

# OL 730-9A & OL 730-9

*Reflex Telescopes*

The OL 730-9A and OL 730-9Q Reflex Telescopes enable the Optronic Laboratories series of light measuring instruments to operate either as telephotometers, teleradiometers, or telespectroradiometers. The reflex telescope is used to measure the luminance, radiance, or spectral radiance of uniform, diffusely emitting light sources.

### OL 730-9A

The OL 730-9A consists of an achromatic, 66 mm lens in a rack and pinion focusing mount, a baffle tube, and a reflex viewer compartment with zero parallax viewing. The reflex viewer has a three element, orthoscopic eyepiece that yields an 8X magnification. The wide-field eyepiece has a precision reticle with ten concentric circles ranging from 1 to 10 mm. Three apertures producing FOVs (field of views) of 1.5°, 1°, and 0.5° are standard. The useful wavelength range of the OL 730-9A is 360 to 1100 nm.

### OL 730-9Q

The OL 730-9Q is identical to the OL 730-9A except for the substitution of a quartz lens for the standard achromatic lens. The quartz lens extends the useful wavelength transmission range from beyond 250 nm in the UV to 2.5 µm in the IR. However, this is accomplished with a slight deterioration of the focused image due to chromatic aberration.

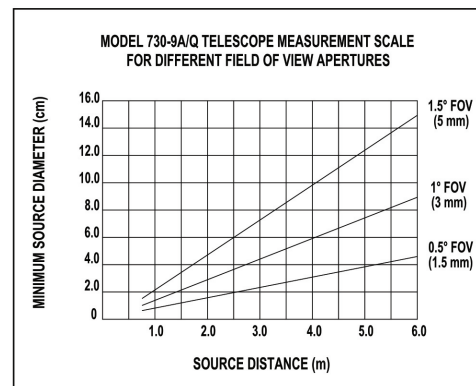
A mounting flange for attaching the reflex telescope directly to the monochromator and a removable adapter ring for coupling the detector (with the appropriate filter) directly to the telescope is supplied. Fittings for use with the OL 730-7 Fiber Optic Probe are also available.

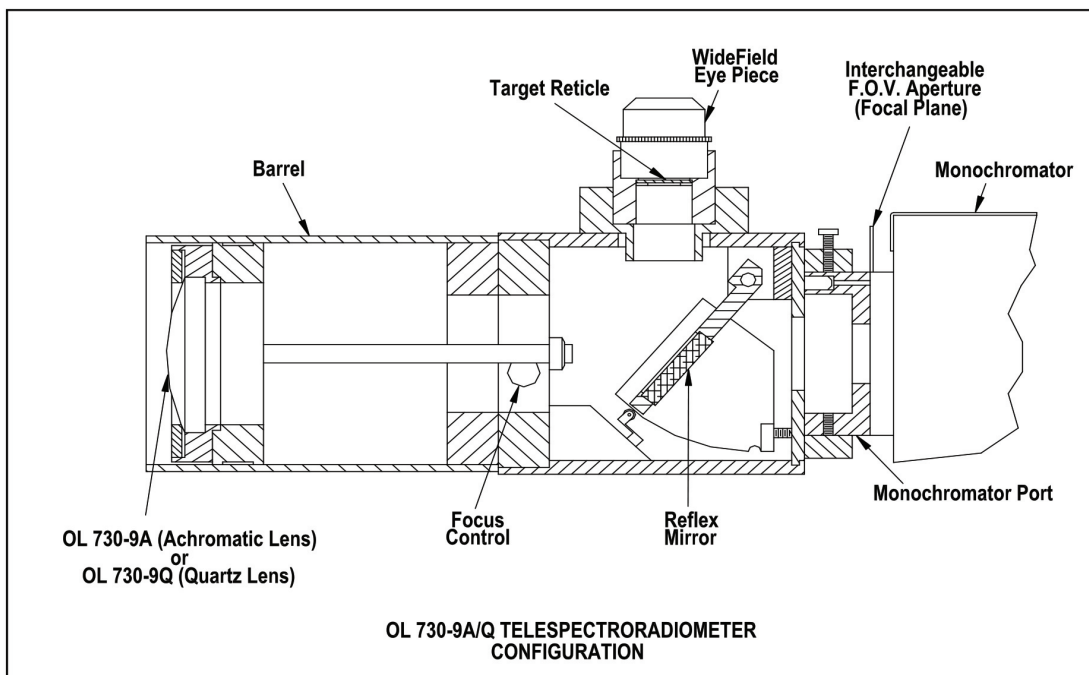
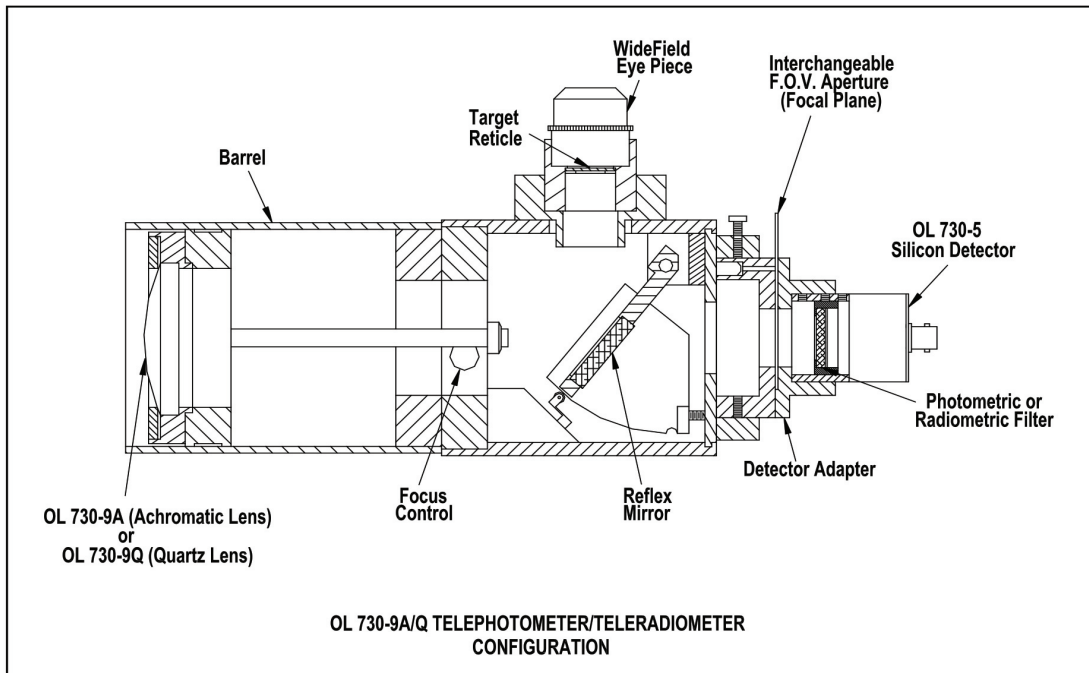
Approximate photometric sensitivities when the OL730-9A/Q is used with the OL 730/730A/730C Radiometer/Photometer are:

FOV APERTURE	NOISE EQUIVALENT LUMINANCE (fL)	
	W/ SILICON DETECTOR	W/ PMT DETECTOR
1.5°	$3 \times 10^{-4}$	$5 \times 10^{-7}$
1.0°	$1 \times 10^{-3}$	$2 \times 10^{-6}$
0.5°	$4 \times 10^{-3}$	$8 \times 10^{-6}$

Approximate spectroradiometric sensitivities when the OL 730-9A/Q, with the 1° FOV aperture, is used with the OL 740A, OL 746, or OL 750 Spectroradiometer are:

WAVELENGTH	NOISE EQUIVALENT (WATT/sr cm <sup>2</sup> nm)	
	W/ SILICON DETECTOR	W/ PMT DETECTOR
360 nm	$1 \times 10^{-10}$	$8 \times 10^{-14}$
500 nm	$5 \times 10^{-11}$	$2 \times 10^{-14}$
600 nm	$6 \times 10^{-11}$	$5 \times 10^{-14}$
700 nm	$7 \times 10^{-11}$	$1 \times 10^{-13}$
800 nm	$8 \times 10^{-11}$	$5 \times 10^{-13}$
1000 nm	$9 \times 10^{-11}$	N/A





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As part of our policy of continuous product improvement,  
we reserve the right to change specifications at any time.