



Cooke S4/ $\frac{1}{8}$ Lenses



it's all about the detail

Cooke S4 Prime and Zoom Lenses were designed and developed in close technical collaboration with industry professionals. They are colour matched and compatible with Cooke's 5/ $\frac{1}{8}$, Panchro/ $\frac{1}{8}$ by Cooke, 18-100mm T3.0, 25-250mm T3.7, the S4/ $\frac{1}{8}$ 15-40 T2 CXX Zoom and the SK4 16mm lenses.

Feature Highlights

- Lenses available 12, 14, 16, 18, 21, 25, 27, 32, 35, 40, 50, 65, 65SF**, 75, 75SF**, 100, 135, 150, 180 and 300mm **soft focus attachment
- T2.0 – T22 aperture
- $\frac{1}{8}$ Technology included as standard
- Superb optical and mechanical performance
- Control of flare, distortion, veiling glare and spherical aberrations at full aperture
- Cam-type focus mechanism allows for smooth focus adjustments
- Modular construction increases ease of maintenance and serviceability

$\frac{1}{8}$ Technology

All of our S4/ $\frac{1}{8}$ Prime lenses are supplied with $\frac{1}{8}$ Technology, and are designed for all PL mounted professional motion picture film and electronic cameras. Cooke's $\frac{1}{8}$ Technology provides cinematographers and camera operators with vital information on lens setting, focusing distance, aperture and depth-of-field, hyperfocal distance, serial number, owner data, lens type and focal length in both metric and footage measurements. The zoom position is also displayed on the CXX Zoom. All the information is captured downstream for use in post-production.



Technical Specifications



Optical Design

The optics are designed to give maximum performance at full aperture with superior control of flare, distortion and spherical aberration.

Electronics

Accessible via cable connector near the lens mount and contacts in mount that sync with compatible cameras.

Colour Balance

All Cooke S4/8 Prime lenses are colour balanced to a specification within parameters approved by Kodak.

T2 Aperture

All Cooke S4/8 Primes have a true T2 aperture and cover Super 35mm format.*

Index Marks

Every index mark is labelled. More detailed markings allow for more detailed focus control.



Focus Movement

Our Academy Award® winning cam-style focus movement, coupled with the added benefit of a large lens barrel diameter, has allowed for an increased number of focus markings, particularly at close focus. Spherical aberration has been controlled throughout the range of focal lengths to eliminate the need to compensate for changes in back focus with aperture. A four-point contact bearing provides a smooth positive backlash-free movement.

Camera Mounts

Arriflex PL Mount

Focus Scaling

Large, clear numerals on both sides of the focus barrel benefit the focus puller when shooting under difficult lighting conditions.

Compatibility

All Cooke S4/8 Primes have a common fixed front diameter of 110mm, (except for 12mm, 150mm, 180mm, 300mm) with a focus drive gear of 140T x 0.8 mod and an iris drive gear of 114T x 0.8.

External Finish

A scratch resistant PTFE hard anodised finish is provided on all Cooke lenses, providing a durable, hard-wearing surface to meet the most demanding environmental conditions.

Iris

An eight-leaf linear module iris assembly is fitted into the Cooke S4/8 Primes with an aperture range of T2 to T22. (Except 300mm)

Weight/Size Ratio

The lenses are designed for all shooting applications, including handheld and Steadicam, providing comfortable balance ratio with the latest compact cameras.

Reliability and Service

The Cooke S4/8 Prime lenses are designed to meet a market requirement for fully reliable performance with a minimum of downtime.

*Apart from the 300 (2.8)



Cooke 15-40mm T2.0 CXX Zoom Lens



You expect and get superior performance and ease of operation from Cooke lenses. The Cooke S4/8 15-40mm CXX zoom lens offers attributes beyond great optical and mechanical performance for 35mm/Super 35mm formats.

New Variable Vignetting Stop

Cooke's new Variable Vignetting Stop allows the high speed CXX lens to maintain T2.0 and high resolution throughout the zoom range. This innovative mechanism adjusts automatically. The benefit to you: no ramping and no flare.

Light and Bright

T2, of course. Light and comparable in size to a Cooke S4/8 Prime telephoto lens. Like our S4/8 telephoto lenses, the CXX zoom offers an extraordinary close focus: Under 7 inches from the front element. And like the Cooke S4/8 Primes - no breathing.

| | |
|---------------------------------------|---------------------|
| Focal Length | 15 – 40mm |
| Minimum Marked Object Distance | 18 inches / 450mm |
| Front Diameter | 136mm (5.35 inches) |
| Aperture | T2 |

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| Units | 12mm | 14mm | 16mm | 18mm | 21mm | 25mm | 27mm | 32mm | 35mm | 40mm | 50mm | 65mm | 65mm | 75mm | 100mm | 135mm | 150mm | 180mm | 300mm | |
|--|------------|------------|-------------|--------------|------------|------------|-------------|-------------|------------|------------|------------|-------------|--------------|--------------|-------------|--------------|-------------|--------------|--------------|---------|
| CT Stop Range | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2-22 | T2.8-22 |
| Angular Rotation of Iris Scale degrees | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 95 | 94 | 93 | 92 | 92 | 92 | 91 | 92 | 92 | 94 | 78 | |
| Minimum Marked Object Distance mm inches | 225 9 | 250 9 | 225 9 | 250 9 | 250 9 | 250 9 | 250 10 | 300 12 | 350 14 | 400 16 | 500 20 | 700 27 | 700 27 | 750 30 | 900 36 | 800 30 | 1050 42 | 1300 51 | 2100 84 | |
| Close Focus from Lens Front mm inches | 47 2.0 | 50 2.0 | 47 2.0 | 64 2.5 | 85 2.5 | 64 2.5 | 110 4.5 | 152 6.0 | 170 6.9 | 216 8.5 | 330 13 | 473 20 | 453 19.2 | 584 23 | 724 28.5 | 564 20.7 | 841 33.8 | 1063 41.7 | 1846 74 | |
| Angular Rotation to MOD Endstop degrees | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 340 | 300 | 300 | 300 | |
| Maximum Diagonal Angle of View for Super 35 Format degrees | 103 | 94 | 86 | 80 | 71 | 62 | 58 | 50 | 46 | 41 | 34 | 26 | 26 | 22 | 17 | 13 | 11.5 | 9.5 | 5.7 | |
| Length from Front of Lens to Lens Mount mm inches | 126 5.0 | 126 5.0 | 126 5.0 | 113 4.5 | 113 4.5 | 113 4.5 | 113 4.5 | 128 5.0 | 128 5.0 | 141 5.5 | 125 4.9 | 125 4.9 | 145 5.7 | 125 4.9 | 141 5.5 | 184 7.3 | 157 6.2 | 185 7.3 | 202 7.95 | |
| Maximum Front Diameter mm | 156 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 125 | 136 | 136 | |
| Total Weight kg lbs | 3 6.5 | 2.2 4.8 | 2.45 5.4 | 1.75 3.85 | 2.0 4.4 | 1.6 3.5 | 1.6 3.55 | 1.85 4.0 | 1.9 4.2 | 2.0 4.4 | 1.5 3.3 | 1.6 3.55 | 2.25 4.95 | 1.75 3.85 | 2.0 4.4 | 2.25 4.95 | 3.5 7.7 | 4.3 9.45 | 4.7 10.35 | |

Max Format Cover 30mm diameter (Super 35mm format)

Focus Scales Two opposing focus scales - metric or footage. Scales marked from infinity to MOD

Focus Drive Gear 140 teeth 0.8 metric module x 6.0mm wide x 98mm from image plane,
140 teeth 0.8 module x 6.0mm wide x 99mm from image plane (300mm)

Iris Scales Two opposing linear T-scales - whole and third stops marked

Iris Drive Gear 114 teeth 0.8 metric module x 4.0mm wide 84mm from image plane,
134 teeth 0.8 metric module x 2.5mm wide x 80.5mm from image plane (300mm)

Iris Drive Gear for LDS Lens 136 teeth, 0.8 metric module x 6.0mm x 79.5mm from image plane

Internal Front Fitting Filter Internal thread for filter adapter M105 x 0.75 pitch
(12mm and 14mm not applicable)
M120 x 1.0 pitch (150mm) M131 x 1.0 pitch (180mm, 300mm)



Further resources

Depth of Field charts
<http://www.cookeoptics.com/cooke.nsf/technical/technical.html>

Downloads
<http://www.cookeoptics.com/cooke.nsf/technical/downloads.html>

About Cooke

For over 125 years, Cooke has been at the centre of the filmmaking business. We've been listening to the community of which we are a part. We lead by introducing new products such as / $\frac{5}{8}$ Technology and now the 5/ $\frac{8}$ range, and we remember our success is built on a simple idea — do what the filmmaker needs.

Our factory in Leicester, England has generations from the same family working side by side. That experience is unbeaten anywhere. We manufacture a full range of primes and zooms for 35mm and digital photography, as well as large format stills lenses.

We know our customers, and they know us, as individuals. Our rental partners do their training next to the craftsman who built their lenses. There are no barriers. We meet our customers at trade shows, on location around the world, and we welcome customers by appointment to our factory in the U.K. for an informal tour and discussion.

Our quality is monitored at every stage of manufacturing. Our Quality Control technicians carry out a 20 point check to ensure that the lenses leaving our factory are made to the highest quality possible. We're intolerant when it comes to tolerances. We research continuously to drive innovation. Our lenses are dependable and practical in use on the set; our optics superb. The lenses are straightforward to maintain – which is why so many rental facilities carry our products. Our manufacturing and testers keep going until we get each lens within our very tight specification. We get it right, whatever it takes.

At the heart of what makes Cooke special is “The Cooke Look”. The Cooke Look® is about the science of creating beautiful images for the motion picture industry.

As a result, for over a century, cinematographers have chosen Cooke lenses for a smooth roundness and dimensionality to the picture and for the velvety skin tones that flatter.

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