



# **Eyesafe® Accessory Requirements 3.0**

## **Blue Light and Color Performance Criteria for Blue Light and Privacy Screen Protection Manufacturers**

Document issued February 2, 2025

Developed in collaboration with the Eyesafe Vision Health Advisory Board.  
For more information about Eyesafe® Requirements, certification, and partner guidelines,  
please visit [eyesafe.com](https://eyesafe.com).

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# Eyesafe<sup>®</sup> Accessory Requirements 3.0

Amidst growing scientific and medical research on blue light exposure, Eyesafe is introducing Eyesafe Accessory Requirements 3.0, a set of updated criteria tailored to different display types—LCD/LED and OLED—to assess blue light filtration and color performance. These guidelines are designed to support manufacturers of blue light screen protectors and blue light privacy screens in product development.

Research indicates that blue light exposure at specific wavelengths may impact eye health and circadian rhythms. The 435-440 nanometer (nm) range is associated with the greatest risk to retinal health, as identified by the Spectral Weighting Factors for Blue-Light Hazard published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) in 2013 and the American National Standards Institute (ANSI) in 2015.<sup>1</sup> The 480-500 nm range is associated with melatonin suppression and disruption to circadian rhythms,<sup>2</sup> based on the International Commission on Illumination's (CIE) published and universally recognized standard CIE S 026/E:2018.

## Key Assessment Criteria

### Screen Protection Designed for LCD/LED Displays (Laptops, Monitors, TVs):

- Given the blue light peak of LCD/LED screens, Eyesafe Accessory Requirements 3.0 utilize Radiance Protection Factor (RPF<sup>®</sup>) to measure blue light filtration at the 435-440 nm peak—the range of greatest concern for eye health. Higher RPF scores (0-100) indicate greater blue light filtration.
- Additionally, products must meet criteria for:
  - Blue light toxicity reduction
  - Correlated color temperature and luminance to maintain vibrant display colors (with accommodations for privacy screen protectors)

### Screen Protection Designed for OLED Displays (Smartphones):

- OLED screens emit peak blue light at a higher wavelength, which research associates with circadian disruption and melatonin suppression. Therefore, Eyesafe Accessory Requirements 3.0 use Circadian Protection Factor (CPF) to evaluate blue light filtration at the 480-500 nm peak. Higher CPF scores indicate less circadian disruption.
- Additional criteria include:
  - Change in circadian impact across the full visible spectrum (380-780 nm)
  - Correlated color temperature and luminance to ensure color accuracy (with accommodations for privacy screens)

<b>Eyesafe® Screen Accessory Requirements 3.0 (2025) for LED/LCD Displays</b>						
<b>RPF® Radiance Protection Factor</b>	<b>Peak Filtration at 435-440nm</b>	<b>Blue Light Toxicity Reduction</b>	<b>CCT Shift</b>	<b>Luminance Reduction</b>	<b>2-way Privacy Luminance Reduction*</b>	<b>4-way Privacy Luminance Reduction*</b>
RPF20	≥20%	≥15%	≤250K	≤20%	N/A	N/A
RPF30	≥30%	≥15%	≤250K	≤20%	N/A	N/A
RPF40	≥40%	≥20%	≤350K	≤20%	N/A	N/A
RPF50	≥50%	≥20%	≤350K	≤20%	N/A	N/A
RPF60	≥60%	≥30%	≤500K	≤20%	≤40%	≤45%
RPF70	≥70%	≥30%	≤500K	≤20%	≤45%	≤50%
RPF80	≥80%	≥40%	≤500K	≤30%	≤45%	≤55%

**Notes:**  
The requirements above are applicable for product formats including blue light and privacy screen overlays and protectors. The RPF number will range from RPF20 to RPF80 and require achievement of each of the identified requirements. The application of the solution will reduce the blue content and lead to a display color temperature deviation and luminance reduction within an identified range. The performance of the solution shall not lead to a color temperature shift more than allowed limits.  
\* Allow an additional 5% luminance reduction for privacy screen overlays that are not directly laminated to device display.

<b>Eyesafe® Screen Accessory Requirements 3.0 (2025) for OLED Displays</b>						
<b>CPF Circadian Protection Factor</b>	<b>Peak Filtration at 480-500nm</b>	<b>ΔCI Change in Circadian Impact 380-780nm</b>	<b>CCT Shift</b>	<b>Luminance Reduction</b>	<b>2-way Privacy Luminance Reduction*</b>	<b>4-way Privacy Luminance Reduction*</b>
CPF20	≥20%	5.0%	≤150	≤10%	N/A	N/A
CPF30	≥30%	7.5%	≤150	≤15%	N/A	N/A
CPF40	≥40%	10.0%	≤150	≤15%	N/A	N/A
CPF50	≥50%	15.0%	≤250	≤20%	N/A	N/A
CPF60	≥60%	18.0%	≤250	≤20%	≤40%	≤50%
CPF70	≥70%	20.0%	≤350	≤25%	≤45%	≤50%
CPF80	≥80%	30.0%	≤500	≤30%	≤45%	≤55%

**Notes:**  
The requirements above are applicable for OLED display product formats including blue light and privacy screen overlays and protectors. The CPF number will range from CPF20 to CPF80 and require achievement of each of the identified requirements. The application of the solution will reduce the blue content and lead to a display color temperature deviation and luminance reduction within an identified range. The performance of the solution shall not lead to a color temperature shift more than allowed limits.  
\* Allow an additional 5% luminance reduction for privacy screen overlays that are not directly laminated to device display.

## Third-Party Testing from UL Solutions

UL Solutions tests screen protection products against the Eyesafe Accessory 3.0 requirements using an objective, science-based protocol and evaluates the validity of each claim. For more information, please visit [eyesafe.com/UL-verification](https://eyesafe.com/UL-verification).

1. American National Standards Institute (ANSI) Z80.3 and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines define the peak toxic hazard region of the blue spectrum as 435-440 nm.
2. The International Commission on Illumination's (CIE) published and universally recognized standard CIE S 026/E:2018.