



















NASA STELLA Instrument — Color Lookup Table

	ams-OSRAM AS7265x Bands	Category	Example	HTML value	Tricolor values	...	$f = c / \lambda$	$E = h * f$	Energy (J) / (e*V/J) = Energy in e*V
Band Designation	Band middle wavelength (λ)	Color	Color	Color	Color		Band middle Frequency (f)	Energy per photon	Energy per photon
Channel	nanometers	HTML Name	Swatch	Hexadecimal	R, G, B		THz	Joules per photon	electron*Volts per photon
1	410	Blueviolet		#7e00db	126, 0, 219		731	4.84E-19	3.0
2	435	Blue		#2300ff	35, 0, 255		689	4.57E-19	2.9
3	460	Royalblue		#007bff	0, 123, 255		652	4.32E-19	2.7
4	485	Darkturquoise		#00eaff	0, 234, 255		618	4.10E-19	2.6
5	510	Lime		#00ff00	0, 255, 0		588	3.89E-19	2.4
6	535	Chartreuse		#70ff00	112, 255, 0		560	3.71E-19	2.3
7	560	Greenyellow		#c3ff00	195, 255, 0		535	3.55E-19	2.2
8	585	Yellow		#ffef00	255, 239, 0		512	3.40E-19	2.1
9	610	Orange		#ff9b00	255, 155, 0		491	3.26E-19	2.0
10	645	Red		#fe0000	254, 0, 0		465	3.08E-19	1.9
11	680	Red		#df0000	223, 0, 0		441	2.92E-19	1.8
12	705	Red		#c90000	201, 0, 0		425	2.82E-19	1.8
13	730	Firebrick		#b10000	177, 0, 0		411	2.72E-19	1.7
14	760	Darkred		#940000	148, 0, 0		394	2.61E-19	1.6
15	810	Near Infrared		#000000	0, 0, 0		370	2.45E-19	1.5
16	860	Near Infrared		#000000	0, 0, 0		349	2.31E-19	1.4
17	900	Near Infrared		#000000	0, 0, 0		333	2.21E-19	1.4
18	940	Near Infrared		#000000	0, 0, 0		319	2.11E-19	1.3

Constants and metric prefix notation

Parameter	Abbreviation	Units	Scientific notation	Decimal
Speed of light	c	m/s	3.000E+08	299,792,458
Planck's constant	h	kg*m^2/s = J/Hz	6.626E-34	0.0000000000000000000000000000662607015
Joules per electron*Volt	J/eV	J/eV	1.602E-19	0.00000000000000000001602176634
one-trillionth, pico-	p		1E-12	0.000000000001
one-billionth, nano-	n		1E-09	0.000000001
one-millionth, micro-	μ		1E-06	0.000001
one-thousandth, milli	m		1E-03	0.001
[units]			1	1
thousand, kilo	k		1E+03	1,000
million, Mega	M		1E+06	1,000,000
billion, Giga	G		1E+09	1,000,000,000
quadrillion, Tera	T		1E+12	1,000,000,000,000

Sources on next page...

Sources

Line		Output	
1	ams-OSRAM as7265x sensor information and data sheet		https://ams-osram.com/products/sensor-solutions/ambient-light-color-spectral-proximity-sensors/ams-as7265x-smart-spectral-sensor
2	visible spectrum		https://en.wikipedia.org/wiki/Visible_spectrum
3	look up color by wavelength	R, G, B color	https://405nm.com/wavelength-to-color/
4	convert R,G,B to hex	hexadecimal color	https://www.w3schools.com/colors/colors_rgb.asp
5	look up color name by hex	color name	https://colordesigner.io/color-name-finder
6	Planck's constant		https://en.wikipedia.org/wiki/Planck_constant
7	definition of electron*Volt unit of energy		https://en.wikipedia.org/wiki/Electronvolt
8	photon energies		https://phys.libretexts.org/Bookshelves/College_Physics/College_Physics_1e_(OpenStax)/29:_Introduction_to_Quantum_Physics/29.03:_Photon_Energies_and_the_Electromagnetic_Spectrum
9	colorblindness simulator		https://www.colorhexa.com/2300ff