Working with Light

by Dave Holbrook

Unless I miss my guess, a working familiarity with the nuances of lighting probably doesn't make most builders' short list of "Things I Should Know Something About." However, if a correlation can be made between the invaluable counsel a spouse provides on your wardrobe and the effect good lighting can have in the homes you build or remodel, you get an idea of the power of proper lighting. If you've held a flashlight under your chin at night for theatrical effect, you know how scary perfectly normal things — in this case, people — can look. I read something recently about "most cost-effective real-estate upgrades," suggesting that replacing dim bulbs with brighter ones can yield a 713% return on investment in the sale of a home. Yeah, well, not if you're highlighting wavy floors, crooked walls, and cracked ceilings. No lighting scheme will undo that sort of problem, but knowing how to handle lighting could yield a good return on your reputation as a creative builder.

Light Economy

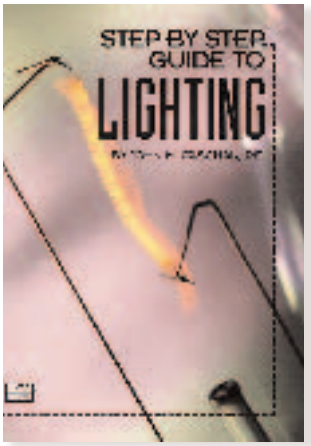
The Lighting Pattern Book for Homes by Russell P. Leslie and Kathryn M. Conway (2nd edition, 1996; McGraw-Hill, P.O. Box 545, Blacklick, OH 43004; 800/722-4726; www.mcgraw-hill.com; $75) is designed "in the spirit of traditional architectural pattern books," dictating no particular style and available "to guide lighting decisions quickly and wisely." There is an unequivocal bias in the book toward energy efficiency that is hard to quibble with, whether a given customer cares about it or not. If you can light a home without making the meter blur, that's a good thing.

Although daylighting is acknowledged and encouraged, in the Design chapter the authors present 36 hand-drawn rooms, all without windows or skylights, to emphasize the specific applications of artificial ambient, indirect, wall-washing, accent, and task lighting (see "Practical Lighting Design," 6/98). In each presentation, an energy saving alternative to a typical approach is proposed. For example, a typical half-bath is presented with a single 100-watt overhead "luminaire," or fixture, controlled by a wall-mounted switch. The estimated annual operating cost is $8. If the "lamp," or bulb, is replaced with a 75-watt lamp, the annual cost lowers to $6.50. If the ceiling fixture is replaced with a wall-mounted fluorescent vanity light with two 20-watt lamps, the annual cost drops to $6. How you spend the $2 savings is your affair. Though not expressed in lumens, the output of the vanity light is stated to be greater than the 75-watt bulb option. So, you get a quick trade-off example to work with.

The picture segment provides the quick-reference guidance mentioned above, while subsequent chapters add basic familiarity with common components and terminology of indoor and some outdoor applications. Creative or aesthetic direction is neither proffered nor provided; it's not what this book is about.

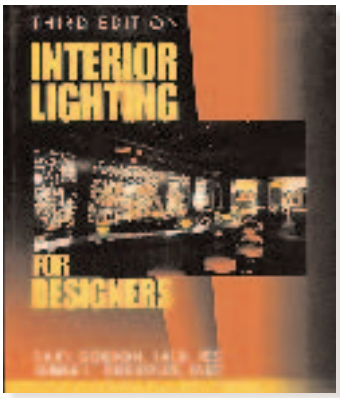
A chapter on economics includes tables of lamp information and typical prices, and a worksheet for comparative analysis of alternative designs for the cost-conscious. Frankly, I can't imagine slogging through the computations for the relatively small return it would seem to provide — the application would have to be quite large to be significant. By no means is this the only book you should read to increase your understanding of lighting principles, but the information offered is clear, concise, and easy to absorb.

Giant Steps



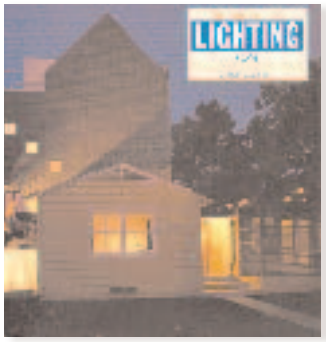
Absorb and regurgitate some of the formula calculations in this book, and your clients will think they've hired a rocket scientist. *The Step by Step Guide to Lighting* by John M. Paschal, P.E. (1998; Intertec Publishing, 9800 Metcalf Ave., Overland Park, KS 66212; 800/543-7771; www.ecmbooks.com; $29) is "dedicated to taking the mystery out of lighting design." This book's tendency toward dense technical language adds some mystery to the English language, but a determined and methodical reader will certainly come away with a head full of truly fascinating lighting theory. However, the author addresses large-scale industrial interior and exterior lighting exclusively, so a residential application would be by inference only. In fact, if one were to dutifully learn these concepts, I'd suspect that a career change was in the making. For the money, a great deal for anyone wanting to go off on a deep, technical tangent. Bring your scientific calculator.

Seeing the Light



I get the feeling that lighting professionals see the world a little differently from you and me. Just as a biotechnician might view his fellow being as a carbon unit, lighting people evaluate their surroundings in terms like nonuniform luminance, intensities, focal glow, and ambient luminescence. *Interior Lighting for Designers — Third Edition* by Gary Gordon and James L. Nuckolls (1995, John Wiley & Sons, Distribution Center, 1 Wiley Dr., Somerset, NJ 08875; 800/225-5945; www.wiley.com; $80) makes this kind of terminology comprehensible to the uninitiated. It might seem that the best way to teach lighting would be to show a picture of a room, point out the light sources, and tell us what the fixtures, bulbs, spacing, and focal points all are. Not so fast — it turns out that measured luminance provides a poor indication of perceived brightness, due to the human eye's quirky ability to adapt or respond to transitional lighting. Therefore, it isn't enough to work from graphs and photometric data to create "ideal" illumination; these are only tools used as a back-up to check a completed design. If you've ever listened to a museum tour guide dissect the colors and the brush strokes in a famous painting, you get the idea. The technical drawings in this book serve as useful guides to the practical, measurable values of lighting, while the success of any given design is indicated as being the creative product of someone in command of their tools. With clear language and a minimum of tangled algebraic equations, this book will put some of those tools in your hands. It is not a collection of great design ideas, but a dissection of components.

Once Over Lightly



The Complete Home Lighting Book — Contemporary Interior & Exterior Lighting for the Home by James Davidson (1997, The Overlook Press, 2568 Route 212, Woodstock, NY 12498; 800/473-1312; www.overlookpress.com; $40) distills lighting theory down to lay-speak, defining and introducing only a smattering of industry jargon for clarity. This book takes a pleasant visual tour through some artfully illuminated residential settings, accompanied by relatively simple, superficial text. Concepts are painted with a broad brush. To me, such a presentation is somewhat illusory — you may think that you get the concept when you're looking at the finished product, but sit down later in front of a blank sheet and see how far you get. Certainly there is much to gain from seeing the work of others; I've often worked with remodeling clients using magazine clippings as a point of departure. And, you could use this book in a similar fashion — sitting down with a client to discuss a lighting strategy — but it won't make either one of you an expert. Take the lovely photos in this book, though, team them up with Gordon and Nuckolls' text and diagrams, and you'll be on your way to a rudimentary, or "light," education.