THE IMPORTANCE OF FULL SPECTRUM LIGHT

Light from the sun - A nutrient that travels at the speed of 186,000 miles a second from a source 93 million miles away and rates with pure food, water and air as a part of the life support system on earth.

But light also comes from manufactured sources, and therein lies the problems. The wrong kind of artificial light can make students irritable in school, reduce production among factory workers, and make office workers sluggish and prone to error.

Scientific studies show that not getting enough light can interfere with calcium absorption in the body and contribute to brittle bones. Low levels of outdoor light and ineffective artificial light indoors can also lead to Seasonal Affective Disorder (SAD) and winter blues.

The light that some scientists consider a super nutrient is full spectrum light, which comes from the sun or is simulated from specially designed full spectrum fluorescent tubes and high spectrum bulbs. Normal incandescent and halogen bulbs, as well as most fluorescent tubes, produce an overabundance of yellow and orange wavelengths. These are hard on the human nervous system. The glare produced by these lights is very hard and irritating on the eyes.

The full spectrum rating is designated by two factors: The first is Color Rendering Index (CRI), which designates the proportions of each color contained within the light. The second is Kelvin Heat Rating. Natural outdoor light has a CRI of 100 and a Kelvin rating of 7500 degrees Kelvin. Although there are no legal guidelines, 5000 degrees Kelvin and 90 CRI (or above) is considered full spectrum. In comparison, standard cool white fluorescent has a CRI of 68 while warm white fluorescent is 56 CRI. Standard incandescent bulbs have a 40 CRI.

Under natural light or full spectrum, that duplicates natural light, there is better visual acuity and increased production and accuracy. Students and office workers experience far less fatigue and chance of error. Absenteeism due to illness is decreased and people generally have more energy. When Data Control of Kansas City redesigned their facility using full spectrum light they experienced a savings of $235,000 annually from reduced computer errors by the employees who were entering the data.