

5. **90-DEGREE TARGET CROSS-LINES**

- 5.1 The 90-degree target cross-lines shall be clearly defined and of uniform thickness. Their thickness shall match the thickness of the eyepiece graticule scales.
- 5.2 The cross-lines shall be straight over their total length 0.0004 in.
- 5.3 There shall be no appreciable lack of parallelism between the image of the 90-degree cross-lines and the eyepiece graticule scales, as observed by visual inspection.

6. **EYEPIECE GRATICULE SCALES**

- 6.1 The eyepiece graticule scales shall be clearly defined and of uniform thickness.
- 6.2 The two scales shall be set at right-angles to each other 5 minutes of arc.

7. **TELESCOPE OBJECTIVE**

- 7.1 Provision shall be made for locking the objective lens securely in position.
- 7.2 The telescope objective shall be accurately set such that the eyepiece graticule scales and the image of the 90-degree cross-wires, as reflected from an optically flat surface, may be brought to a simultaneous sharp focus by movement of the eyepiece.
- 7.3 Any residual parallax, as observed by a transverse eye movement across the eyepiece, shall not exceed 1/5th graticule-scale division (1/5th minute of arc).

8. **ACCURACY OF PERFORMANCE**

- 8.1 It shall be possible to estimate the instrument readings to 1/5th graticule-scale division (1/5th minute of arc).
- 8.2 The instrument shall function satisfactorily over distances up to 12 feet. (As the distance increases the field of view becomes restricted).
- 8.3 When the instrument is sighted on a flat reflector which has been set normal to the axis of the body tube, the reflected image of the 90-degree target cross-lines shall fall within the range of eyepiece graticule scales.

8.4 The eyepiece graticule scales shall be calibrated with the instrument sighted on an optically flat reflecting surface placed one foot from the objective lens. Any errors present in the scales shall be of a reasonably uniform nature and shall not exceed

$\frac{1}{2}$ graticule-scale
division overall
(1/2 minute of arc)

or

$\frac{1}{5}$ th graticule-scale
division over any
one division interval
($\frac{1}{5}$ th minute of arc).

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