

Binocular Sky Review: Lunt 16x70 Magnesium

Manufacturer's Specification

Weight (g)	1925
Field of View (°)	4.1
Eye Relief (mm)	20
IPD (mm)	56-74
Waterproof	Yes (IPX7)
Prism Type	Porro
UK Guarantee	5 yrs
Origin	China
Body Material	Magnesium Alloy
Armour Type	Thin synthetic "leatherette"
Nitrogen Gas Filled	Yes
Prism Material	BaK4
Prism Coating	Multi-coated
Lens Coating	Fully multi-coated with protective overcoat
Eyecup Type	Fold down



Price: £479

Available from: [First Light Optics](#)

Initial Impressions

The binocular is of Bausch&Lomb (aka "American")-type construction, i.e. the objective tube is integral to the prism housing.

The binocular is covered in a thin synthetic "leatherette"-type armour, gives a secure grip with or without gloves. The eyepiece focusing is smooth, with no "stiction" and is sufficiently stiff to prevent accidental refocusing, especially when folding down the eye cups. There is a knurled ring on each eyepiece; this makes it easy to focus with gloved fingers. The hinge is smooth and tight enough not to accidentally slip once it is adjusted or when you are adjusting the focus. The eye-cups fold down easily.



The coatings look superb and reflect a tiny amount of light. The insides of the objective tubes are ribbed along their entire length, suggesting that control of stray light should be very good. There are no cut-offs in the light path, suggesting that the prisms are adequately sized.

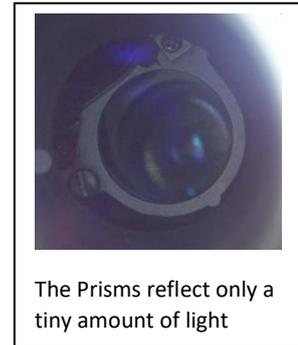


The prisms themselves are housed in a proper “cage” and are not merely held in place with clips. They do not appear to be grooved on their hypotenuses.

The cordura case is quite stiff and has enough padding to protect the binocular from knocks it might get in reasonable use. The strap attaches to the case with side-release buckle clips and is therefore easily removable. There are substantial belt/harness loops on the back of the case. The case closes with a side-release buckle, not the hook-and-loop fasteners that are nowadays ubiquitous. The untethered plug-in type objective covers are an excellent fit, and do not come off accidentally; they are fitted with tabs to aid removal.

The eyepieces have a tetherable (left hand side) double rainguard-type cover that fits securely. It does not to restrict the interpupillary distance when it is in place.

The binocular is also provided with a sturdy metal tripod adaptor.



The Prisms reflect only a tiny amount of light



Testing the Specifications

As you would expect with a binocular of this quality, the aperture is the full 70mm and is not internally stopped. Examination of reflections when a bright light is shone down the objective end confirms the fully multi-coated spec. There are no grey segments in the exit pupil, confirming that the prisms are of high-index glass. I measured the minimum interpupillary distance at 56.5 mm, but with the included tripod adaptor in place it is only 57mm. The eye cups are 47 mm diameter, so there is 9.5 mm between them at their closest; this should accommodate most nose bridges. The objective lenses are recessed 14mm into their barrels, offering good protection against accidental

touching, but insufficient for dew protection. With fully-corrected vision, the eyepiece dioptres are set close to zero when you focus to infinity, suggesting that they are properly adjusted. There is a nominal 5-dioptre adjustment available either side of this, so the binocular could be used without spectacles by people with moderate to strong myopia or hyperopia/presbyopia. For those who do need spectacles, the eye lenses are recessed 3mm into their housings so, with the eye-cups folded down, there is 17mm of the specified 20mm eye relief available. I found this to be adequate to enable the entire field of view to be visible.

Under the Stars

For testing, which involved a comparison with other binoculars, I mounted the binocular on a *Manfrotto #475B* tripod with a #222 trigger-grip (aka joystick) head. For normal observing, I use a monopod instead of a tripod, but this is less satisfactory when doing comparisons. I compared this to a Helios Apollo 15x70 (HA), which has become recognised as a good-quality 70mm astronomical binocular and is one that many have used. My observing site is in a reasonably dark suburban location.

“The colour rendition is exceptionally good – “vibrant” was the word that kept coming to mind”

Collimation was, as far as I could ascertain, perfect. The field of view easily contains *Polaris* and *Delta Ursae Minoris* (4°), which is consistent with the specified field of 4.1°. The view is extremely sharp and flat over the central 80% of the field. Field curvature affects the periphery. *Delta Cephei* (40 arcsec separation, magnitudes +4.1 and +6.1) started to deteriorate at 80% out, but was still clearly split to about 90% out from the centre of the field (HA 75%) if I focused out the field curvature (not something one would do in normal observing, but interesting in a test). I could detect very little vignetting towards the edge. Control of false colour (chromatic aberration) is very good on axis, but becomes noticeable on bright objects (e.g. Venus or the lunar limb) once they are off-axis, although it is still well-controlled and not overly obtrusive here. I did not notice it at all on first magnitude stars, although the colour of Betelgeuse seemed to change slightly towards the edge. Colour correction is quite sensitive to eye positioning: you do need to ensure your eyes are on-axis to get the best of this.

“Control of stray light is very good indeed ... contributing to excellent image contrast.”

There is a small amount of pincushion distortion: it is unobtrusive, but is sufficient to eliminate the nauseating “rolling ball” effect that can occur without it. Control of stray light is very good indeed, a testament to properly applied multicoatings and the ribbing in the objective tubes: there was no light at all from a bright blue-rich white streetlight or a gibbous Moon when they were immediately outside the field

of view. This contributes to the excellent image contrast in this binocular. The colour rendition is exceptionally good – “vibrant” was the word that kept coming to mind. *Mu Cephei* appeared exactly as William Herschel described it: “...of a very fine deep garnet colour...”, so very different from its neighbours, the orange *Zeta*, intensely blue *Lambda*, and yellow *Delta*. The Dumbbell Nebula showed shape and some structure. The Andromeda Galaxy was bright and showed shape and very good differentiation of the core; I could easily distinguish a sharper cut-off in brightness from the dust lane at the nearer edge. The Orion Nebula looked clear and detailed; the more I looked, the

more fine detail became apparent. I could easily distinguish two stars of the Trapezium, and three were sometimes fleetingly visible when seeing settled momentarily. Using a star-count in NGC 1981 as a guide to brightness, I found the Lunt to be very slightly (0.1 magnitudes) brighter than the Helios Apollo.

These binoculars are very light weight. I found that, when using the monopod, the most satisfactory way was to hold the binoculars by the ends of the barrels. Held this way, it was *almost* as steady as the tripod.

Conclusions

I liked this binocular very much, and subsequently bought one. At nearly twice the price of the Helios Apollo, you could legitimately ask, "Is it nearly twice as good?". Legitimate responses may be, "No," or "How would you measure this?" but beyond the optical quality of the Helios Apollo, incremental improvements in quality become increasingly more expensive.

What I did find was that when I had the Lunt and the Helios Apollo out with me, I always wanted to reach for the Lunt: it is simply more pleasurable to use and that pleasure is unquantifiable. It is due to its light weight, its flatter field, and its crisper, more contrasty image. It is a sheer pleasure to use. It is remarkably steady on a monopod, due to its low weight and its length.

Given its considerable optical and mechanical quality, at its price of £479, I think the Lunt represents extremely good value for money.

Binocular Sky Ratings (/10)	
Sharpness of Image	10
Size of usable field	9.5
Colour Correction	8
Control of stray light	9
Eye relief	10
IPD	10
Overall Optical Quality	9.5
Focus mechanism	10
Eye cups	8
Hinge	10
Overall Mechanical Quality	9.5
Case	7
Neck-strap	10
Objective caps	8
Eyepiece caps	10
Value for Money	10
Overall	9.5

[Click here](#) to see the [Lunt 16x70 Magnesium](#) on [First Light Optics](#) website

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