

## Merford Optical Device

*Looking vertically downward* while sitting is a hard job. Thousands of container-crane operators around the world are working in this position daily. Looking at the human body, a maximum eyeball rotation of  $30^\circ$  is advised. In practice, this means a trunk inclination of  $35^\circ$  in combination with a maximum neck-flexion of  $25^\circ$ .

Considering the NEN-ISO Standard 11226, Evaluation of Static Working Postures, this kind of posture is not allowed without a proper body support or alternative device.

### Reality

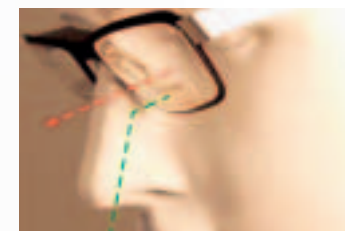
- Studies show that crane drivers are mostly sitting almost upright.
- This means  $80^\circ$  is realized by a combination of neck-flexion and eyeball rotation.
- In most cases divided in about  $45^\circ$  neck-flexion and  $35^\circ$  eyeball rotation.
- This will lead to major neck problems.
- Crane drivers, who normally are wearing glasses, are even in a worse position, because they try to project the incoming images through the centre of the glasses, resulting in more extreme neck flexion.

### Solution

- Merford Optical Device
- Optical lens with three segments for different needs.
- The optical solution angles the view and realises a substantial improvement to the working posture of crane drivers.
- Special filters tuned for three suns seasons will reduce glare (e.g. from the water), and optimize colours and contrast.



philosophy



research



reality

