

DO BLUE LIGHT BLOCKER GLASSES REALLY WORK? Myth or Wisdom?

2020 THE YEAR OF BETTER VISION

WHAT IS BLUE LIGHT?

Sunlight contains red, orange, yellow, green and blue light rays and many shades of each of these colors, depending on the energy and wavelength of the individual rays (also called electromagnetic radiation). Combined, this spectrum of colored light rays creates what we call "white light" or sunlight.

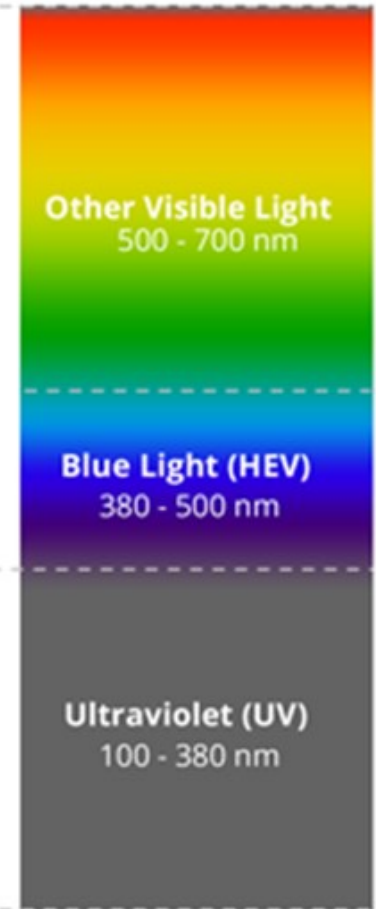
*Rays on the red end of the visible light spectrum have longer wavelengths and, have less energy. Rays on the blue end of the spectrum have shorter wavelengths and more energy.

UV rays have higher energy than visible light rays, which makes them

capable of producing changes in the skin that create a suntan. In fact, the bulbs in tanning booths emit a controlled amount of UV radiation specifically for this reason. *Source: *allaboutvision.com*

Too much exposure to UV causes a painful sunburn — and even worse, can lead to skin cancer. These rays also can cause sunburned eyes — a condition called photokeratitis or snow blindness.

UV radiation, in moderation, has beneficial effects, such as helping the body manufacture adequate amounts of vitamin D.



TOPICS

- What is Blue Light?
- Is What I Hear About Blue Light Fact or Fiction?
- What is the Main Source of Blue Light?
- Benefits of Blue Light
- Did you know that 1/3 of All Visible Light is Considered Blue Light



BENEFITS OF BLUE LIGHT

Research has shown that high energy light exposure is used for therapy to treat seasonal affective disorder-SAD. This therapy emits a bright white light that contains a significant amount of HEV blue light rays.

Blue light also has been well documented with the contribution to boost alertness, help cognitive function and elevate your mood. *Source: https://www.researchgate.net/publication/6556740_Blue_light_improves_cognitive_performance*

Blue light is very important in regulating circadian rhythm — the body's natural wakefulness and sleep cycle. Exposure to blue light during daytime hours helps maintain a healthful circadian rhythm.

Too much blue light late at night (e.g., social media, reading on a computer or tablet at bedtime) can disrupt this cycle, potentially causing sleepless nights and daytime fatigue.

This is the other side of the argument; digital electronic devices emit blue light that can cause eye strain and may lead to eye problems over time. This might be the case but there are **no definitive studies** that prove this claim or even make a solid case that it even does what these optical lens companies say they do.

Blue light has been well documented to boost alertness, help cognitive function and elevate your mood. However, there are no definitive studies to prove blue light from electronic devices leads to eye problems or eye strain.

1/3 of All Visible Light is Considered Blue Light

Generally, scientists say the visible light spectrum comprises electromagnetic radiation with wavelengths ranging from 380 nanometers (nm) on the blue end of the spectrum to about 700 nm on the red end. (a nanometer is one billionth of a meter — that's 0.000000001 meter!)

Blue light generally is defined as visible light ranging from 380 to 500 nm. Blue light sometimes is further broken down into blue-violet light (roughly 380 to 450 nm) and blue-turquoise light (roughly 450 to 500 nm).

WHAT IS THE MAIN SOURCE OF BLUE LIGHT?

The main source of all blue light is our sun. Although blue light is emitted by manmade devices, e.g., smartphones and laptops, they are substantially in smaller amounts than our sun.

There are optical lenses that block 100% or nearly 100% of UV. These lenses are essential to protect our eyes from damage that could lead to cataracts, and other ailments of our eye. However, this protection does not stop almost all blue light from passing through the cornea and lens reaching the retina.

BASIC THEORY—Prolonged exposure of electronic devices we use (especially at night) emit blue light and it will harm everyone.

“Theory” is the correct word because there have been no independent research

studies to verify the veracity of these claims.

The American Academy of Ophthalmology says that there’s no evidence that the blue light specifically given off by screens will cause eye damage, as we are exposed

to blue light all day from the sun.

“The bottom line is that taking preventive measures against blue light even though there is no evidence of damage could be more harmful than the blue light itself,” Dr. Khurana says.

“It’s premature to take preventative action against blue light — there could be unintended consequences,” he says. *Source: <https://www.aao.org/eye-health/tips-prevention/should-you-be-worried-about-blue-light>*

Do not fear because in some degrees, blue light can be good for you.

DO BLUE LIGHT GLASSES REALLY WORK?
Taking preventive measures against blue light could be more harmful than the blue light itself.



If you need eyeglasses, get them with anti-reflective coatings and ultraviolet filters, whether clear or sunglasses.

WOHL WISDOM

If you need eyeglasses, get them with **anti-reflective coatings and ultraviolet filters** whether clear or sunglasses. This will reduce reflections from the front and the back of your eyeglass lenses. These filters and coatings protect your eye, but let in as much of the visible light to your retina for the best vision acuity possible.

The UV protection you need is already in all lens material **except** glass or plastic which can be added to increase their effectiveness to UV radiation. The other materials such as polycarbonate, trivex, hivex and high index **inherently** block UV light.

If you are being charged for UV protection when you order these materials, you should practice “Buyer Beware.”

Do Blue Light Blocking Glasses Really Work?

Put away your checkbook because it is **NOT** the time to put your hard-earned money into blue light blocking lenses that

are unproven and some that only filter 10%-20% of blue light—**snake oil, in my humble opinion.**

Follow the 20/20/20 rule

After every 20 minutes of staring at electronic devices, look up at something 20 feet away for 20 seconds. Your eyes are meant to look in the distance. Relaxing your eye muscles this way has been proven to reduce eye muscle which reduces your eyestrain and possible headaches.

Think of it as if you held your hand in a clenched fist and then opened your hand wide. Easy enough but clench that fist for an hour and try to open it; it is the same idea. Your muscles need the time to recoup from the strain. This goes for eye muscles as well.

Practice these simple to do steps and you too can make 2020 a year of better vision.

The Secret

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