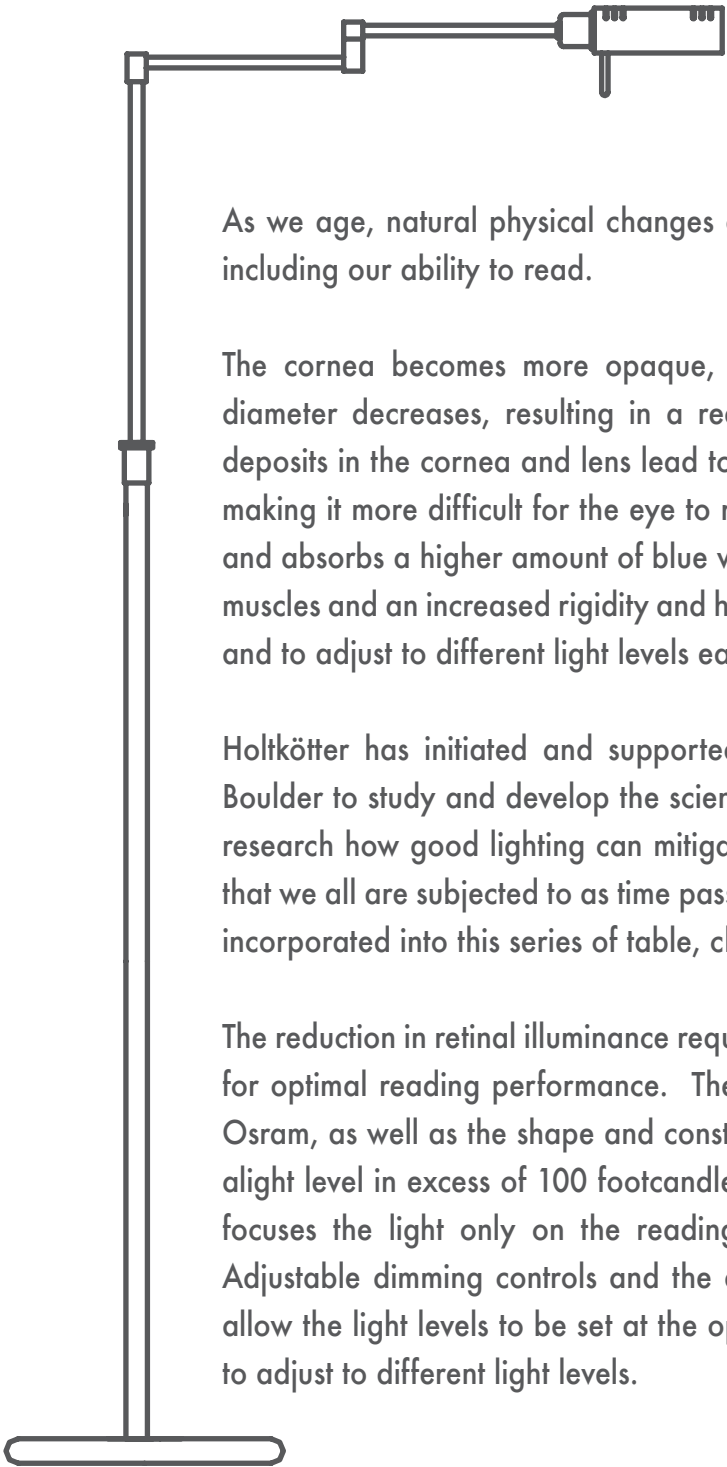


Lighting for the Aging Eye



As we age, natural physical changes of the human eye diminish our visual abilities including our ability to read.

The cornea becomes more opaque, the lens absorbs more light, and the pupil diameter decreases, resulting in a reduction in retinal illuminance. Increased fat deposits in the cornea and lens lead to an increase in light scattering inside the eye, making it more difficult for the eye to recognize the visual images. The lens yellows and absorbs a higher amount of blue wavelengths. Last but not least, weaker ciliary muscles and an increased rigidity and hardening of the lens reduce our ability to focus and to adjust to different light levels easily.

Holtkötter has initiated and supported research at the University of Colorado at Boulder to study and develop the scientific basis of lighting for the aging eye and to research how good lighting can mitigate the effects of the natural physical changes that we all are subjected to as time passes. Some of the results of this study are being incorporated into this series of table, chair-side and floor reading lamps.

The reduction in retinal illuminance requires a light level of more than 100 footcandles for optimal reading performance. The 75-Watt or 100-Watt Halogen light bulb by Osram, as well as the shape and construction of the inside of the reflector, allow for a light level in excess of 100 footcandles. A matte glass diffuser and a reflector that focuses the light only on the reading material will reduce glare and scattering. Adjustable dimming controls and the adjustability of the physical reflector location allow the light levels to be set at the optimal position, reducing the need for the eye to adjust to different light levels.

HOLTKÖTTER
The Ultimate Lighting Machines™