



Eyesafe® Accessory Requirements 2.1

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

Document issued July 16, 2024

Developed in collaboration with the Eyesafe Vision Health Advisory Board.
For more information about Eyesafe® Requirements, certification, and partner guidelines,
please visit eyesafe.com.

For questions regarding this document, contact info@eyesafe.com

Eyesafe® Accessory Requirements 2.1

Amidst increasing scientific and medical research on blue light exposure, Eyesafe and UL Solutions are releasing Eyesafe Accessory Requirements 2.1, targeting the light filtered between 435-440 nanometers (nm). Studies suggest this wavelength poses the greatest risk to retinal health as referenced by the Spectral Weighting Factors for Blue-Light Hazard as published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) in 2013 and the American National Standard Institute (ANSI) in 2015.¹

Blue light and privacy screen protection products will be tested and verified by UL against the requirements, which were developed with eye care professionals and scientists to provide a baseline for blue light filtration and color performance. Upon verification, products are assigned a Radiance Protection Factor (RPF®). RPF is a metric used to quantify the amount of blue light protection provided by a screen protector. The RPF scale ranges from RPF20 to RPF80, with higher numbers indicating greater blue light protection. It works similarly to Sun Protection Factor (SPF) for sunscreen. The scale was developed with input from doctors and healthcare leaders to offer a clear, standardized measure of blue light filtration, to enhance consumer confidence and ensure individuals can easily compare different products. RPF will be UL verified and may be used for marketing purposes with permission from Eyesafe.

Eyesafe® Screen Accessory Requirements 2.1 (2024)						
RPF® Radiance Protection Factor	Peak Filtration at 435-440nm	Blue Light Toxicity Reduction	CCT Shift	Luminance Reduction	2-way Privacy Luminance Reduction*	4-way Privacy Luminance Reduction*
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.

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.