

GEM UV broadband irradiance scaling functions

Wavelength range	Total irradiance ( $\text{W m}^{-2}$ )	Direct component ( $\text{W m}^{-2}$ )	Diffuse component ( $\text{W m}^{-2}$ )
280.11–294.12 nm	$f(x) = \begin{cases} 0.554x^{0.608} & x \leq 7.5 \times 10^{-6} \\ 0.729x^{0.631} & x > 7.5 \times 10^{-6} \end{cases}$	$f(x) = \begin{cases} 0.561x^{0.619} & x \leq 4.0 \times 10^{-6} \\ 1.060x^{0.671} & x > 4.0 \times 10^{-6} \end{cases}$	$f(x) = \begin{cases} 0.226x^{0.575} & x \leq 3.0 \times 10^{-6} \\ 0.239x^{0.579} & x > 3.0 \times 10^{-6} \end{cases}$
294.12–310.70 nm	$f(x) = \begin{cases} 1.212x^{0.635} & x \leq 0.2 \\ 1.390x^{0.727} & x > 0.2 \end{cases}$	$f(x) = \begin{cases} 1.079x^{0.657} & x \leq 0.1 \\ 1.310x^{0.742} & x > 0.1 \end{cases}$	$f(x) = \begin{cases} 0.890x^{0.609} & x \leq 0.05 \\ 1.093x + 0.095 & x > 0.05 \end{cases}$
310.70–330.03 nm	$f(x) = 0.953x$	$f(x) = 1.026x$	$f(x) = x^{0.872}$
330.03–400.00 nm	$f(x) = 0.985x$	$f(x) = 1.025x$	$f(x) = x^{0.965}$