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# ***Nikon Sport Optics***

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*Coming soon to European stores*

## **New Nikon MONARCH X Binoculars Series**



MONARCH X 8.5x45 DCF and MONARCH X 10.5x45 DCF

February 2009 Nikon U.K. has announced the launch of the new Monarch X series binoculars. The new Monarch X series binoculars are aimed at the outdoor market. They will be positioned as the top-line models of our well-received Monarch range, thanks to features like dielectric high-reflective multilayer prism coating.

Monarch X binoculars are also great, of course, for hunting, fishing, bird- and animal watching, as well as for general nature observation.

Outstanding optical quality distinguishes these new products - ensured by their large 45 mm objective diameter and innovative dielectric high-reflective multilayer prism coating. Inside the slim, stylish body are O-ring seals and nitrogen gas that assure that the Monarch X binoculars will stay waterproof and fog-free. Rubber coating protects the binocular body, as well as assuring a firm and comfortable grip.



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## Key features

- Dielectric high-reflective multilayer prism coating assures uniform and high transmittance in full visible range for bright and natural color images
- All lenses and prisms are multilayer-coated for the brightest images
- Phase-correction-coated roof prisms for high resolution
- High-eyepoint design for clear field of view, even for eyeglass wearers
- Waterproof (up to 1 m/3.3 ft. for 10 minutes) and fog-free with O-ring seals and nitrogen gas
- Turn-and-slide rubber eyecups with multi-click facilitate easy positioning of eyes at the correct eyepoint
- Flip-down objective lens cap
- Lightweight, durable body uses polycarbonate resin reinforced with fiberglass and carbon fiber

## Specifications

Model Name	MONARCH X 8.5x45 DCF	MONARCH X 10.5x45 DCF
		
Magnification	8.5x	10.5x
Objective diameter	45 mm	45 mm
Angular field of view (real)	6.3°	6.3°
Angular field of view (apparent)*	50.1°	60.0°
Field of view at 1,000 m	110 m	110 m
Exit pupil	5.3 mm	4.3 mm
Relative brightness	28.1	18.5
Eye relief	20.6 mm	16.0 mm
Close focusing distance	3.0 m	3.0 m
Inter-pupillary distance adjustment	56-72 mm	56-72 mm
Length	156 mm	156 mm
Width	139 mm	139 mm
Weight	720 g	730 g

**Specifications are subject to change without any notice**

\* Nikon has adopted a calculation method based on ISO 14132-1:2002.

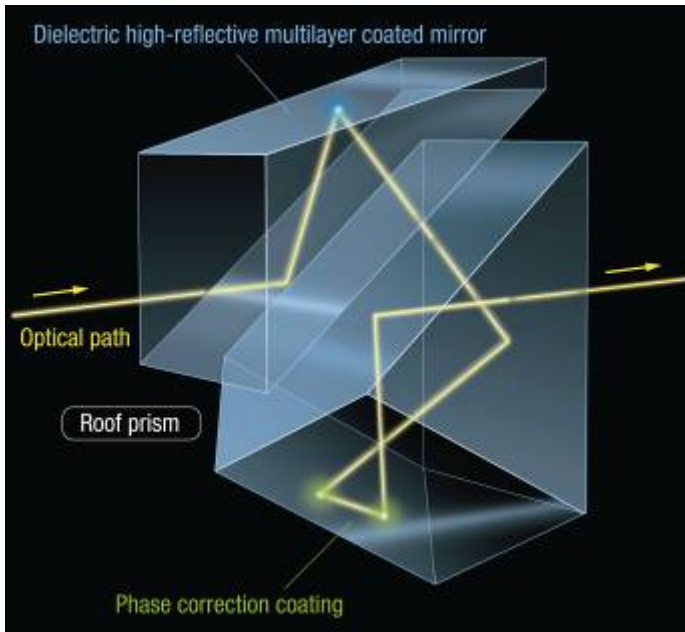
$\tan \omega' = \tau \times \tan \omega$

Apparent field of view:  $2\omega'$

Real field of view:  $2\omega$

Magnification:  $\tau$

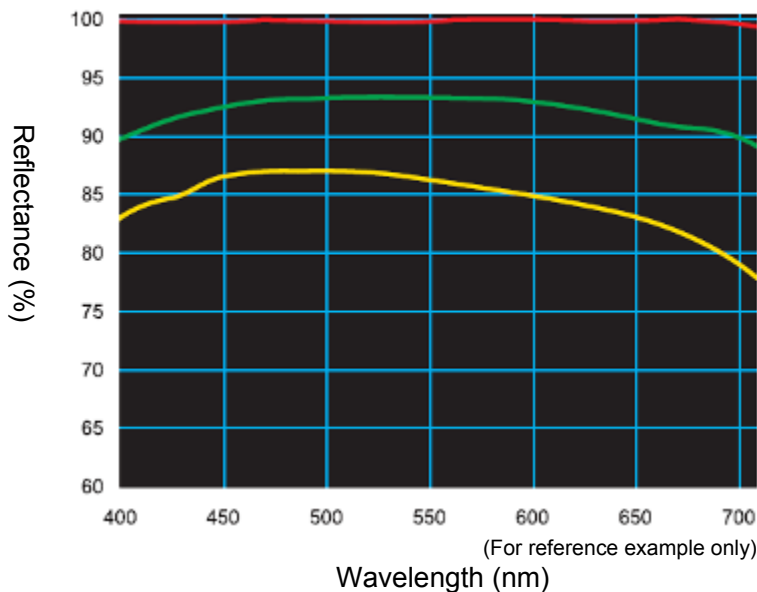
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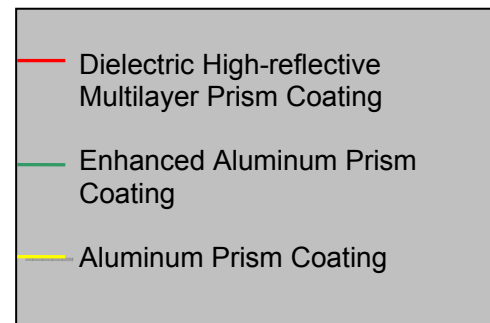
## Reflectance characteristics of prism coatings on mirror surface

A roof prism features one surface that does not have total internal reflection. It is very important for binoculars' optical performance to raise the reflectivity of this surface.

Dielectric high-reflective multilayer prism coating, which is composed of multiple thin layers of transparent dielectric material instead of aluminum, or other metallic layers, assures uniform and ultra-high reflectivity in full visible range.



As a result, this technique provides almost the same brightness as that perceived by the naked eye, and clear, high-contrast images that display accurate color reproduction.



**Every effort has been made to ensure specifications and claims are accurate, but these may be subject to change without any notice or obligation on the part of the manufacturer.**

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