Conversion Table

Symbol	Unit	Not.
A	Ampere	
A	Angstrom	1 Å = 10^{-10} m = 10^{-4} μm = 0.1 nm
cd	Candela	1 cd = 1 lm/sr
°C	Degree Celsius	
°K		See K
ft	Foot	
fc	Foot-candle	The equivalent unit lm/ft² is preferred
fL	Foot-Lambert	1 fL = (1/π) cd/ft² = 3.4263 cd/m²
Hz	Hertz	
in	Inch	
K-	Kelvin	Formerly °K, degree Kelvin
L	Lambert	
lm	lumen	
lx	Lux	1 lx = 1 lm/m²
m	Meter	
μ	Micron	The equivalent unit μm is preferred
nt	Nit	1 nt = 1 cd/m²
Ω	Ohm	
s	Second	
sr	Steradian	
sb	Stilb	1 ab = 1 cd/cm²
V	Volt	
W	Watt	

Units of Measurement

To Convert From	To	Multiply By
Angstroms	Nanometers Millimicrona	0.1
Angstroms	Microns Micrometers	0.0001
Nanometers Millimicrona	Angstroms	10
Microns Micrometers	Angstroms	10,000
Nanometers Millimicrona	Microns Micrometera	.001
Microns Micrometers	Nanometera Millimicrons	1000

Description	Radiometric all wavelengths	Photometric visible light
Total Flux	Radiant Flux, P, in Watts	Luminoua Flux, F, in Lumens.
Emitted Flux Density at a Source Surface	Radiant Emittance, W, in Watts/cm²	Luminous Emittance, L, in Lumens/ft² (foot-Lamberta), or lumens/cm² (Lamberts)
Source Intensity (Point Source)	Radiant Intensity, I_r, in Watts / Steradian	Luminoua Intensity, IL, in Lumens/ Steradian (Candela)
Source Intensity (Area Source)	Radiance, B_r, in (Watts / Steradian) / cm²	Luminance, BL, in (Lumens / Steradian) / ft² (foot-Lambert)
Flux Density Incident on a Receiver Surface	Irradiance, I-l, in Watts/cm²	Illuminance, E, in Lumens / ft² (foot-candle)

Point Source Relationships

Description	Radiometric	Photometric
Point Source Intensity	I_r, Watts / Steradian	IL, Lumens / Steradian
Incident Flux Density	H (Irradiance) = I_r / r^2 watts / distance²	E (Illuminance) = I_L / r^2 lumens / distance²
Total Flux Output of Point Source	$P = 4\pi I_r$ Watts	$F = 4\pi I_L$ Lumens

Design Relationships For An Area Source

Description	Radiometric	Photometric
Source Intensity	B_r, Watts / cm² / ateradian	B_L, Lumens / cm² / steradian
Emitted Flux Density	$W = \pi B_r$, Watts / cm²	$L = \pi B_L$, Lumens / cm²
Incident Flux Density	$H = \frac{B_r A_s}{r^2 + d/2^2}$, watts/ cm²	$E = \frac{BL\ As}{r^2 + d/2^2}$, Lumens/ cm²

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