

IN THE WORKS

technically speaking

Lighting *in* Layman's Terms

by Haley Shapley

What every lighting retailer must know — and be able to explain to customers.



Ambient lighting, like that provided by a table lamp or ceiling lights, is just one kind of lighting that showroom staff should know about. *Photo above courtesy of Minka Group. Photo at right courtesy of Thomas Lighting.*

A bulb isn't just a bulb, a wire isn't just a wire, and not all lamps are created equal. Every lighting expert knows that, but the complex world of electricity can be dizzying for someone without a technical background. Since not every showroom is stocked full of people brimming with electrical expertise, here's a quick guide to what every staffer needs to know to do his job well.

THE ESSENTIAL UNITS

Volts, *watts* and *amps* are the key terms you need to know. This may seem basic, but it's important to learn nonetheless, says Terry McGowan, director of engineering for the American Lighting Association. An amp is a unit of electrical current, a measure of the amount of energy flowing through something at any given time, while volts measure the pressure of electricity. Multiply amps by volts and you get watts, a unit of electrical power, or the measure of the work electricity does per second.

An easy way to visualize these concepts is to think of a pipe, with water representing electricity. How much water gets through depends on how much is in the pipe (amps) and the water pressure (volts). The end result of how efficient that pipe is depends on how much water gets through in a certain amount of time (watts).

Why does this matter? "Their customers buy electric energy for lighting by paying so much for kilowatt hour," McGowan says. "So if they sell them a lighting fixture for 200 watts, what will that cost them each hour to run?" In general, the more amps an appliance needs to run, the bigger the electric bill will be.

TYPES OF LIGHTING

Because lighting isn't one size fits all, it's good to have a firm grasp on what kind of lighting does what, says Karen A. Engle, CLC, a member of the education committee for the ALA. Ambient lighting, for example, is the general lighting in a room, what you get from most floor lamps and ceiling lights.

Task lighting, on the other hand, is used to illuminate a specific area. People may want task lighting on a desk where reading takes place, above a stove or shining down on the kitchen table. Accent lighting is similar to task lighting, but involves directional light that's usually decorative, sometimes used for illuminating a piece of artwork. On a much bigger scale, utility lighting floods an area, like a walkway, and is most often used outdoors.

Dimmers are another lighting source it pays to be well versed in, as they're gaining in

popularity. "In a new home in particular, there will be a wall box dimmer," McGowan says. "There are three types of dimmers, and the showroom person should know which of those three types is going to be required for the lighting fixture that they're selling. The same thing goes for photocells over the garage door. That photocell must be compatible with that lighting fixture it's attached to."

LIGHT SOURCES AND COLOR

"Compact fluorescent lamps come in a variety of colors, sometimes just classified as warm to cool," McGowan says. "You need to know the chromaticity of the source, measured in kelvins."

Chromaticity is important because it affects the quality of the light. The Color Rendering Index is also important, as it measures a light source's ability to reproduce colors. The index is on a scale from zero to 100, with 100 representing the very best rendering of light. "Consumers should use nothing less than 80, but it's better if it's 85 or 90," McGowan says. "Otherwise, colors will be distorted, skin tones will look strange, and you won't be able to see colors very vividly; it will generally be unsatisfactory lighting."

SAFETY PRECAUTIONS

"How big a wattage bulb can I put in it? The showroom person should know there's



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a label that tells you the max wattage," McGowan says.

Using the wrong bulb or fixture can obviously lead to big problems, such as circuit overloading or even fire. "Things that would impact any fire or electrical hazard should be relayed to the customer," he says. Safety of the consumer is the top concern when it comes to electricity, so be sure to learn all the correct applications and restrictions for any light source.



Being able to easily explain the difference between incandescent and fluorescent lights is a key skill for lighting employees to have. Photo courtesy of MC2 Marketing.

INCANDESCENT VS. FLUORESCENT

They sound alike and serve the same purpose, but use a very different method to get to the end result of providing light. An incandescent bulb is the typical light bulb used. Electricity runs through its filament, the filament provides resistance, and electrical energy then turns into heat. As a result, the filament becomes so hot that it produces a white light.

Fluorescent bulbs, in contrast, involve a fluorescent tube with gas containing mercury atoms. Electrons run through it, interact with the gas, and excite the mercury atoms. As the atoms go from a state of excited back to unexcited, they emit ultraviolet photons that collide with the phosphor inside the tube, producing light.

Fluorescent is more efficient than incandescent because it doesn't waste energy giving off heat — an unnecessary byproduct of the incandescent bulb. Although fluorescent light is more efficient, it does have a higher up-front cost (made up in time with less electricity used) — and because of the mercury, there are issues with disposing of these bulbs (*see "CFL Disposal Issues," p. 23*).

ASSESSING CUSTOMER NEEDS

It's crucial to figure out from the start what your customer's purpose for coming in is. "They would need to define why the products are needed. Are they really trying to solve a lighting problem for a person?" Engle says. "They would need to know what kind of lamp or light bulb is needed to solve the problem."

Those working at a lighting retail store should be up on the latest trends and aware of the electrical considerations that go with each of them. There's a lot the average customer won't know to even ask about, like whole-home lighting systems, and that's where the showroom employee can come in with feasible suggestions.

And it almost goes without saying, but consumers often have many questions about exactly how they can use their fixtures, and anyone interacting with the public should be able to answer those questions.

"Once they select a fixture, customers want to know if they can substitute this lamp; if they want to use it for reading, can they dim it; can they mount it this way or that way on the wall; are there different sizes available; is there a family of fixtures, etc.," McGowan says. "The product line should be known by anybody in the showroom."

FOR MORE INFORMATION

If this crash-course isn't enough for employees with non-technical backgrounds, those staffers might want to look into taking a class or attending a seminar. One good resource is the American Lighting Association. "We have 18 courses that teach people the technical aspects of lighting and how to sell it," says Dick Upton, president of the ALA. "That's one of our critical pieces of activity at our association."

These online classes cover numerous topics and involve a final exam to ensure the participant understood the material presented. Those who want to take their learning a step further can order the Residential Lighting Training Manual, a self-study 800-page book that covers technical and sales topics. In addition, seminars are held all the time on topics ranging from low-voltage lighting to track lighting to the layered lighting method. Visit www.americanlightingassoc.com for more details. ♦