

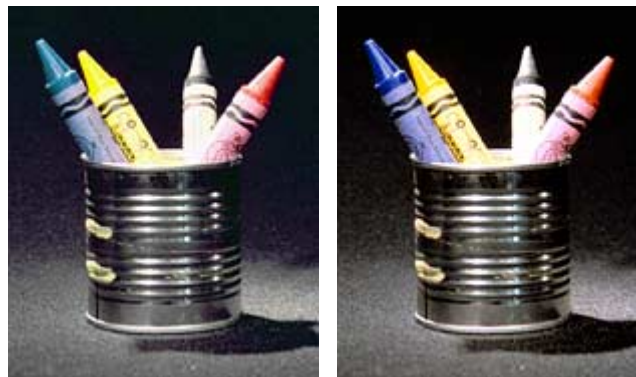
FIGURE 1: EXAMPLES OF COLOR RENDERING INDEX



SOURCE: <http://www.lrc.rpi.edu/education/learning/intro.asp?mode=terminology>

CRI is a general indicator of how "natural" object colors will appear when illuminated by a particular light source. Generally, a CRI of 70 and above will be required for most lighting applications.

FIGURE 2: EXAMPLE OF COLOR RENDERING INDEX AND COLOR TEMPERATURE



SOURCE: <http://www.lrc.rpi.edu/education/learning/intro.asp?mode=terminology>

Since the CRI rating for any given lamp is an average of eight test results, it can give no particular insight into the effect of the appearance of any one color. In this case, the two light sources illuminating the object have a CRI of 70, however the light source on the right renders blue more naturally than the one on the left. Color Temperature impacts the CRI of some colors.

TABLE 1: **Lighting Comparison Chart for a variety of light sources**

Lighting type	Efficacy (lumens/watt)	Lifetime (hours)	Color rendition index (CRI)	Color temperature (K)	Indoors/outdoors
<i>Incandescent</i>					
Standard "A" bulb	10–17	750–2500	98–100 (excellent)	2700–2800 (warm)	Indoors/outdoors
Tungsten halogen	12–22	2000–4000	98–100 (excellent)	2900–3200 (warm to neutral)	Indoors/outdoors
Reflector	12–19	2000–3000	98–100 (excellent)	2800 (warm)	Indoors/outdoors
<i>Fluorescent</i>					
Straight tube	30–110	7000–24,000	50–90 (fair to good)	2700–6500 (warm to cold)	Indoors/outdoors
Compact fluorescent lamp (CFL)	50–70	10,000	65–88 (good)	2700–6500 (warm to cold)	Indoors/outdoors
Circline	40–50	12,000			Indoors
<i>High-intensity discharge</i>					
Mercury vapor	25–60	16,000–24,000	50 (poor to fair)	3200–7000 (warm to cold)	Outdoors
Metal halide	70–115	5000–20,000	70 (fair)	3700 (cold)	Indoors/outdoors
High-pressure sodium	50–140	16,000–24,000	25 (poor)	2100 (warm)	Outdoors
<i>Low-pressure sodium</i>	60–150	12,000–18,000	-44 (very poor)		Outdoors