



There are six different lens materials or monomers within the CHOICE BluSelect “family”: 1.50, 1.56, 1.60, 1.67 and 1.74 index resins, and 1.59 polycarbonate. Each has different properties including light transmission. Because the molecules that block UV and High Energy Visible (HEV) light are embedded within these lens materials, the thickness of the lens will also have an effect on transmission, and the prescription will be a factor since high minus lenses will be thinner at the center and thicker at the edges of the lens, and plus power lenses will be thicker at the center and thinner at the edges. Therefore, measurements are specific to each individual lens at each different wavelength. However, we do have independent test measurements that I can share with you.

The attached sell sheet for CHOICE BluSelect lenses includes a chart with measurements for 1.60 index BluSelect lenses. If you take the whole blue light spectrum from 380 to 500 nm, 42.2% of light within that range is blocked by a 1.6 lens with a 2 mm center thickness. The same lens blocks 99.9% at 400 to 410 nm, 97.7% at 415 nm, 86.1% at 420 nm and 30.1% at 430 nm. From 431 to 500 nm measurements range from 27.1% to 3.2% blocking.

Although untreated 1.50 index lenses normally allow transmission of all light above 360 nm, CHOICE BluSelect 1.50 index lenses have been measured to provide 100% blocking at 400 nm, 99.6% at 410 nm, 97.7% at 415 nm and 83.74% at 420 nm.

1.67 index BluSelect lenses block between 100% at 400 nm, 99.4% at 410 nm, 97.56% at 415 nm and 82.61% at 420 nm.

1.56 index BluSelect lenses block 99.9% at 400 nm, 99.21% at 410 nm, 86.7% at 415 nm and 56.62% at 420 nm.

BluSelect Polycarbonate lenses block 99.98% at 400 nm, 93.58% at 410 nm and 40.91% at 420 nm, the lowest measurement of BluSelect lens materials at that wavelength, although they provide the best impact protection of these lens materials.

CHOICE BluSelect lenses are designed to provide full protection against UV radiation and filter the highest energy portion of the visible light spectrum. This is the range of high energy light that has the greatest potential for physical harm due to prolonged exposure over long periods. BluSelect lenses are also effective in providing relief against visual fatigue due to artificial light sources, including digital screens during the workday.

If the patient’s primary concern is melatonin suppression due to prolonged use of digital devices late at night, then BluSelect lenses will not be the best option. BluTech lenses, which have a light brown tint, will filter more of the lower energy blue light in the 440 to 480 nm range emitted by these devices. We also distribute BluTech lenses in 1.56 index hi-impact indoor lenses with a light tint and outdoor polarized brown sun lenses.

CHOICE BluSelect lenses do not use a special coating to filter or reflect HEV light, the filtering of blue light is achieved by molecules embedded in the lens material. Reflective blue light coatings will typically provide less than 20% blocking of blue light at any wavelength. Finished BluSelect stock lenses come with HMC Ultra AR coating which reduces reflections off both sides of the lens and provides an easy-to-clean super hydrophobic top coat. BluSelect lenses are also available as surfaced single vision and bifocal lenses and as digitally customized anti-fatigue, office and progressive lens options.