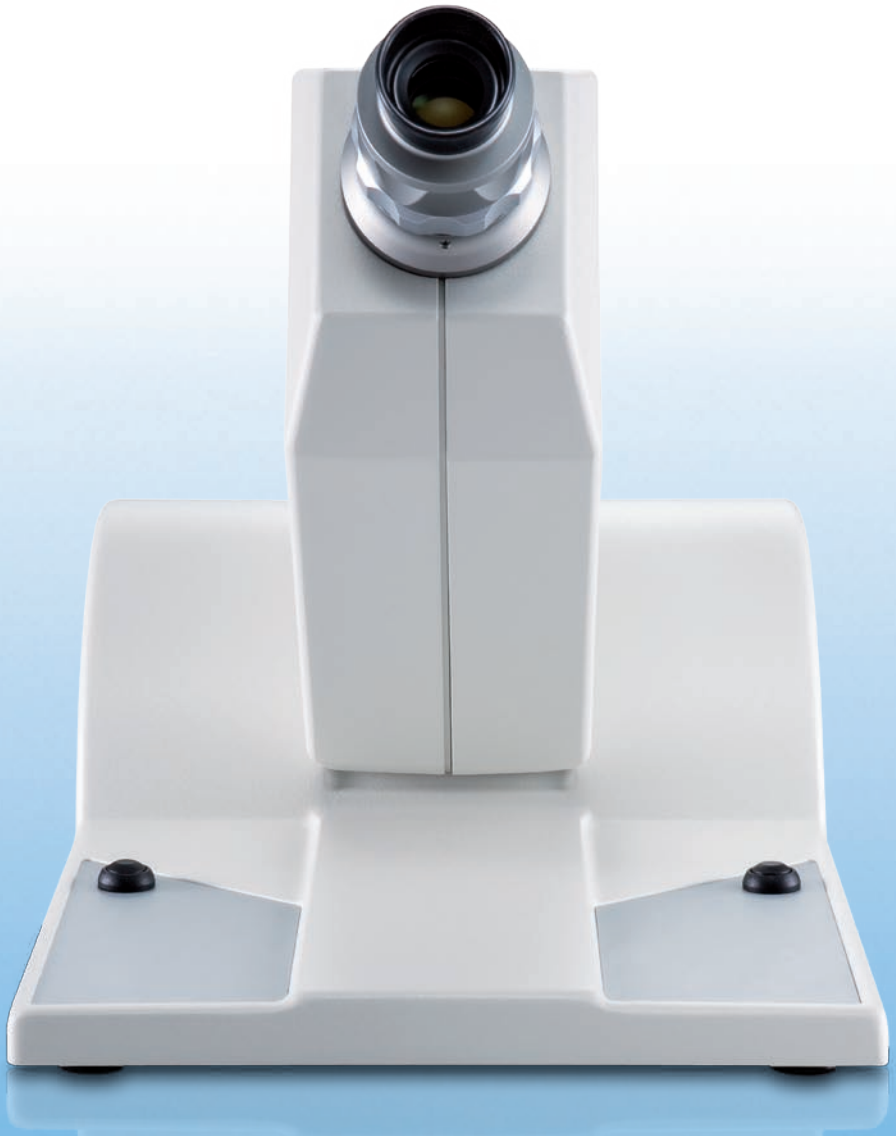
OCULUS | C-Quant

Cataract Quantifier



OCULUS®

We focus on progress

OCULUS C-Quant

The OCULUS C-Quant measures straylight at the retina

Straylight in the eye

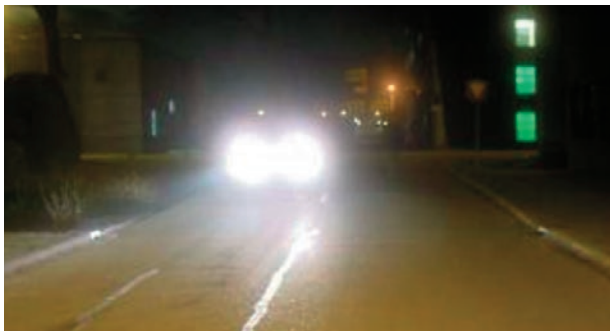
In an "ideal" eye there would be no light scattering. Because the optical media of the human eye are not optically ideal, however, always a certain amount of light scattering takes place. This light scattering may intensify if the optic media – e.g. the cornea or the lens – are clouded. In that case, the image projected on to the retina and thus visual performance are impaired.

Patients may voice the following complaints when straylight obscures the image on the retina:

- Increased glare sensitivity
- Reduced ability to perceive contrasts in light or color
- Haziness of vision

Straylight is experienced as particularly bothersome if visual performance is additionally impaired by macular degeneration, retinal disease or glaucoma.

> *Visual perception by an examinee with normal light scatter in the eye.*

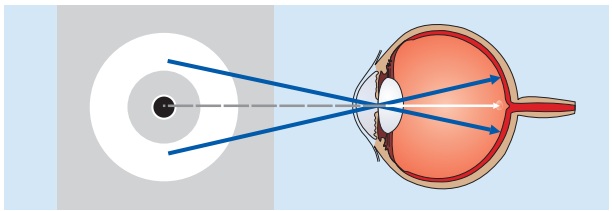


> *Visual perception by an examinee with higher than average light scatter in the eye.*

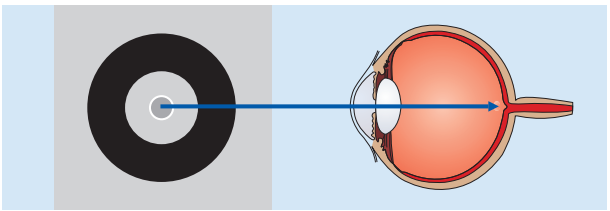
Measurement principle

The OCULUS C-Quant determines the straylight value log(s) of the eye of the individual examinee. The examinee regards a measurement field consisting of 2 parts: a central test field and an outer ring representing the straylight source. The outer ring is caused to flicker. Some of this flickering light is scattered by the lens and other parts of the eye and arrives at the part of the retina (fovea) which is represented by the test field.

Due to the scattered light, the examinee also perceives the central test field as flickering, even though in reality it is black. The C-Quant then determines how much light – flickering in counterphase to the straylight source – is required in the central test field to compensate for the straylight emanating from the straylight source. The C-Quant arrives at exact values by using the compensation comparison method, i.e. by dividing the central test field in two halves.



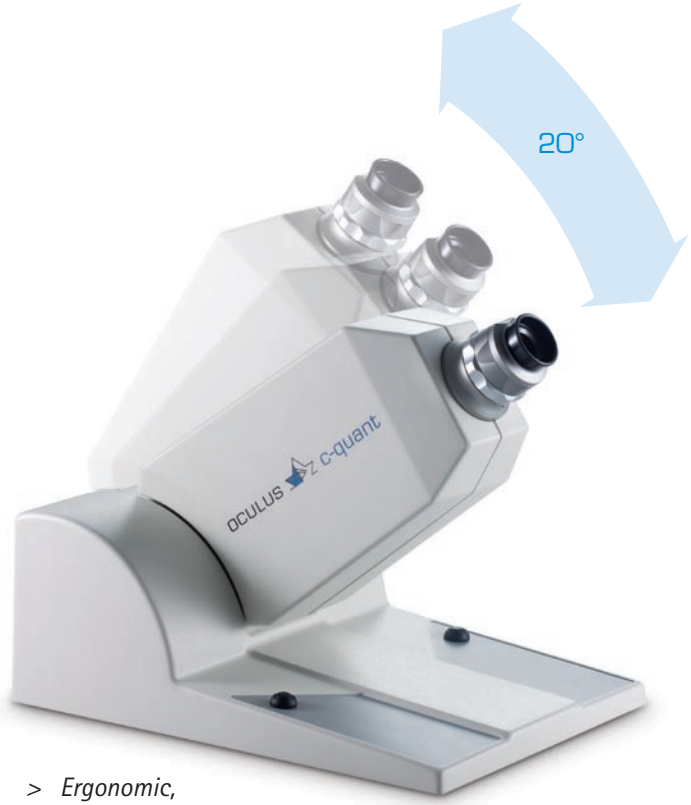
> *Straylight source activation phase (outer ring); the blue arrows mark the projection of the straylight source on the retina. The white arrow marks the scattered light falling on the fovea.*



> *Straylight source inactivation phase (outer ring); the blue arrow marks the compensation light flickering in counterphase to the straylight source.*

Advantages

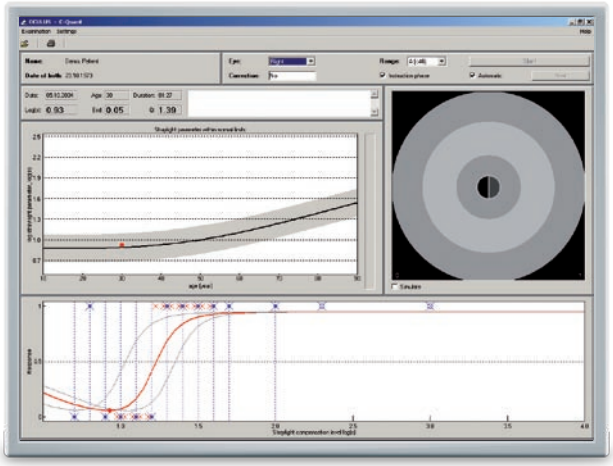
- The C-Quant is computer-controlled, i.e. examination data and results can be digitally saved.
- The examinations are monocular.
- The tilt angle of the device can be adjusted for the individual examinee.
- The examination is preceded by an instruction phase; this allows the examiner to determine whether the examinee understands what is expected of him or her.
- Corrective lenses can be inserted in front of the eyepiece.
- At the end of the examination, both the result and all responses of the examinee are shown in a diagram showing the course of the examination.
- The quality of the examination is monitored via a reliability index.



> *Ergonomic, comfortable, easy to use*

Display of results

- Absolute straylight value as log(s)
- For comparison: graphic display of straylight and the age-normal curve
- Duration of examination
- Standard deviation of the measured straylight value (Esd)
- Reliability coefficient (Q)
- Printout if desired



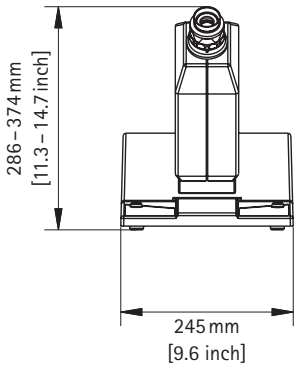
> *Overview display*

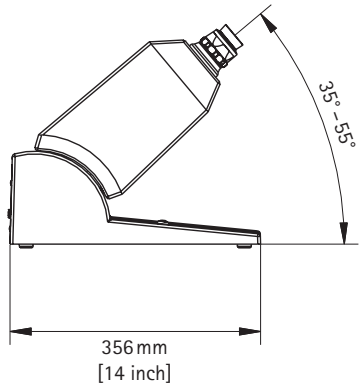
The OCULUS C-Quant is based on the scientific work of T.J.T.P. van den Berg of the Royal Netherlands Academy Of Sciences

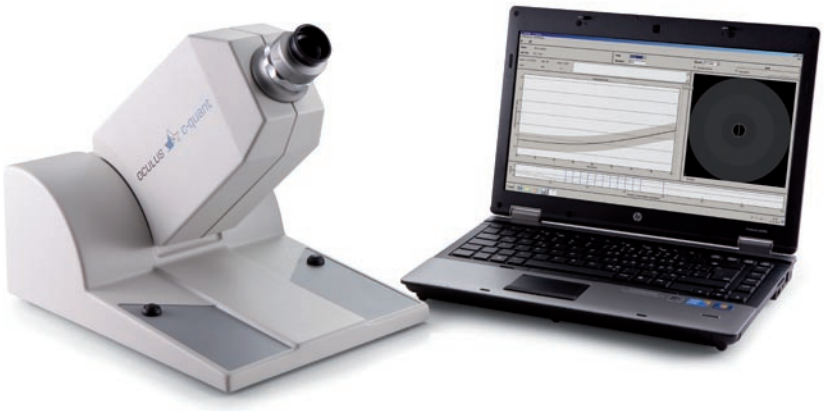
Technical data
OCULUS C-Quant

Header	
Light source	White LED
Maximum brightness	300 cd/m²
Size of test field	14°
Examination duration	ca. 1 minute
Interface	USB or serial
Weight	4.4 kg
Dimensions	24.5 x 35.6 x 28.6 – 37.4 cm
Delivery includes	The C-Quant basic unit Power supply unit Mains cable USB cable Dust cover Corrective lens set in wooden carrying case Instruction manual Installation CD

CE in accordance with Medical Device Directive 93/42/EEC







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OCULUS is certified by TÜV according to
DIN EN ISO 13485/DIN EN ISO 9001

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