

NaturaLux™ Filters: Maximizing Office Lighting and Performance

Chief Goals of Building Owners

- Make \$\$\$.
- Maximize profitability by spending less on energy consumption.
- Entice new tenants with a superior office space that will suit their needs.



Chief Goals of Business Owners

- Make \$\$\$.
- Maintain a profitable business.
- Construct a staff of knowledgeable people who excel at their positions.
- Provide a product or service that will ensure the first two goals.
- Minimize risk and legal exposure; reward hard work to improve morale.

Chief Goals of Office Managers

- Make \$\$\$ for the employer.
- Minimize absenteeism, poor work habits and performance.
- Create the perception that the company cares about its employees.



Our Goal:

- Our goal is to satisfy building owners, business owners and office managers simultaneously by using NaturaLux™ Filters in the office space.



Adding to the Bottom-Line

- Two ways to add to the bottom-line:
 - Increase income.
 - Decrease expenses.
- Both are essential to the financial growth and prosperity of any company.
- NaturaLux™ Filters can help your company decrease energy expenses and increase productivity, simultaneously.

Energy Demands

- According to Southern California Edison, overhead lighting can account for as much as **35%** of the monthly electric bill.
- The U.S. Dept. of Energy promotes the use of “Spectrally Enhanced Lighting” as a means of reducing lighting-related energy costs.

Spectrally Enhanced Lighting

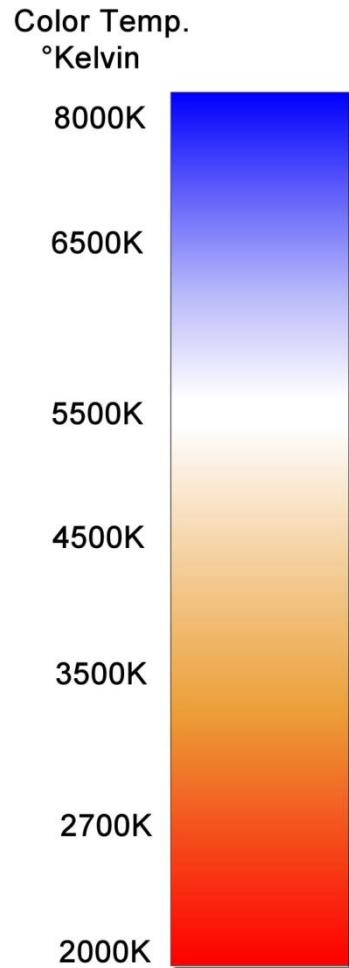
- According to the U.S. Dept. of Energy, spectrally enhanced lighting (SEL) is market-ready, simple to implement, and can currently be employed in buildings as a cost effective way to get quick energy savings.
- “There are no known negatives to installing this type of lighting in commercial buildings.”

Spectrally Enhanced Lighting

- Higher color temperature fluorescent lighting and high-efficiency ballasts can achieve energy savings of 20-40%, according to results of the DOE study.

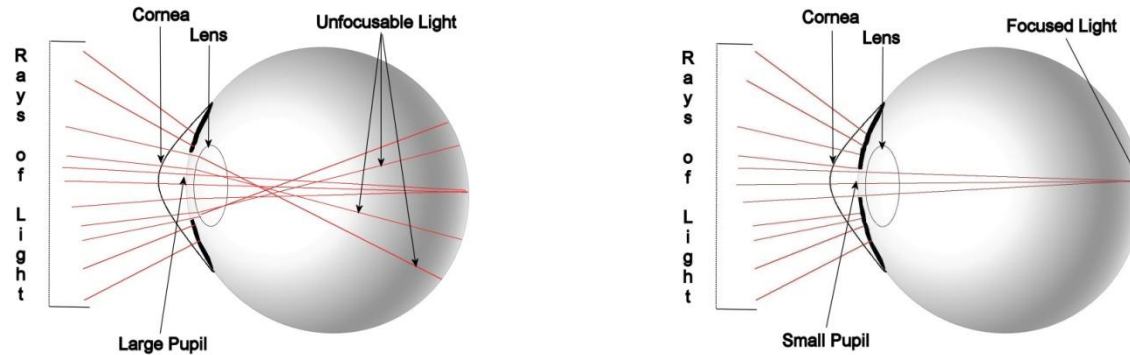


Spectrally Enhanced Lighting



- Spectrally enhanced lighting means shifting the color of light toward the cooler, blue end of the light spectrum.
- Allows your eyes to see more clearly and makes spaces appear brighter.

Spectrally Enhanced Lighting



- Bluer light causes the pupils to constrict slightly.
- Smaller pupils improve visual acuity.
- Increases depth of field.

NaturaLux™ & Energy Savings

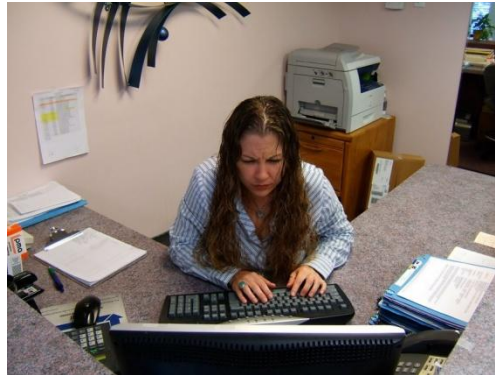
- NaturaLux™ Filters work with existing fluorescent lighting to increase the perceived brightness of lighting.
- When the light is perceived as being brighter, you can choose to either remove some lamps, or use lower wattage lamps in the fixtures.
- Either solution saves energy and \$\$\$.

Office Staff Productivity

- A study performed by Cornell Univ. found that 68% of employees complain about the light in their offices.
- One study pointed out that 79% of computer users want better lighting.
- Daily complaints of tired eyes and eye focusing problems twice as frequent under parabolic louvers.

Office Staff Productivity

- Researchers asked workers to report the amount of time they lost from various symptoms.
- Those working under parabolic louvers reported losing over 15 minutes a day, due to eye focusing problems.



Office Staff Productivity

- Headaches, eyestrain, visual fatigue and blurred vision increase error rates and decrease productivity which leads to lost revenue.
- Studies suggest that improved lighting results in a 3% increase in productivity.



Visually Efficient Lighting

- It is a known physiological fact that the human brain uses 20% of your body's energy, and a great deal of that energy drain is expended by the visual system.
- The more stress placed on the visual system of an employee, the more fatigued they become.
- This fatigue leads to increased errors and decreased productivity.

Productivity Benefits

- Lighting system improvements that increase worker productivity yield a high return on investment.
- Assume the direct costs of an employee is \$50,000 per year (\$24.00/hr.)
- If productivity is increased by *only* 1%, the employer receives a benefit of \$500.

Case Study



- An ergonomic study was performed by FairPoint® Communications (7th largest phone company in the U.S.)
- FairPoint's facilities were retrofitted with several ergonomic tools, including the NaturaLux™ Filters.
- The study results were as follows:

Case Study

Production Pre Install

- Measurement: Cycles
- # of Employees: 7
- Cycles Per Day: 3
- Cycles Per Week: 15

Production Post Install

- Measurement: Cycles
- # of Employees: 4
- Cycles Per Day: 4
- Cycles Per Week: **20**

- After the retrofit, this task required 3 fewer people while increasing production on a per day and per week basis.
- The task itself has also increased in the level of difficulty requiring more time.

Case Study

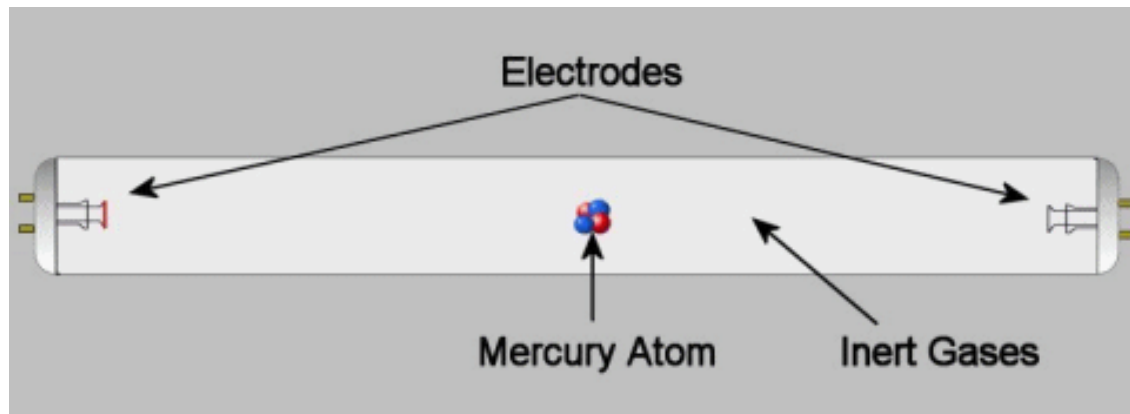
- One employee from the study was quoted as saying, “The new ergonomics equipment has made a world of difference. I was experiencing severe eye fatigue, headaches, and diminished vision in my right eye... I have none of these problems now. I can’t say enough about the positive and beneficial aspects of this ergonomics equipment.”

NaturaLux™ & Productivity

- NaturaLux™ Filters create an environment that is simultaneously stimulating and relaxing to the visual system.
- The enhanced bluer wavelengths of light help fight fatigue, increase alertness and improve performance.
- The glare reduction promotes a visually soothing environment.

UV in the Workplace

- All artificial light sources produce ultraviolet (UV) energy. This includes LED, halogen, fluorescent, HID, etc.)
- UV energy has a cumulative affect on our health and our well-being.



Americans with Disabilities Act

- According to the U.S. Dept. of Labor, there are between 1.4 - 2 million people with a disease called lupus.
- People with lupus take medications that cause them to become phototoxic or photo-allergic, when exposed to UV.
- Some become so weakened by the UV they faint; others break out in rashes.

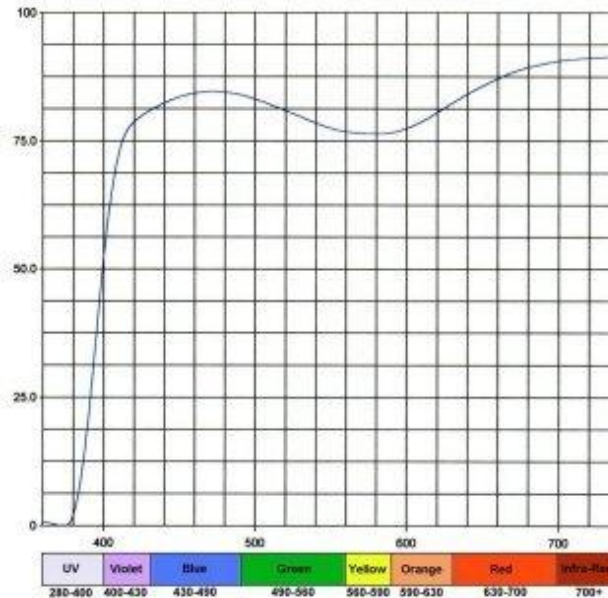
Americans with Disabilities Act

- The U.S. Dept. of Labor also points out:
 - Most individuals are diagnosed with lupus between the ages of 20 and 40.
 - Many are already in the workforce.
- The requirements of the Americans with Disabilities Act (ADA) provide for suitable accommodations for people with lupus and other conditions such as scleroderma, fibromyalgia, etc.

UV-Safe Lighting

- UV from artificial lighting contributes to other problems in the workplace:
 - Early cataract formation.
 - Premature aging of the skin.
 - Glare reflecting off of papers.
 - Fading of paintings, photos, wall coverings, carpets, drapes, etc.
 - UV degradation of plastics.

UV-Safe Lighting



- NaturaLux™ Filters absorb 100% of UVB and UVA to 380nm.
- Visible light starts at 390-400nm.

In Summary...

NaturaLux™ Filters provide your office with the following benefits:

- UV-Safe lighting environment.
- Spectrally enhanced lighting for energy savings.
- Glare-free lighting for increased visual performance and productivity.
- Color-balanced, full spectrum light.

Questions/Answers

