Canon EF 50mm f1.2L USM review

The EF 50mm f/1.2L USM is a peerless new standard lens featuring an ultra-large aperture for a narrow depth of field and soft background blur so loved by photographers everywhere. The EF 50mm f/1.2L USM is suitable for any shooting situation; its lens coating and construction are optimized to minimize the ghosting and flare that frequently occurs when lenses are used with digital cameras. This high-performance, weather-resistant lens delivers all the superb image resolution and contrast you expect in a Canon L Series Lens.

EF50mm F1.2L USM is an ultra-large aperture standard lens ideally suited for portrait photography. In addition to offering a shallow depth of field with a maximum aperture of F1.2, the lens enables the use of fast shutter speeds to reduce motion blur and support shooting in low light. Employing a large, high-precision aspherical lens element made of highly refractive glass to minimize aberrations during focusing, the EF50mm F1.2L USM lens maintains the superior image quality throughout the shooting range for which Canon’s L-series lenses are renowned. Additionally, the lens’s ring-type USM (Ultrasonic Motor), high-speed CPU, and optimized AF (AutoFocus) algorithm enable silent and extremely accurate autofocus operation. Designed to meet the diverse needs of professional and advanced amateur photographers, the bright lens features full-time manual focusing, which enables users to focus by hand in the AF mode, and a dust- and moisture-proof construction, ensuring unfailing performance even under harsh conditions. Ideal for photographers who shoot portraits and weddings, Canon’s EF50mm F1.2L USM lens features a round aperture that achieves excellent background blur.

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EF50mm f/1.2L USM

This month's Technical Report introduces two L-series lenses, the EF50mm f/1.2L USM and EF70-200mm f/4L IS USM lenses, released together with the EOS Kiss Digital X.

Photo 1 : EF50mm f/1.2L USM

Concept of development

With the increasing popularity of digital SLR cameras, calls for large aperture single-focal length lenses with excellent image quality and pleasing bokeh (blur effects) for portraits have increased. To meet

this demand, the EF85mm f/1.2L II USM was released in March 2006, and now the EF50mm f/1.2L USM (Photo 1), developed to further improve the L-series lineup of ultralarge aperture single-focal length lenses, is available.

The key development concepts are as follows:

• Ultralarge maximum aperture of f/1.2

• Superb image quality over the entire shooting area

• Dust - and moisture - resistant construction

• Digital camera compatibility

Feature 1: Ultralarge f/1.2 maximum aperture

The optical system of the EF50mm f/1.2L USM is completely new. It uses a Gauss type optical system with 8 elements in 6 groups and unit focusing (Fig. 1).

The ultralarge aperture of f/1.2 and high definition throughout the entire shooting area befitting an L-series lens.

Fig. 1 : EF50mm f/1.2L USM Optical System

Feature 2: Superb image quality over the entire shooting area

The 8th element is a large aperture precision aspherical lens, which helps minimize aberrations that occur during focusing giving a large f/1.2 maximum aperture with high definition befitting of an L-series lens throughout the entire shooting area (Fig. 2).

Thick lines: 10 lines/mm; thin lines: 30 lines/mm. The darker black lines represent the MTF characteristics at maximum aperture; the blue lines at f/8. The solid lines trace the radical S (sagittal) curve, while the broken lines trace the tangential M (meridional) curve.

Fig. 2 : MTF Characteristic Chart of EF50mm f/1.2L USM

Feature 3: Excellent dust- and moisture-resistant construction

By utilizing dust- and moisture-resistant construction (Fig. 3) in the lens mount, switch panel and focusing ring to prevent dust and water from reaching the interior, the lens can be used in harsh environments.

*This applies when the lens is used with a dust- and moisture-resistant EOS body and a filter is attached to the front of the lens.

Fig. 3 : The Dust- and Moisture-resistant construction of the EF50mm f/1.2L USM

Feature 4: Lens coating optimized for use with digital SLR cameras

The EF50mm f/1.2L USM has element curvature and coating optimized for use with digital SLR cameras. It successfully realizes both good color balance and minimization of ghost and flare attributable to surface reflections from the digital imaging element.

Feature 5: Superb operability

• Circular aperture for attractive bokeh effects

Thanks to the electromagnetic diaphragm's (EMD) circular aperture, the lens provides attractive bokeh (blur effects).

• Silent , High-speed AF

The ring-type ultrasonic motor (USM), high-speed CPU and optimized AF algorithm contribute to silent, speedy autofocus.

• Manual focusing - even in AF mode

The
EF50mm f/1.2L USM has full-time mechanical manual focusing that allows
manual focus after one-shot AF operation without leaving AF mode.

• Switch design that prevents unintended switching

The focus mode switch is designed to prevent unintended switching during shooting or while being carried.

• Non-rotating filter ring

Since the EF50mm f/1.2L USM does not change in length and the filter
does not rotate or move while focusing, it allows smooth operation of
accessories including circular polarizing (PL) filters.

• Dedicated large cylindrical hood with superb light blocking

The ES-78, a large cylindrical hood dedicated to the EF50mm f/1.2L USM,
has superior antireflection flocking on the inner surface. It is very
effective in keeping unwanted light out of the lens (Photo 2).

Photo 2 : ES-78 dedicated hood for EF50mm f/1.2L USM

• Distance information for improving flash exposure precision

Distance
information is sent to the camera during AF, making the EF50mm f/1.2L
USM compatible with the E-TTL II autoflash system for optimal flash
exposure.

Feature 6: Environmentally friendly design

The optical system contains only environmentally friendly lead-free
glasses.
Furthermore, EU (European Union) restricts the use of certain hazardous
substances in the electrical and electronic equipment according to the
"EU's Restrictions on Hazardous Substances (RoHS) Directive". The

EF50mm f/1.2L USM meets Canon's own standard to comply with the RoHS Directive.

*The 6 substances: lead, mercury, cadmium, hexavalent chromium, bromine flame retardant PBB (polybrominated biphenyl) and PBDE (polybrominated diphenyl ether).