RED LIGHT RISING

# FREE GUIDE TO BLUE LIGHT GLASSES

## CHOOSE YOUR GLASSES & LEARN THE SCIENCE

*Everything you need to know about blue light blocking glasses and how to use them to improve your sleep.*

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# INTRODUCTION

First of all we want to thank you for choosing Red Light Rising to start your blue light blocking journey.

For those who are not familiar with our company, we are going to briefly introduce ourselves and our story.
Red Light Rising was founded in London back in 2017 by Bryan Gohl and James Strong. Both passionate about health and having lived and breathed wellness most of their lives, they both were looking at ways to improve their personal health and also optimise physical performance, their journeys led them both to discover red light therapy and the power of proper light exposure.
They both were amazed by the results and power of red light therapy and for this reason they made it their mission to make it available to as many people as possible and embarked on this journey that gave birth to Red Light Rising.

A company that has been growing rapidly and expanding their range of products from initially only red light therapy devices to now premium blue light blocking eye-wear and others.

In this guide you will learn how blue light blocking glasses works from a scientific standpoint and you will also discover the different benefits and how you can pair it with red light therapy to increase their power.

Every chapter develops the previous one adding knowledge and complimentary information. The final one explains how to combine blue light blocking glasses with red light therapy to experience even more benefits and support your health from the inside out.

We hope this guide answers all your questions and if you still have any doubts, we will be more than pleased to help you out so send us your questions at:
info@redlightrising.co.uk
Now that we are clear, you are ready to start your journey to discover all the benefits that blue light blocking can bring you!

# WHAT ARE BLUE LIGHT GLASSES?

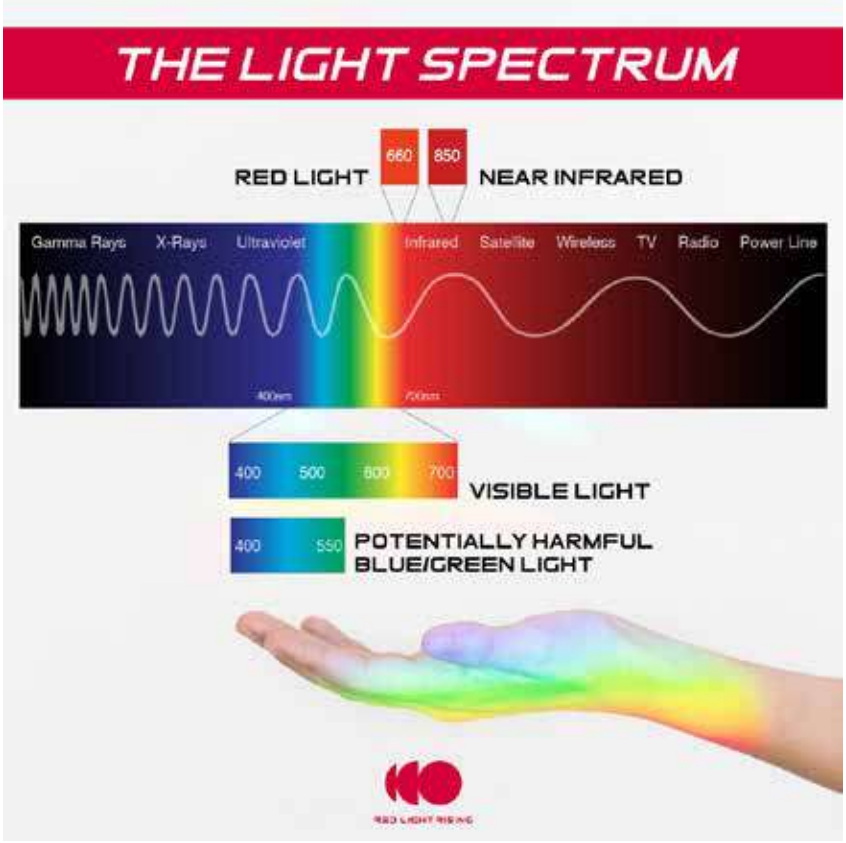
Before we introduce blue light glasses, let's start with the basics.

**What is Blue light?**

Blue light is a color in the light spectrum visible to the human eye. Although a lot of people do not know it actually does not appear blue to the naked eye.

It is a short wavelength, from 400 to 500 nanometers, that produces high amounts of energy and it is often referred as HEV or high-energy visible light.

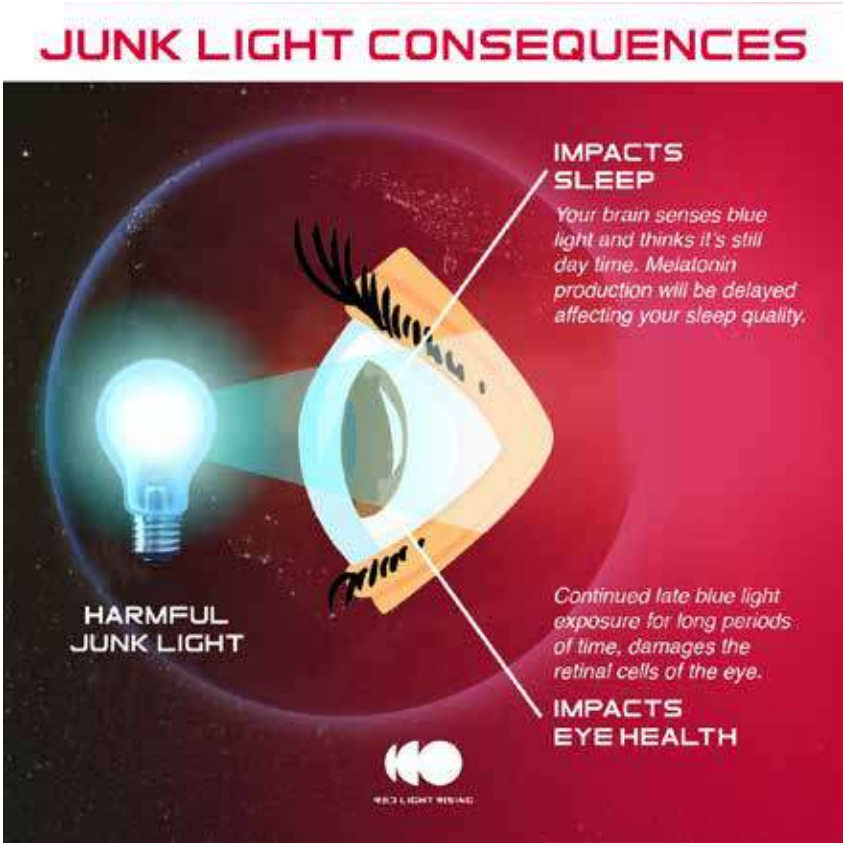
To be clear, any source of visible light emits blue light, from an artificial source like a screen or a lightbulb, to a natural one like the sun.
It all comes down to the time of the day that you are exposed to this light.



**How Does Blue Light Affect Your Body?**

Before the invention of artificial light, the sun was the one regulating our sleep schedules. After sunset, the red colors before darkness would signal our brains that it was time to produce melatonin (the hormone that triggers sleep) and prepare the body for sleep.
Our current society is exposed to blue light during the day and late into the night. While exposure to any bright light can produce delays in the production of melatonin, blue light specifically can be very problematic as they precisely disrupt these signals causing less melatonin to be generated and dysregulating hormones in the body.

Essentially, excess blue light exposure disrupts our natural body clocks (Circadian rhythm), because the brain associates the blue light with daytime, making it harder to fall asleep at night and wake up refreshed in the morning.





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## How Do Blue Light Glasses Work?

By wearing blue light glasses, you are actually filtering out most, if not all, of the harmful blue light, thereby ensuring your brain is not exposed to the blue light and the signalling that it is not daytime anymore, is not interrupted and the melatonin production can proceed.

One very important thing to bear in mind is the colour of the lenses.

## Clear Lenses vs. Tinted Lenses

The truth is, clear lenses only block from 5% to 25% of blue light. They are fine to wear during the day, as the sun naturally produces blue light during the day, but after 2 pm and especially after sunset, they will not work.

Your brain will perceive blue light and believe it is still day time. As a result your body will not trigger melatonin production, and you are going to have a poor sleep.

## What Happens With Tinted Lenses?

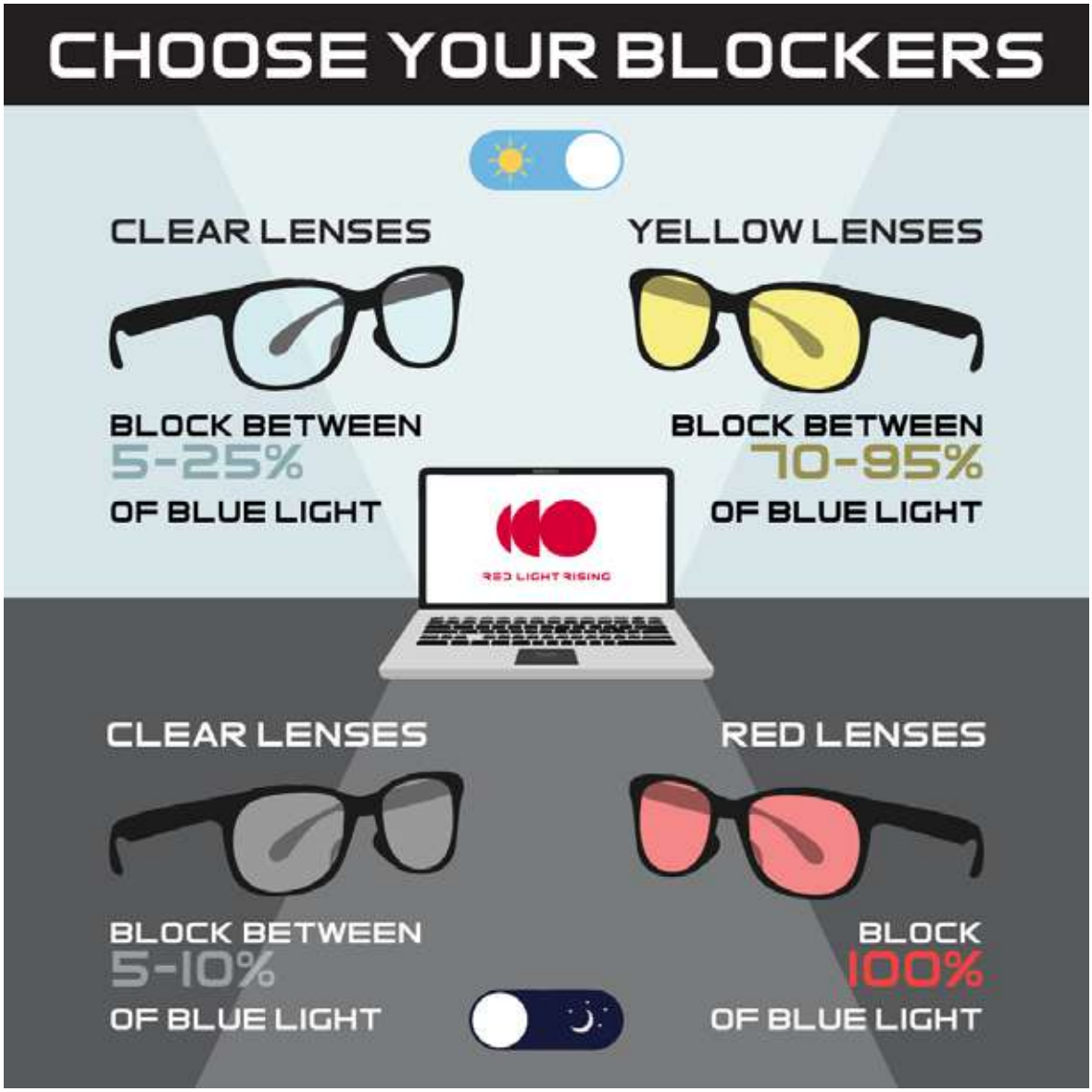
The more pigmented the lenses, the more they will block blue light.
If your eyes sense orange and red colours, this indicates to the brain that the sun is going down, and the brain starts to release melatonin, and prepare for sleep.

The yellow/orange and red color in the lenses neutralises the blue and as a result, your eyes will not perceive it.

Although clear lenses are marketed as blue light glasses, the lack of pigment in the lenses means they will barely block any blue light.

If you want to make sure you are protecting your eyes from blue light, buy TINTED lenses. They are the real blue light blockers.

# HOW DO BLUE LIGHT GLASSES WORK?




Wearing clear lenses during the morning and up to noon hours is fine, as the sun naturally produces blue light too, but afternoon hours and especially after sunset, they are not going to work and plenty of blue light will access your eyes, interfering with your brain's sense of time and disrupting your sleep.

We recommend wearing tinted lenses from 2pm onwards or at least after sunset to guarantee that your brain has time to adjust to the light and start triggering melatonin production by the time you go to sleep.

## How To Use Blue Light Glasses? When And Where Is The Best Time?

### Computers, smartphones & tablets

Any time that you are using a screen monitor, laptop computer, smartphone and tablet, you can absolutely wear your blockers.

Several people spend at least 8 hours a day looking at a screen. That is a prolonged exposure time exposed to blue light, that is not natural and can lead to uncomfortable side effects like headache, dry eyes and poor sleep.

If this wasn't enough, most people, after all the hours staring at screens at work, then go home to find themselves staring at their smartphones or tablets which also emit blue light.

To reduce the harming effects of prolonged exposure to blue light, wearing your blockers everytime you stare at a screen, especially after 2pm, will protect your eyes and brain, reducing the digital strain on your eyes and optimising your day/night cycle in your brain.

### Blue light glasses outdoors

Blue light is naturally produced by the sun in the early hours of the day. In fact, blue light is not bad itself, it is actually part of the natural spectrum of sunlight during the day.

It is beneficial for boosting alertness, mood and attention. The problem is that you do not want to be exposed to blue light late in the afternoon and night. An excess of blue light is linked to headaches and makes it harder to fall asleep. If we are exposed to the blue light emitted by TVs, laptops, phones, etc. before going to bed, our brains get the signal that it is still time to be awake, even if we are physically tired.

You do not need to use your blue blockers outdoors because the sun will not emit excess blue light in the afternoon and evening times. You should only wear your blockers outdoors if there is no sun and all the illumination is artificial, in that case you should. Especially if you are in conference rooms, malls and airports, where the light is very bright and powerful.

**Blue light glasses at home**

You have to keep in mind that pretty much all the lightbulbs and LED light at most homes also emit blue light. Unless you have changed your lightbulbs to red or are using dim or candle lights, you should definitely use your blockers. Especially if you are in front of the TV.

We strongly recommend anyone to buy red bulbs and use them during the evening or use candles or even a red light therapy device as ambient light.
Once the sun has set, you ideally should not be exposed to any bright lights until the next morning.

In March 2020, right before releasing our first range of premium blue light blockers, we sent them to ***The Light Industry Association*** in the UK to have them tested and see the amount of blue light they actually block.

Well, here we are sharing with you all the results.

Both lenses got an AMAZINGLY high score.

Our **DayPro lenses**, which you can find in our three different frames, **BLOCK 95% of blue light!**

This means your eyes will only perceive 5% of any blue light around you. An amazing coverage that will be ideal during the day and afternoon hours.


**Figure 1.** ***Transmissivity of Green Glasses***


**Figure 3.** ***Product image***

*The ‘Green Glasses’ referred under the caption, are our DayPro lenses.

Our **NightPro lenses**, which you can also find in our three different frames, **BLOCK 100% of blue and green light!**

This means your eyes are not getting any blue light at all. A full coverage that makes them perfect to wear 2 to 3 hours before going to bed.

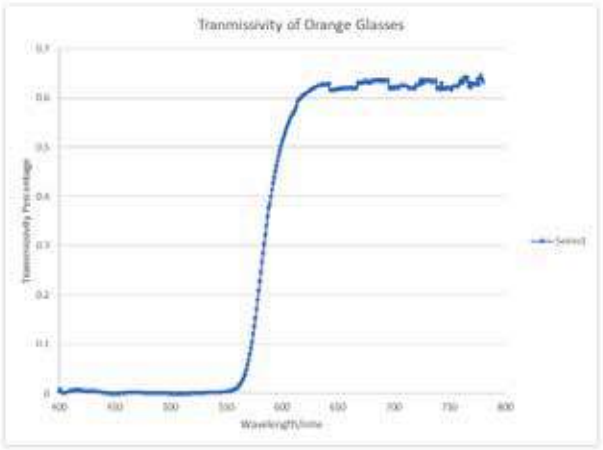



**Figure 1.** ***Transmissivity of Orange Glasses***


**Figure 3.** ***Product image***

*The ‘Orange Glasses’ referred under the caption, are our NightPro lenses.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***DayPro Lenses***

**When To Wear Them And What Are The Benefits?**

As mentioned before, the DayPro lenses are perfect to wear from 2pm to sunset time. The color of the lenses will allow you to still distinguish all colors while protecting you from most of the damaging blue light.

Some benefits that you could potentially experience are:

- Reduced eye damage from screen exposure.
- Reduced tension headaches.
- Brain protection from excess blue light.
- Falling asleep is easier.
- Longer sleep time.
- Increased energy in the mornings.

***NightPro Lenses***

**When To Wear Them And What Are The Benefits?**

As mentioned before, the NightPro lenses are perfect to wear 2 to 3 hours before bed because they block 100% of the blue light. The color of the lenses guarantees no blue light will be exposed to the eyes.
Remember - once you start blue blocking in the evening, do not accidentally expose yourself to harsh light before you go to sleep!

Some benefits, that you can add to the benefits of the DayPro lenses above are:

- Increased focus.
- Reduces mental fatigue.
- Promotes deeper sleep.
- Promotes melatonin production.
- Optimises circadian rhythm.

We already know how effective the lenses are with the **DayPro lenses blocking 95% of Blue Light and the NighPro lenses blocking 100% of Blue and Green light.**

It's time to move onto the frames.
We offer 2 different frame styles, with 3 different materials.

***The NYX Glasses***

Meaning: God of Night
Style of frames: Wayfair
Frame material: Acetate

This model is available with both the DayPro lenses and the NightPro lenses.
Perfect to use while working out or performing activities that require a lot of movement.
A compact and waterproof design that will make sure the glasses stay in place and protect your eyes.



***The HYPNOS Glasses***

Meaning: God of Sleep
Style of frames: Aviator
Frame material: Stainless steel

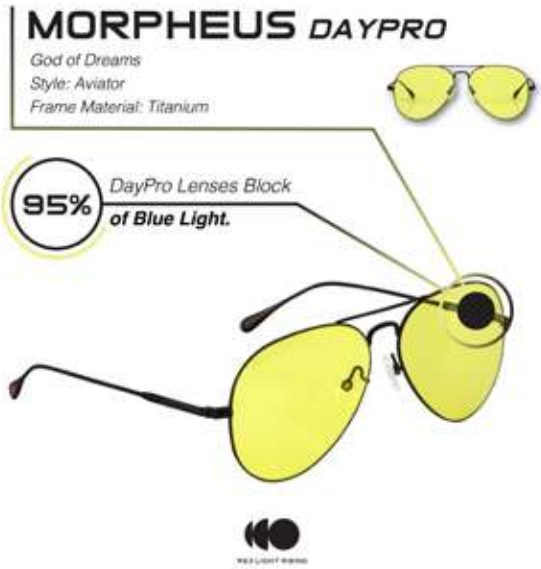
This model is available with both the DayPro lenses and the NightPro lenses.
It is perfect to wear during events or social gatherings. Their stylish design will make sure you maintain a professional look while still blocking the damaging effects of blue light. They are also waterproof and will not rust.

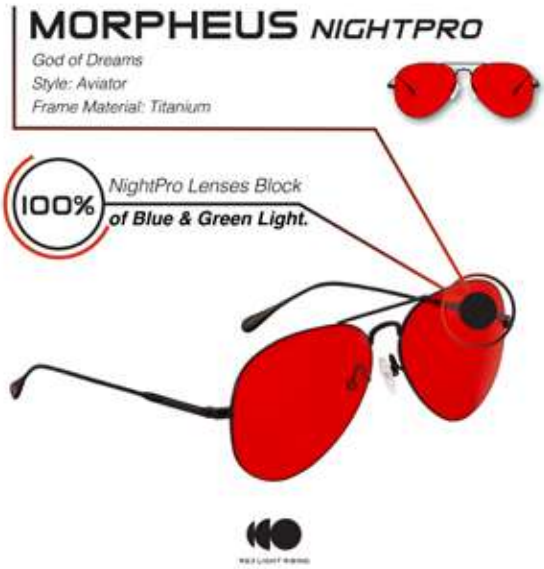


***The MORPHEUS Glasses***

Meaning: God of Dreams
Style of frames: Aviator
Frame material: Titanium

This model is available with both the DayPro lenses and the NightPro lenses. The Morpheus frame is perfect for social events and also high intensity activities. The titanium adds extra comfort to the aviator style frames turning them into a solid yet sophisticated pair. Also waterproof and incredibly resistant.



All frames are a great choice, the final decision comes down to your lifestyle and priorities.

If you want to start slow, to get used to the blue light blocking glasses, you can first get the DayPro lenses in your favourite frame style. If you are going to use them while sitting down and not moving much, the HYPNOS can be a good choice.

On the other hand, if you want to start with the maximum blockage, without any doubt go for the NightPro lenses and once again choose your favourite frame style. If you will be moving a lot, or need a very compact frame, the NYX can be a good choice for you.

Lastly, if you want the best quality frame in terms of style and resistance, go for the MORPHEUS. They are the most expensive ones for a reason. The titanium makes them hard to break, comfortable and very light. Of course both the DayPro and Nigh-Pro lenses are a good choice for them.

Now that you know how blue light blocking glasses work, here are a few ways you can test them.

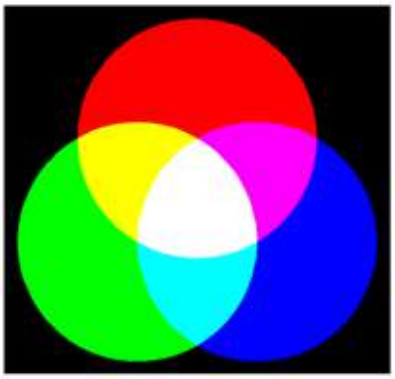
***Test Your NIGHT GLASSES***

This test can be used to test night glasses. The ones you wear before bed time.

Important: Make sure you are wearing the right glasses.

If you are testing your night time glasses, in our case the NightPro lenses, you should look at the square below and see the inner triangles (cyan, magenta and yellow) practically disappear and the blue circle will also become nearly black.
You will only be able to distinguish clearly the red circle, the green circle, which now will look much darker, and the yellow and white triangles which now will appear nearly the same color.

TEST 1



Another test you can try on your night glasses, once again our NightPro lenses, is the following:
Look at the two squares below. Both squares should appear practically the same color.

TEST 2

These two easy to do at home tests are good, but will not give you a 100% accurate answer. You have to bear in mind that the colour of your screen and the time of the day and environment around you can affect the way you perceive colors. Still with that in mind, they can be used as a first test.

***Test Your DAY GLASSES***

Testing your day glasses is a bit more complicated. Depending on the time of the year and the place you are located in, the light will be different. You don't have the same light at 5pm during Summer time in Spain, than at 5pm during winter time in Spain.

The rule here is to make sure that the lenses are tinted. If they are, you guarantee at least a 50% blue light coverage.

Remember that the sun emits blue light as well so it is fine to be exposed to this sort of light during the day. The key is to reduce the exposure as the sun goes down. Especially during winter times.

Look at the sun in the place where you live, and wear the lenses accordingly.
See the graphic below. Once the sun starts to go down (afternoon) is time for DayPro lenses. When the sun is setting, time to wear NightPro lenses. (Time will depend on your location).



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# [TEST] YOUR BLUE LIGHT BLOCKING GLASSES

Testing your night lenses with these two home tests, will provide you with a good indicator of their real blue light blockage. The best thing to do is to ask the company for real proof.

Testing your day lenses is not that easy as there are other factors to be taken into account, such as time of the year, location and environment. The rule of thumb is, look at the sun. If it's past noon time, you can start wearing your day glasses. If the sun is setting or has already set, it's time to wear your night glasses.

You can find the pdf document with the results of our laboratory test in this blog:

*https://redlightrising.co.uk/2021/04/28/most-effective-blue-light-glasses-with-proof/*

# COMBINE BLUE LIGHT BLOCKING GLASSES WITH RED LIGHT THERAPY

**Circadian Rhythm Disruptions**

Anyone that has stayed up all night or has experienced jet lag, knows how challenging it can be for the body.

**What Is The Circadian Rhythm?**

Circadian rhythms are 24-hour cycles that are part of the body's internal clock, running in the background to carry out essential functions and processes. One of the most important and well-known circadian rhythms is the sleep-wake cycle.
Different systems of the body follow circadian rhythms that are synchronized with a master clock in the brain. This master clock is directly influenced by environmental cues, especially light, which is why circadian rhythms are tied to the cycle of day and night.

Disrupting the natural circadian rhythm of the body long term can have seriously negative consequences for the brain and the body causing weight gain and impulsive behaviour to mention just two.

A common way in which we disturb our circadian rhythm long term without being much aware of it, is by exposing our eyes and therefore our brains to blue light at night.

As we explained already, before the invention of artificial light, the sun was the only light regulating our sleep schedules. After sunset, the red colors before darkness would signal our brains that it was time to produce melatonin (the hormone that triggers sleep) and prepare the body for sleep.

Nowadays, our eyes still receive blue light at night, which in consequence delays or even suppresses melatonin production, making it more difficult to fall asleep and causing important disruptions to our circadian rhythms.

As you have previously read, blue light blockers protect your eyes from blue light, but if you want to make sure your circadian rhythm is aligned and balanced, combining the blockers with red light therapy will make sure your body is in tune and your sleep is optimised.

# 10 COMBINE BLUE LIGHT BLOCKING GLASSES WITH RED LIGHT THERAPY

**What Is Red Light Therapy?**

Red Light Therapy or RLT, is a form of light therapy that helps heal skin, muscle tissue, joints as well as other parts of the body.
It exposes the body to high powered red and/or near-infrared light. Infrared light produces a type of energy that your eyes can't see, but your body can sense as heat. Red light is very similar to infrared light with the difference that your eyes can see it. Other terms used for RLT include Low-level laser therapy (LLLT), low-power laser therapy (LPLT), and lastly photobiomodulation (PBM).

**How Can Red Light Therapy Help Your Sleep?**

Let's describe the main types of light.

Blue light keeps you alert and disrupts sleep. Blue light is not bad itself, it is actually part of the natural spectrum of sunlight during the day. It is beneficial for boosting alertness, mood and attention. The problem is that you do not want to be exposed to blue light late in the afternoon and night. An excess of blue light is linked to headaches and makes it harder to fall asleep. If we are exposed to the blue light emitted by TVs, laptops, phones, etc. before going to bed, our brains get the signal that it is still time to be awake, even if we are physically tired.

Red light has a warm color temperature that, unlike blue like, has a soothing and calming effect on the body. Using red light in the evening and night, helps your brain transition into the natural sleep cycle as it mimics the colours of the sunrise and sunset.

Our bodies need light everyday to function properly. Many people nowadays spend a lot of time indoors and surrounded by artificial light which totally disrupts the ability of the brain to regulate hormones and body cycles naturally. If you are exposed to too much bright light, your body has difficulty starting melatonin production, the key hormone for good sleep. It also stimulates cortisol, a hormone that signals stress in the body, and that contributes to decreased melatonin production too.
Red light therapy is a great tool to supplement your daily light exposure and to help your brain regulate your sleep cycles. In other words, the red colour and warm temperature of the light, signals your brain that sleep time is close, and it allows it to start to secrete melatonin and reduce cortisol levels.

# COMBINE BLUE LIGHT BLOCKING GLASSES WITH RED LIGHT THERAPY

One study conducted in 2012, (1) evaluated the effects of red light therapy on a group of female athletes. The group of women were exposed to 30 minutes of red light therapy every day for a period of 14 days, and, compared to the placebo group, they had a significant increase in sleep quality and melatonin production.

Another study (2) conducted in 2019, evaluated the effects of red light therapy on sleep inertia disorders. Sleep inertia refers to the deficiency in performance and alertness that is common after waking up and not having a restful sleep. It is also commonly known as grogginess.
The study tracked the cognitive performance of 30 subjects that were exposed to red light either during 90-minute sleep periods or just upon waking up from them. The participants not only saw a reduction in sleep inertia but also performed better on a variety of tasks too.

If you have been exposed indoors or exposed to blue light all day, using red light at sunset will signal your brain that the end of the day is coming, and melatonin production will start. If you wear your blockers right after that, you will guarantee absolute protection and any possible disruption that will trick or confuse your brain into thinking it's still day time.

Studies mentioned:

1. Red Light and the Sleep Quality and Endurance Performance of Chinese Female Basketball Players https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3499892/

2. Effects of red light on sleep inertia https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6506010/

# CONCLUSION

To conclude, combining blue light glasses and red light therapy is a safe and natural alternative to sleeping pills that helps the body regulate naturally and promotes melatonin production.

This pair of hacks will bring you the perfect evening routine environment to make sure your sleep is deep, long and restful.

Each of these protocols can of course be used independently of each other and still bring very powerful benefits respectively.

If you still have any questions, you can take a look at our website testimonials or YouTube channel and learn about other peoples experiences.

RED LIGHT RISING

*Red light therapy devices are designed to promote and boost a healthy lifestyle with the help of light. Our devices are not intended to diagnose, cure, or prevent specific diseases or any medical conditions. The Red Light Rising website, blogs, guides and Youtube channel is for education and information purposes only and is not intended as medical advice or a substitute for medical advice. A qualified health professional should always be consulted prior to using our devices, and professional medical attention should be sought with regard to any serious or life-threatening conditions.