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, chairside 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.
Halogen Table Lamp No. 6504/1
Halogen Table Lamp with Glass Shade No. 6514/1

Halogen table lamps available with either glass (6514/1) or metal (6504/1) shades. Equipped with a full-range, turn-knob dimmer and one 100-Watt halogen bulb.

Bulb:
Q 100 DC/CL - 120 V/5 max. 100 Watt Bayonet Base Halogen Bulb
Manufactured by Osram GmbH
Order Code: 9250 * 100-DC/CL

Finish Options:
AB     Antique Brass
BB     Brushed Brass
HB/OB  Hand-Brushed Old Bronze
PB     Polished Brass
PB/BB  Polished Brass/Brushed Brass
SN     Satin Nickel

Glass Options for 6514/1:
Alabaster Brown, Alabaster White, Blue,
Green, Magma Red, Marble, Satin White or
True White

Due to the handblown nature of our glass shades, there may be slight variations in color and shape.

Facing page: 6514/1 PB with Alabaster White Glass (left)
6514/1 SN with True White Glass (right)
Halogen Floor Lamp No. 6505/1
Halogen Floor Lamp No. 6515/1 with Glass Shade

6500 . Satin White
6500 . True White
6500 . Alabaster White
6500 . Blue
6500 . Alabaster Brown
6500 . Green
6500 . Marble
6500 . Magma Red
6515/1 Antique Brass with Alabaster Brown Glass

Halogen floor lamp with either a glass (6515/1) or a metal (6505/1) shade. Equipped with a full-range, turn-stem dimmer and one 100-Watt halogen bulb.

Specialized dimmer located in the base makes the entire stem of the lamp the dimmer control. Turn the stem clockwise to turn the lamp on; turn the stem counter-clockwise to shut the lamp off.

Bulb:
Q 100 DC/CL - 120V/max. 100 Watt Bayonet Base Halogen
Manufactured by Osram GmbH
Order Code: 9250 * 100-DC/CL

Finish Options:
AB Antique Brass
BB Brushed Brass
HB/OB Hand-Brushed Old Bronze
PB Polished Brass
PB/BB Polished Brass/Brushed Brass
SN Satin Nickel

Glass Options for 6515/1:
Alabaster Brown, Alabaster White, Blue, Green, Magma Red, Marble, Satin White or True White

Due to the handblown nature of our glass shades, there may be slight variations in color and shape.
Halogen Swing-Arm Floor Lamp No. 9424/1
Halogen Swing-Arm Floor Lamp No. 9434/1 with Glass Shade

Halogen swing-arm floor lamps available with either glass (9434/1) or metal (9424/1) shades. Equipped with a full-range, turn-knob dimmer within easy reach and one 100-Watt halogen bulb.

Assembly required for the dimmer stem.

Bulb:
Q 100 DC/CL - 120V/max. 100 Watt Bayonet Base Halogen
Manufactured by Osram GmbH
Order Code: 9250 * 100-DC/CL

Finish Options:
AB  Antique Brass
BB  Brushed Brass
HB/OB  Hand-Brushed Old Bronze
PB  Polished Brass
PB/BB  Polished Brass/Brushed Brass
SN  Satin Nickel

Glass Options for 9434/1:
Alabaster Brown, Alabaster White, Blue, Green, Magma Red, Marble, Satin White or True White

Due to the handblown nature of our glass shades, there may be slight variations in color and shape.

Facing page: 9434/1 HB/OB with Magma Red Glass (left) 9424/1 HB/OB (right)