Preface to the Second Edition

I wrote the first edition of *Designing with Light* because I was unhappy with the existing textbooks. They all covered the basics but didn't address two of the most important things I wanted my students to know. First, I wanted to emphasize the way designers think and talk about light. That's why Chapter 2 is in the first edition, and why it's at the front. Second, I wanted to expand my student's understanding of color beyond the basics of CCT and CRI. That's why the chapter on color is 30 pages, roughly 20 pages longer than the typical color chapter in other architectural lighting textbooks.

In this, the second edition, I think there's still more to be said and more to be learned. The field of lighting design is at an inflexion point and, while it may last a while, I think on the other side of it we'll all need to be able to understand and solve a new set of challenges. We're no longer focused on task illuminance as a key goal, for example. Task illuminance is so well understood, and so easy to achieve that it's become a secondary or tertiary concern. We've also moved past energy conservation. Yes, our designs need to meet energy conservation codes, and many of us are looking at net zero goals, but meeting energy conservation requirements is no longer the challenge it was when we were using incandescent and fluorescent light sources in our designs. Aesthetics will continue to be a large part of what we do, but advances in LEDs will change some of how we do it.

From my perspective, the lighting design challenges students' need to be prepared for include a fuller and more nuanced understanding of color rendering, the broadening use of colored LEDs and the associated need to understand color science, the impact of light on health and wellness, which includes circadian entrainment but is starting to go beyond that and encompass other areas as well, and UV-C disinfection. All of these topics require science to inform them, understanding of science to apply them, and evidence-based guides to ensure that they are being implemented effectively and safely. The world is asking more of lighting designers (without a commensurate increase in fees, unfortunately), and I see more and more designers layering these subjects on top of the traditional foundation of illuminance, aesthetics, and energy efficiency.

That's not to say there won't be a place for the designer focused on aesthetics. People will always want to have beautiful surroundings, but the way we understand and solve some aesthetic challenges, such as color rendering, is expanding and changing. I find it simultaneously exciting to always be learning new things and frustrating that I must always be learning new things.

In this edition, I've refreshed all of the chapters and added new information. I've expanded the chapters on designing with light and designing with color. I've also added new chapters on design, the science of color, lighting techniques, and lighting economics. I hope you find them useful.

Preface to the First Edition

Perhaps more than any other design discipline, lighting design is a combination of art, science, and technology. Lighting designers need to understand a wide range of architectural and interior design styles so that our work supports the aesthetic goals of the owner and the design team. We need to know how light affects vision and perception, and understand the interplay between light and materials so we can extend and reinforce the viewer's response to a space. We need to understand the lamp technologies, lighting hardware, and control systems that will bring our vision of a project to fruition. It sounds like a lot, and it is. The wonderful thing about lighting design is that there is a wide range of projects with room for many types of designers. Some practitioners have a science, math, and numbers orientation. Some lean toward art, aesthetics, and intuition. Most designers fall somewhere in the middle. If you're bright, talented, and have a discerning eye, there's a good chance you can have a career as in lighting design. I hope that encourages you.

I came to the practice of architectural lighting design after two decades as a theatrical lighting designer. As a result, my design approach, and the emphasis of this book, focuses on aesthetics and design. I outline several approaches to the process of working through a design and present case studies of my own work, walking you through the design from start to finish so you can see how it was done. However, one cannot practice lighting design without a firm grasp of the technical side of the profession. That fact is becoming truer every year. After several decades of relative stagnation, so much of the lighting industry is changing that it's sometimes hard to keep up. New energy legislation, phasing out of old technology, introduction of new technology, and expansion of the body of knowledge that a designer must master are keeping all of us on our toes these days. I've devoted chapters to all of these issues, from lamps and luminaires to controls and codes.

Most books are a reflection of the author, and this one is no different. First, I love history, and I always want to know how things were discovered, not just the outcome of the discovery. As a result, you'll see that I often start with some history on the scientists and researchers responsible for important discoveries to give you some background on the concepts that are covered here. Second, I'm fascinated by science, and try to present some of the dryer material with a sense of excitement and wonder. I hope that comes through. Finally, I love this profession and I have fun at work (almost) every day. I take this material very seriously, and I strive for perfection in my work, but I'm not dour about it. I hope my joy for design and my excitement at solving design challenges comes through, and I hope that encourages you, too.