



# **Serving those with Macular Degeneration**

# Macular Degeneration

Many people have vision problems due to Macular Degeneration that can affect their experience in reading books or engaging in close work such as knitting. Reading and close work experiences can be made significantly more comfortable and rewarding by providing a suitable light source that addresses the eye condition. Berryessa Designs manufactures a variety of specialized lamps that are specifically designed to help people with Macular Degeneration.

No eyes are exactly the same, consequently the light source required is different for each individual and the application the lamp is used for. Brightness, color and distance are all factors in insuring good visual acuity while not being harmful to the eye. This necessitates careful light source selection, the design of the lamp head that contains the light source, and the support for the whole lamp itself whether desktop, floor, or other configuration. The design must also address safety, ease of use, and the environment.

There are a variety of light sources used for illumination. They include various types of incandescent and fluorescent types and light emitting diodes. Among these, the light emitting diode, or LED, has unique characteristics not found in these other light sources. Fortunately these LED characteristics are what is needed to produce light sources that lend themselves very well not only to macular degeneration issues but to safety, ease of use, and the environment. This makes a superior lamp possible.

Brightness is one key parameter in creating a good light source; too bright or too dim can result in the user not being able to see well or not at all. LEDs are easily dimmed electronically by a simple turn of a knob. Likewise this is the same way that the source may be adjusted for distance: dimmer for shorter distances and brighter for longer distances. In these instances “brightness” terminology is more accurately

referred to as *illuminance* since the measure is taken from the object that is illuminated rather than the light source. This is necessary to insure that the measurement is representing what the user sees.

Color is more complex when dealing with macular degeneration since the eye itself has changed in the way it processes light and not every eye has changed in the same way. A person with normal vision may have little issue with a white light, but a person with macular degeneration may find the same white light glaring and preferring a “softer” light with less blue content and having a slight yellow hue. Others prefer even a softer light with a slight pink hue. In contrast, some people with macular degeneration favor the white light. To fit the light source to the lamp user, the user is given the opportunity to “try on” various settings of illumination and hue to determine the best fit – much like being fitted for a suit at the tailor. The result is a best fit lamp for the person with macular degeneration.

LED light sources and the Berryessa Designs LED lamps share salient operating, safety, and environmental features that are important to users. Controls and positioning points are within easy reach for convenient operation. The safety features outperform any other lamp: there are no dangerous hot surfaces; this mitigates the possibility of burns. The voltages in the lamp and power cord are low and the power supply is short circuit protected; this mitigates the possibility of electric shock. There are no breakable glass bulbs or tubes and there is no mercury content in the lamp. In fact there are no toxic materials in the lamp making it safe for the user and for the environment; the lamp is very close to 90 percent recyclable. The Berryessa Designs LED source is very efficient producing light at a fraction of the electricity that incandescent and CFL lamps use.

Berryessa Designs lamps for macular degeneration are serving people in several states and are connected to institutions that serve those with vision problems. The Braille Institute, UC

Berkeley Eye Institute, the Casey Eye Institute at the Oregon Health and Science University, the Jules Stein Institute at UCLA, and the Vista Center in Palo Alto California are all connected to Berryessa Designs and are using Berryessa Designs' lamps to help people in need. Berryessa Designs is endorsed by the Macular Degeneration Support Group.