

How Can NaturaLux™ Filters Enhance Retail Sales?

Introducing the NaturaLux™ Filters



NaturaLux™ Filters and Merchandising

- All merchandising is visual in nature.
- The goal of merchandising is to display products in a way that will stimulate interest and entice customers to make a purchase.
- NaturaLux™ Filters can help retailers achieve that goal.

Unique Lighting Challenges

- Retail stores present lighting designers with a unique challenge: Create a visual environment that is simple, energy efficient and color accurate.
 - Attract the customer.
 - Guide the customer.
 - Complete the sale.

Counting the Cost

- Retailers want to make money. We all do. The age-old question is, “What must we spend in order to increase our earnings?”
- Retailers know that if they can properly engage their customers and make their shopping experience exciting, they will stay longer, spend more and return more often.

Counting the Cost

What does it take to:

- Attract customers.
- Highlight displays.
- Enhance the colors, shapes and textures of merchandise.
- Create a soothing, yet stimulating visual environment.
- Facilitate merchandise evaluation.

First Impressions



- Even before examining merchandise, the first thing a customer notices when entering a retail setting is the overall *lighting scheme*.

Inviting Lighting



- Lighting will either invite them to stay and shop, or turn them away to spend their money elsewhere.

Creating the Atmosphere



- Lighting sets the tone for the overall shopping experience and promotes your brand image.

Accent Lighting

- Upscale retailers typically employ lower overall light levels and use high intensity accent lights to highlight new arrivals or sale items.



Accent Lighting

- While this technique creates dramatic lighting, the consumer cannot always evaluate the merchandise properly.
- Can cause them to make a poor purchasing decision.
- Leads to an unhappy, dissatisfied customer.

The Key: Help Them Spend



- Facilitating merchandise evaluation creates happier, more satisfied customers who spend **MORE**.

Visually Efficient Lighting



- Visually efficient lighting serves to increase traffic and increase sales while lowering the cost of operations.
- Imagine using lighting that works *with* your eyes, instead of against them?

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 your visual system.
- The harder you make your customer's brain work, the more fatigued they become, forcing them to leave your store prematurely. Nobody wants that!

Visually Efficient Lighting

- The savvy lighting designer can't simply concentrate on things like lamp lumen depreciation and system efficiency alone. This may save on energy costs, but they will be saving that energy in an empty store.
- Color rendering, light distribution and energy efficiency must work together in harmony to achieve the desired goal.

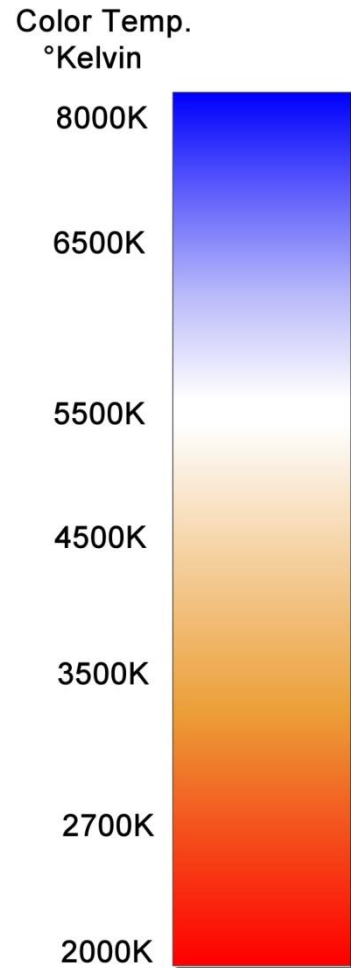
Save \$\$\$ to Make \$\$\$

- One of the best ways for retailers to make money is by saving money.
- 30-50% of electricity costs in the retail environment is dedicated to lighting.
- The U.S. Dept. of Energy states that buildings that use Spectrally Enhanced Lighting can reduce their energy costs by 25-50%.

NaturaLux™ Filters

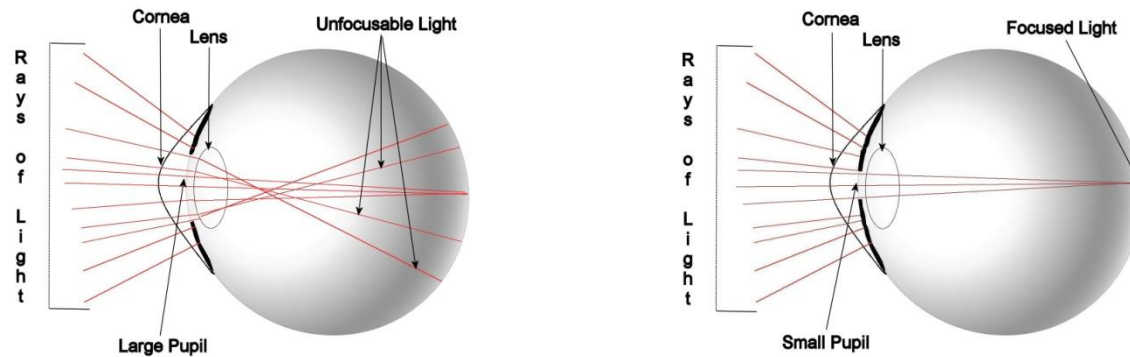
- NaturaLux™ Filters are designed to work with fluorescent, induction and LED lighting. Each of our products perform the following functions:
 - **Color enhancement of artificial light sources.**
 - **Absorbs harmful UV radiation.**
 - **Eliminates the glare from artificial light sources.**
 - **Spectrally enhances the light for energy savings.**

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.
- Also increases depth of field.

Color Temperature of Light

- “Cooler” means the light appears to be bluer, like the color seen in the mid-day sky (5000K)
- “Warmer” light refers to a more orange color of light, as we see in the late afternoon and early morning sky (3500K)



Color Rendering

- The color rendering index (**CRI**) is a quantitative measure of the ability of a light source to faithfully reproduce the colors of various objects in comparison with an ideal or natural light source.
- The higher the CRI, the more accurate the color is reproduced under a given color temperature of light.

Color Accuracy



2700K
Incandescent



3500K **Warm**
White



5000K
Daylight

- As you can see, color accuracy depends largely on the color temperature of the actual light source.

Retail Shrinkage

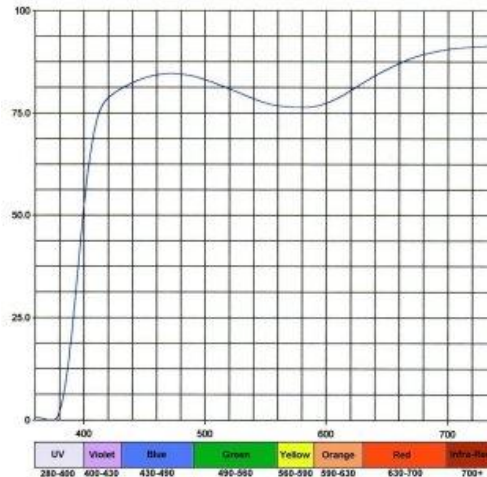
- The percentage of loss of products between manufacture and point of sale is referred to as shrinkage.
- Shrinkage cost retailers \$107.3 billion in 2010.
- Clothing returns due to poor color matching ability adds to consumer frustration.

Retail Shrinkage



- Fading of merchandise in the store is another potentially major form of shrinkage. 40% of fading is caused by UV radiation.
- Faded clothing is typically written off as shrinkage, sold at a deep discount, or donated.

Absorbs UV Rays

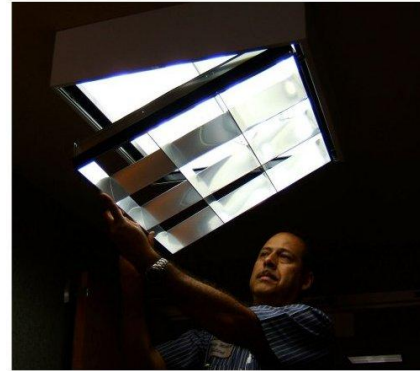


- UVB and UVA radiation is present from 280-400nm.
- NaturaLux™ Filters absorb 100% of UVB and UVA up to 380nm. Overall, they absorb 98% of all UVB-UVA rays.

In Summary...

- NaturaLux™ Filters create a visually soothing, yet mentally-stimulating light source in the store.
- NaturaLux™ Filters protect your merchandise, customers and employees alike from unwanted UV rays.
- NaturaLux™ Filters provide customers with vibrant, accurate colors in the store to make important buying choices.

NaturaLux™ Filters in the Supermarket and Convenience Store Industries



Supermarket & Convenience Store Merchandising

- Turning over product on the shelves is a top priority in the grocery industry.
- Most products have a finite shelf life.
- The speed with which products leave the shelves can make or break your profits.



Visual Merchandising: End Caps

- End caps grab the attention of customers as they wander through the store.
- It is essential for the merchandise to be illuminated in such a way that the labels and products “jump” into the eye of the shopper.

Visual Merchandising: End Caps

- NaturaLux™ Filters provide color-corrected, color enhanced lighting.
- Make your products look their very best!



Visual Merchandising: Designing the Display Area

- By effectively using colors, textures, and shapes, you establish a focal point on your display for easy viewing that will direct the eyes of your viewer to each element of the display.
- The more vivid and colorful the display, the more attention it GRABS!

Visual Merchandising: The Color of Light



- The color of light is most important in retail sales.
- It can cause products to appear dull and dreary, or it can cause excitement and anticipation.
- Accurate colors facilitate merchandise evaluation.

Visual Merchandising: Easy on the Eyes

- Another goal is to help the eyes work *smarter*, not harder.
- Most customers consider price as one of the top two considerations when making a purchase, the other being quality.
- If the price tag or ingredients are difficult to read, a sale could be lost.

Visual Merchandising: Easy on the Eyes

- NaturaLux™ Filters are “spectrally enhanced”, which means it makes the available light appear brighter.
- Creating a visually soothing store helps customers stay longer, shop longer, spend more and walk away feeling confident about their purchases.

UV and Groceries

- All forms of lighting emit ultraviolet (UV) rays (sun, fluorescent, halogen, LED, and incandescent.)
- Product packaging fades after exposure to UV radiation.
- Nutritional value of meats, dairy products, produce, baked goods, beer and wine suffer when exposed to UV.

UV and Dairy Products

- One study showed that 2% milk, when exposed to fluorescent lighting for only 5.3 hours suffered a significant drop in flavor acceptability by a panel of 100 judges.
- Vitamin A losses in 2% milk, from five dairy plants, ranged from 8% to 31% when they were exposed to 200 foot candles of fluorescent light for 24 hours in opaque plastic containers.

UV and Alcohol

- Beer and wine, when exposed to UV from artificial lighting can alter the chemicals in the beverage.
- Beer develops a “skunky” flavor. This is especially true of beers in a clear or green bottle.
- Wine can also develop a “lightstruck” flavor after just 18-31 hours exposure to fluorescent light.

UV and Baked Goods

- Baked goods contain fats or oils.
- Light and heat accelerate the rate of lipid oxidation.
- Lipid oxidation affects the smell, taste, and appearance of any food containing fats.



UV and Meats

- The color of fresh meat in supermarket display cases strongly influences the customer's purchasing decision.
- Fluorescent lights can alter the color, flavor, and smell of meat.
- Fluorescent lighting that emits high levels of UV radiation accelerates the discoloration and spoilage of beef.

UV and Meats

- Fluorescent lighting can subject poultry meat to its oxidizing effects.
- The meat becomes discolored after prolonged exposure to visible light and UV radiation.



UV and Produce

- Produce is affected by lipid oxidation and non-enzymatic browning.
- Lipid oxidation rate is influenced by light, local oxygen concentration and high temperature.
- Carotenoid degradation in foods is mainly caused by oxidation, which is caused by light and heat.

UV and Produce

- Factors controlling the rate of food deterioration reactions are:
 - a. Effect of temperature.
 - b. Effect of water activity.
 - c. Effect of gas atmosphere.
 - d. Effect of light (UV).

UV and Potatoes

- Exposure of potatoes to light in the field, in storage, on the store shelf, or at home will form green pigmentation near the surface of the potato.
- This is called “greening” and indicates the formation of chlorophyll.
- Chlorophyll formation is most efficient under red-yellow light.

UV and Potatoes

- Fluorescent lights induce more greening than incandescent lights.
- UV increases greening, and the NaturaLux™ Filters absorb UV rays.



NaturaLux™ Filters and the Pharmacy Industry



Pharmacy Merchandising

- Pharmacies sell a large mix of items.
 - Medications/Vitamins/Supplements
 - Clothing
 - Magazines/Greeting cards
 - Foodstuffs
 - Beauty supplies
 - Electronics
 - General merchandise

Effects of UV in the Pharmacy

- Drug manufacturers are required by federal law to test their products for photostability (for possible adverse effects of UV radiation.)
- There are over 150 commonly prescribed medications that cause photosensitive reactions in patients.



Pharmacy Lighting

- Pharmacies want customers to shop while waiting for their medications.
- Proper store lighting includes adequate but not glaring light that invites customers to shop comfortably.



NaturaLux™ Filters in the Pharmacy

- Create a visually soothing shopping environment.
- Protect medications and merchandise from negative effects of UV.
- Spectrally enhance the light for increased energy savings.
- Provide vibrant color for shopping evaluation.

NaturaLux™ Filters and the Home Furnishings



UV Affects on Furnishings

- UV rays from fluorescent lights are strong enough to fade your carpeting, furniture, leather, hardwood floors, wallpaper, and many other surfaces.
- The amount of fabric fading depends on the fiber type, dye, color, stability, and/or pattern techniques.



UV Affects on Furnishings

Interior furnishings include:

- Fabric or leather chairs, sofas
- Wooden furniture
- Carpets
- Drapes
- Wall coverings
- Leather
- Paintings and photographs

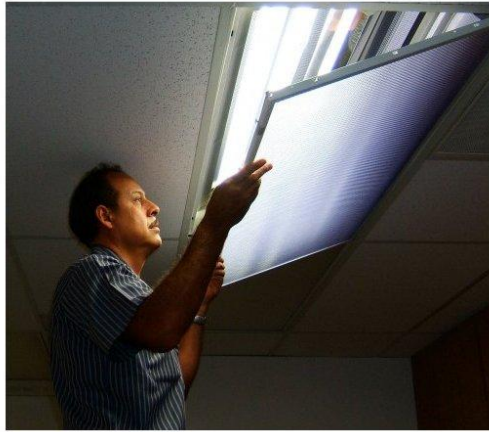
Home Furnishings

- UVB and UVA contribute to 40% of fading.
- Visible light contributes to 25% of fading.
- NaturaLux™ Filters eliminate 100% of UVB and UVA up to 380nm. Overall, they absorb more than 98% of UV.
- NaturaLux™ Filters absorb 20% of visible light.

NaturaLux™ Filters and Home Furnishings

- Create a visually soothing shopping environment.
- Protect fabrics and wood from negative effects of UV.
- Spectrally enhance the light for increased energy savings.
- Provide vibrant color for shopping evaluation.

NaturaLux™ Filters and the Fast Food Industry



NaturaLux™ Filters

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Fast Food Restaurants

- NaturaLux™ Filters are a perfect fit for fast food restaurants for the following reasons:
- Improved energy efficiency
- They create a visually soothing, yet brighter environment in the dining room.
- Enhanced lighting that encourages increased sales.

Fast Food Restaurants

- NaturaLux™ Filters create a healthier, UV-Safe environment for customers and employees alike.
- The UV absorption feature of the filters guards the furniture, signage and contents from premature fading from the fluorescent lights.
- The color enhancement brings out the colors in the artwork, décor and signage.

Fast Food Restaurants

- Protecting the food preparation area with NaturaLux™ Filters will ensure that the peak nutritional value of the food will be delivered to the customer, intact. No UV degradation of the meats, cheeses, produce or baked goods from the UV in fluorescent lighting.

Fast Food Restaurants

- Studies indicate that employees will experience improved productivity while working under full spectrum, color balanced lighting.
- Studies also indicate employees will experience a decrease in their error-rate, ultimately resulting in happier, more satisfied customers.

Energy Efficient Lighting

- The U.S. Dept. of Energy states that buildings that employ the use of Spectrally Enhanced Lighting (SEL), will reduce their energy costs by 25-50%.

http://www1.eere.energy.gov/buildings/sel_implementing_solutions.html

- This will allow fast food restaurants the ability to de-lamp a portion of their facilities without sacrificing brightness.

Creating the Atmosphere



- NaturaLux™ Filters help to create a visually soothing, yet stimulating environment. Customers can relax under the simulated daylight, and workers can feel energized.

Energy Efficient Lighting



- Multiple studies have shown that when consumers are relaxed and are enjoying their environment, they tend to stay longer and purchase more product.

UV-Safe Lighting

- Ultraviolet (UV) energy from artificial (LED, fluorescent, halogen, etc.) lighting has a cumulative affect on our health, our food, our furniture and our lives.
- Absorbing the UV energy from your fluorescent lighting will create a UV-Safe environment for your customers.

UV-Safe Lighting

- There are millions of Americans who cannot eat in fast food restaurants because their bodies are highly sensitive to UV rays. People with Lupus, for example, take medications that cause them to become photo-allergic or phototoxic when exposed to UV. We all need a UV-Safe place to eat and relax (besides home.)

UV-Safe Lighting

- Another advantage to UV-Safe lighting is that it protects against UV fading caused by artificial lighting. This preserves the artwork, signage, wood, upholstery, and other contents from premature fading.



UV-Safe Lighting

- UV-Safe lighting ensures that food that is **MADE FRESH** is **SERVED FRESH** with all of its original nutrients intact. In other words, UV rays have not altered those nutrients.



UV-Safe Lighting

- Numerous University studies have shown that UV exposure degrades foodstuffs.
- One study has shown that milk in the dairy case under fluorescent lighting loses up to 31% of Vitamin A.
- UV exposure to baked goods causes the oils and fats to oxidize and turn rancid.

Increasing Productivity

- Some studies have indicated that employees working under full spectrum light had an increase in their productivity rates on the order of 8%.
- Other studies indicate a reduced error-rate among those working under full spectrum light.

In Summary:

- NaturaLux™ Filters are a perfect addition to any fast food restaurant lighting environment.
- Creating a vibrant, visually soothing, color enhanced, UV-Safe atmosphere demonstrates to customers that you CARE about them, their need for a safe place to relax, their health and their well-being.

Questions/Answers

