

②景深参考标尺

③对焦环

④距离刻度

⑤拇指拨杆

⑥镜头安装标记

使用说明

■ 镜头安装

- 取下镜头后盖。将镜头卡口上的安装标记⑥对准相机座圈上的对应标记，随后将镜头插入机身座圈，根据所购买卡口的安装方向旋转镜头，直至听到“咔嚓声”锁紧镜头。安装时请不要用力过猛，以免导致卡口损伤。

■ 镜头拆卸

- 关机后按住相机上的镜头释放按钮，依照所购买卡口的安装方向反向旋转镜头，随后将镜头从座圈中拔出。
- 装上镜头后，请尝试旋转镜头确认是否已将其固定在相机上。

△ 由于此为非CPU镜头，无法提供数据信息，所以请在相机内开启“无镜头释放快门”功能。

使用说明

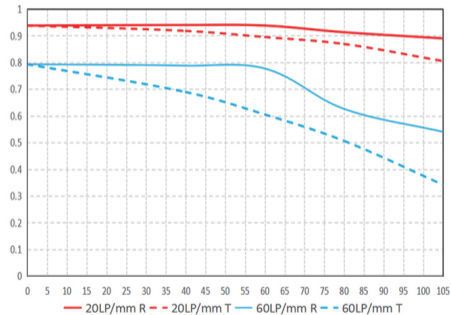
■ 对焦

- 此款镜头是全手动对焦镜头，合焦时，用拇指拨动拇指拨杆⑤，直至合焦。不要过猛过快地旋转对焦环，避免用力过度损坏对焦部件。
- 镜头上的距离刻度④与景深刻度②是出于指导目的。实际焦点与景深可能同刻度标记稍有不同。
- 如需要非常精确的对焦，请在固定好相机位置的情况下使用最大光圈对焦，对焦完成后再旋至所需要的光圈值。
- 为了对焦的方便性，请开启相机内的峰值对焦功能（视所使用相机功能而定）。

△ 由于拍摄视角超出180°，故带有手柄的相机在拍摄时，可能拍到手柄处，敬请注意。

■ 光圈说明

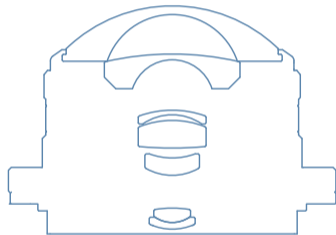
- 光圈在镜头上调节，根据拍摄环境和与所需要的景深，转动光圈环①来选择对应的光圈。
- 由于此镜头无 CPU 数据，所以暂时无法记录光圈参数。
- 由于光圈为手动调节，无法较好的使用快门优先模式，但可以使用光圈优先模式（测光准确度视相机型号而定）。



规格表

LAOWA 4mm F2.8 210°CIRCULAR FISHEYE	
镜头型号	4mm F2.8 210°CIRCULAR FISHEYE
画幅	APS-C/M43
焦距	4mm
视角范围	210°
最大光圈	2.8
最小光圈	16
镜片结构	6组7片
光阑叶片	7
最近摄影距离(物像距离)	8cm
最大放大倍率	0.11倍
合焦驱动方式	手动(MF)
镜头尺寸(直径/长)	Φ45.2mm×25.5mm
重量	约135g
卡口	E、X、R、EF-M、M43

镜片结构



老蛙镜头

新创意·新乐趣



PREFACE

Thank you very much for purchasing Laowa 4mm F2.8 fully manual circular Fisheye lens, which is designed for mirrorless system cameras. The lens features about a 210 ° circular angle of view, delivering more creative shots and fun shooting experience.



△ For operational safety, please read this instruction manual thoroughly and place the manual where it is easy to obtain when needed. Please contact our after-sales service for technical support in case of any unsolvable problems.

FEATURES

- Featuring a 210 ° angle of view, the lens delivers a unique circular fisheye field of view on mirrorless APS-C cameras.
- The ultra-wide angle of view allows photographers to create 360° panorama with two photos.
- For easier usage, the thumb lever is attached to the focus ring to make it easier for you to shoot with one hand.
- The lens is small in size and weighs only 135g, greatly saving space and reducing the users' burden.
- Multi-layer low-reflective coatings are applied to each element to eliminate ghosting and flare. The "FEC" coating, Frog Eye Water-repellent Coating, is applied to the front element of the lens, protecting it from water droplets and smudges.

PRECAUTIONS

Safety Precautions

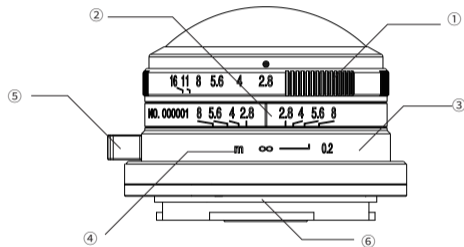
- Do not disassemble, modify the lens by yourself. Do not touch the internal parts that become exposed as the result of external force.
- Do not leave the lens where it will be exposed to high temperatures, such as in direct sunlight and an enclosed vehicle. Excessive heat may deform the glass elements and other parts of the lens.
- Keep the lens cap attached when it' s not in use. Do not leave the lens under the sun. If the light reflected by the convex lens is focused on a nearby object, it may cause a fire.
- Do not place the sun in the frame center when shooting with backlight. Doing so might cause a fire or harm your eyes.
- When shooting with the camera' s built-in flash, the lens itself may block the light and cause vignetting, an external flash unit is recommended in such case.

PRECAUTIONS

Maintenance Instructions

- Do not touch the lens contacts. Clean by lens cloth or blower. Always place the lens caps 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.
- When the lens is taken from a cold environment into a warm one, condensation may develop on the surface and internal parts of the lens, so moisture protection should be taken when transferring.
- Because of the protruding front and rear elements, make sure the rear cap is attached before place the lens horizontally when changing lenses.

NOMENCLATURE



① Aperture ring

② Depth-of-field scale

③ Focusing ring

④ Distance scale

⑤ Thumb lever

⑥ Lens mounting index

INSTRUCTIONS

■ Mounting the Lens

- Remove the rear lens cap. Align the mounting index on the lens bayonet ⑥ 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. Please do not push too hard during installation in case of any damage to the Mount.

■ Detaching 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.

△ *Since this is a non-CPU lens with no data information provided, the "lens-free shutter release" function in the camera has to be toggled on.*

INSTRUCTIONS

■ Focusing Instructions

- This is a fully manual lens. Rotate the thumb lever ⑤ slowly to get focus. Turn the focus ring slowly and gently to prevent the focus mechanism from damage.
- The distance scale ④ and depth of field scale ② 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.)

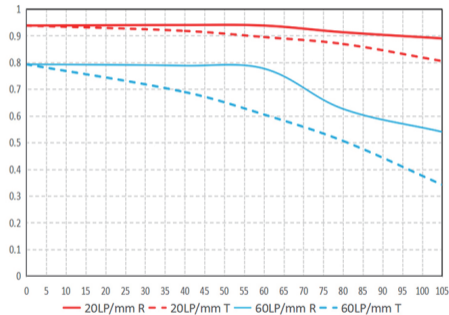
△ *Please note that since the lens' angle of view exceeds 180 ° , so the camera' s handle may be captured when shooting with the lens.*

INSTRUCTIONS

■ Setting the Aperture

- According to the shooting situation and desired depth of field, rotate the aperture ring ① 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.)

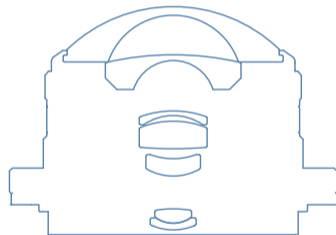
MTF



SPECIFICATIONS

LAOWA 4mm F2.8 210°CIRCULAR FISHEYE	
Lens No.	4mm F2.8 210°CIRCULAR FISHEYE
Format	APS-C/M43
Focal Length	4mm
Angle of View	210°
Max. Aperture	2.8
Min. Aperture	16
Lens Structure	7 elements in 6 groups
Aperture Blades	7
Min. Focusing Distance	8cm
Max. Magnification	0.11x
Focus Mode	Manual Focus (MF)
Dimensions (Diameter/Length)	Φ45.2mm×25.5mm
Weight	about 135g
Mounts	E, X, R, EF-M, M43

LENS CONSTRUCTION



LAOWA

NEW IDEA . NEW FUN.