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FLUORESCENT LAMP COMPARISON CHART

This chart describes the most common categories of fluorescent lights.
 The "Price" column has been intentionally left blank.

LAMP TYPE	C.C.T. (K°)	C.R.I. (0-100)	I.L.	U.V.B. (uw/m ²)	PRICE (\$)	OTHER COMMENTS
HI-SPECTRUM	3600	91	1965	10		top lamp for perishables
Promolux	3600	89	1600	50		quality varies; expensive
Cool White	4100	62	3200	90		cool, white bluish
Warm White	3000	52	3200			warm, yellowish
Standard Incandescent Bulb	2000	40	400			(for comparison only)

"FULL SPECTRUM" TYPE (also known as "NATURAL" or "DAYLIGHT" type)

This term was first applied to the Duro-Test "Vita-Lite", and was defined as any lamp with a CRI above 90, a CCT between 5500°K and 6800°K, and a spectral power distribution for visible and ultraviolet light similar to that of open-sky natural daylight. As used today, it implies that all colors (wavelengths) of the visible (but not necessarily the UV) spectrum contribute to the emitted light at similar energy levels.

"FULL-SPECTRUM"

GE (Chroma 50)	5000	90	2250	102		sunlight (cloudy)
Sylvania (Daylight)	6300	76	2700			bluish
Sylvania (Designer 50)	5000	82	3300			
Philips (Colortone 50)	5000	92	2800			cool
Philips (Daylight)	6500	79	3350			cool
Duro-Test (Color-Gard 50)	5000	91				
Duro-Test (Optima 50)	5000	91				
Duro-Test (Vita Lite)	5500	91		223		the original "full spectrum"
Duro-Test (Daylite 65)	6500	92		112		

"NATURAL/DAYLIGHT"

GE (Natural)	3700	90	2100			pinkish
Sylvania (Designer 35)	3500	69	3280			neutral white
Sylvania (Designer 835)	3500	80	3300			better CRI than D35
Sylvania (Natural White)	3600	86	2100			
Philips (Natural)	3400	81	2650	166		warm
Philips (SPEC 35)	3500	73	4120			neutral

"TRI-PHOSPHOR" TYPE

A fluorescent lamp designed to fluoresce sharply only in the narrow wavelengths of the 3 primary colors: red, green and blue. The light emitted appears white and very bright. Used in clothing and jewelry stores, etc. because they provide better color rendition than basic fluorescent lamps. Color temperatures of 3000, 4000, 4500 and 5000 are common, made by varying the mix of phosphors; red is the most difficult color to obtain.

- GE (SP 35)	3500	73	3200			pale yellowish
- GE (SPX 35)	3500	82	3500			white
- Sylvania (Designer 835)	3500	80	3300			
- Philips (Ultralume 35)	3500	82	3300			neutral
- Duro-Test (Color-Gard 32)	3200	82				
- Duro-Test (Color-Gard 50)	5000	91				

"PLANT GROWTH" TYPE

Developed as a result of a study in the 1950's about what type of lighting would affect plant growth. Meant solely for promoting plant growth, having an output spectra with 2 large spikes - one in the blue and one in the red portion of the spectra. There is almost no light emitted in any other portion of the spectra, and they cast an eerie red or purplish glow, and do not appear very bright. The phosphor mix was improved upon with a "wide-spectrum" model which moderated the color spikes but still focused on the blue and red spectra. Not as inexpensive as regular fluorescent lamps, since the phosphor which produces red is more expensive.

- GE (Gro-N-Sho)	6750	20	800			purplish
- GE (Gro-N-Sho WS)						reddish
- Sylvania (Gro-Lux)			1200			purplish
- Sylvania (Gro-Lux WS)	3400	47	1875			reddish
- Philips (Agro-Lite)		40	1600			reddish
- IL (Gro Lite)		25	1240			purplish
- IL (Gro Lite WS)		89	3400			reddish

- C.C.T. - Correlated Color Temperature (measured in degrees Kelvin). Think of a block of iron that changes temperature as it is heated: a warm, reddish light is emitted at around 3500°K; above 6000°K the light become bluish; equatorial sunlight at noon is around 5000°K.
- C.R.I. - Color Rendering Index. In simple terms, the degree (from 0 to 100) to which a light source renders a true, undistorted color impression. Think of the light produced by the sun at midday over the equator as representing a CRI of 100.
- I.L. - Initial Luminosity: lamp brightness. Multiply the lamp wattage by the Luminosity Per Watt (LPW) to obtain Initial Luminosity. For comparison purposes, the initial luminosity is shown for a typical 40 watt lamp - an F40T12; to obtain lumens per watt, divide the initial luminosity by the number of watts. LPW represents lamp efficiency.
- U.V.B. - Ultra Violet Beta emissions; light with a wavelength between 280 and 320 nanometers. Damaging to organic substances.