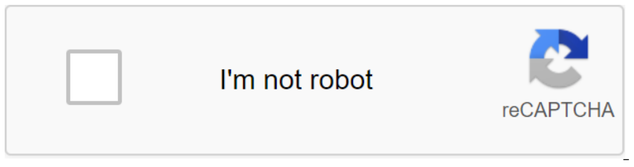

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Architectural lighting design a practical guide pdf

Where to start if you want to ignite the interior space? What is the best color temperature for your designer scheme? What should be considered when choosing LED lamps and lamps? Architectural Lighting Design answers these questions and more in a comprehensive introduction to the design, application and lighting techniques of interior spaces. Using real examples of successful lighting schemes, experienced designer Admir Djukanovic talks about the basics of lamps and fixtures, as well as how to meet the requirements of a design resume. Topics include procedures and techniques for lighting designs; Tips for understanding the results and doing the brief; five phases of the project, from concept to commissioning and common pitfalls to avoid when using artificial lighting in architecture. A priceless book that gives an introduction to the design, application and methods of lighting interior spaces. Like students, aspiring lighting designers, architects, interior designers and electrical engineers. Gives detailed information about the treatment and techniques for lighting the designs; Lighting design schemes The specifications of the sheets download graphics and much, much more. Fully illustrated by 102 color photographs and 181 color lines of work. Admir Djukanovic is an award-winning lighting designer with fifteen years of industry experience. Where to start if you want to ignite the interior space? What is the best color temperature for your designer scheme? What should be considered when choosing LED lamps and lamps? Architectural Lighting Design answers these questions and more in a comprehensive introduction to the design, application and lighting techniques of interior spaces. Using real examples of successful lighting schemes, experienced designer Admir Djukanovic talks about the basics of lamps and fixtures, as well as how to meet the requirements of a design resume. Topics include: - Processing and techniques for lighting designs - Tips for understanding the results and execution of the brief - Five phases of the project, from concept to commission - Lighting design schemes, with conceptual documents, sheet specifications and load schedules - Common pitfalls to avoid when using artificial lighting in author architecture: Admir Jukanovic is an award-winning lighting designer with fifteen-year experience in the industry. His renowned lighting design led him to judge in lighting design contests and to lecture and workshop. 102 color photos, 181 line works Academia.edu no longer supports the Internet Explorer.To browse the Academia.edu and the wider Internet faster and more securely, please take a few seconds to update the browser. © 1996-2014, Amazon.com, Inc. or its affiliates This site uses Cookies. Cookies are very small text that are stored on your computer when you visit some websites. We use cookies to maximise maximization Experience and make our site easier for you to use. Learn more... - Books Books NOOK Books Newspaper kiosk Teen Toys Games - Collectible Gifts, Home and Office Movies - TV Music Sales Index Introduction Beauty is revealed by light and a delicate game between light, shadow and color. When used correctly, good artificial architectural lighting has a natural quality that instinctively feels good and helps us feel good. The need for lighting design, rather than lighting that meets regulatory and regulatory requirements, began half a century ago. ARCHITECTURAL LIGHTING DESIGN STARTED to be seen in the 1950s in the United States and then spread to the UK and some other European countries. Lighting design is a fairly new description of the work. There aren't many courses to sign up for if someone wants to become a lighting designer. Not being able to influence what is taught in several courses available leads many lighting design consultants to train their future lighting designers. In fact, some consultancies prefer to develop their own talents to provide good quality basic learning paired with a design philosophy that fits the company's philosophy. Many lighting designers have either a design or architecture background and have received basic education and finishing in consultation. I am the product of this process and everything I know is either learned at work or self-taught. Now I have begun to share my knowledge and experience with newcomers coming to our consultation. This book is designed for all new starters and interested alike, and we hope to become the basis for architects and future lighting designers. Thus, this book covers the technical aspects of lighting design as much as the design-related features. The structure of the book allows a person not familiar with lighting to step-by-step into lighting design. It starts with the basics of lamps and lamps and lighting fixtures. These first three chapters form the technical basis of the book. Chapter Four is the backbone of the book and explores key aspects of lighting design, while chapter five demonstrates what results are expected and how to present them. All explanations are backed up by images and diagrams throughout, although most of the architectural images used in this book have been preserved for the final chapter. Rather than finishing with case studies of successfully executed jobs, this book closes with traps as a successful lighting design scheme depends as much on well-executed details and avoid traps as it does on its comprehensive concept. This book won't teach you how to be creative and come up with a great lighting concept, but it offers tools and to create a structure of knowledge and social protection you will surely need to do so. Chapter BASICS - LAMPS BEFORE GETTING IN BASIS artificial lighting, the so-called light source, let's take a quick look at its terminology. What most people don't know is that what normal people call a lamp is actually a lamp. Keep in mind most of the lamps used today do not come in bulbous shapes anymore, but are available in a variety of shapes from the tube to the sphere cone. Every light source, whether fluorescent, gas discharges, LEDs or incandescent bulbs, should ideally be called a lamp. Fig. 1.01 Different types of lamps. LUMINAIRE To make things more confusing, people not involved in the lighting industry call lamp lamps. When the oil lamp was replaced by a safer and brighter gas lamp, and then a safer and brighter electric incandescent bulb, people understandably decided to call it only a lamp. In the lighting industry, however, it is still called a lamp, a light-thun installation or, more elegantly, a lamp. Fig. 1.02 Artemis luminaire. ALL ABOUT EFFICIENCY Since the invention of the practical electric incandescent Swan/Edison incandescent in 1878/1879, many improvements have taken place. The lamps either become more efficient or smaller or have longer lifespans. However, improving one aspect of the light source does not mean that all attributes have improved. While some bulbs have improved in life expectancy and efficiency, they have lost the ability to be blacked out. The ability to distinguish between the different parameters of each lamp is crucial when working and designing with light. One of the most important parameters determining the quality of the lamp is its efficiency. Thanks to the introduction of the electric meter reader, rising electricity prices and increased environmental awareness, the efficiency of lamps is becoming increasingly important. The following explanations should help you understand what determines the effectiveness of the light source. Power We all know that watts is a power supply and that more power means more energy to the light source. So if someone wants a brighter light source, knowing the power helps quantify the light output. The output of light increases with the increase in power. Thus, the higher power seems to be better and should give more light. This, however, only applies when comparing apples with apples. For example, a 35w metal halide bulb produces more light than a 100w incandescent bulb. We need to look at another aspect of the light source as well. Glowing intensity: (theal intensity) the intensity of light is best determined by its glowing intensity. The glowing intensity of the light emitted is measured in the candele. This shows the concentration of the emitted per second a source of light shining in one direction and at a solid angle. Angle. takes into account only the wave spectrum that our eyes are able to handle. Fig. 1.03 Glowing intensity is a areal intensity. Lumens: (general intensity) The second parameter is the output of lumens. If someone wants to know how much light the lamp emits, you need to know how much lumen it produces. Lumen is a measure for all visible light emitted by the light source. These numbers are very useful because they give us an idea of how much light the lamp emits in total or what the overall output can expect from the lamp. It is still not enough to assess the efficiency of the light source, however, as it does not include the energy or power used in achieving this product. Fig. 1.04 Glowing intensity - total intensity. The glowing efficiency here is the glowing efficiency that comes as it determines the lumens on the watt the light source emits. This is probably the best way to compare apples with oranges as it reduces each light source to a basic efficiency ratio. Now we can compare the efficiency of any light source. We can compare the light output of the 16lm/w incandescent bulb with the newest LED light source producing 100lm/w. Fig. 1.05 Luminous efficiency. ALL ABOUT KUAVE NOT looking at its many attractive features, it is not to be said that LED light in all aspects exceeds the source of incandescent light. Light produced by incandescent bulbs is in most cases perceived as more natural, and these lamps reproduce colors with greater depth and intensity than other light sources. In fact, the incandescent bulb acts along with daylight as a guide when it comes to the natural reproduction of light color. There are several LED modules that can mimic and exceed incandescent bulbs in THE CRI. Before the introduction of the incandescent bulb replacement, we did not need to pay attention to the color of the issuance. The incandescent light produced light perceived as warm and natural. The colors illuminated by the incandescent bulb seemed true compared to the natural light. Shortly after the first incandescent substitutions were introduced, people began to realize that the quality of light did not correspond to the original or natural light of Edison/Swan. The colors illuminated by the substitutions seemed duller and flatter. The best way to visualize and understand this is to compare the light that different lamps produce by analyzing their emitted spectrum of light. While incandescent light, separated by a prism, produces a continuous spectrum of light colors, fluorescent light is able to produce only an aborted, incomplete spectrum of light color. Its color performance is compromised accordingly because it lacks elements of the light spectrum that allow it to accurately identify the color. Fig. 1.06a light or artificial light with CRI 100 is refracted by a prism. Fig. 1.06b Light diffraction with 35mm (1.4 inches) slide slide The color of the light source. The color of the performance of a fluorescent lamp or high pressure sodium light sources is low compared to ideal natural light. The Color Index (CRI) was introduced so that we can measure the light source's ability to accurately display colors compared to a natural or ideal light source. The ideal or best CRI is 100 and is reproduced by natural light, incandescent bulbs or halogen lamps. All reliable manufacturers can present CRI to their products. If this is not the case, you should refrain from specifying the light source. There are, however, different methods of checking the color issuances of the light source. The numerical value of CRI cannot be verified so, but this kind of validation nevertheless allows for subjective comparison and evaluation. One could buy an expensive light meter that can provide an accurate color release schedule, but the easiest and most cost-effective way to check the color of the performance is to consider a lamp with a spectroscope that one holds against a light source. Light passes through the foil, creating all visible spectral light colors. If it shows all spectral colors, the color performance is good while the lower color performance will produce gaps in some areas. This approach shows the length of the color wave, which is missing light but does not affect the color. You can check this with a color checker, also called a color check chart. The color checker allows you to see how the colors will look under the light sources they are exposed to. It is a black card board with twenty-four colored squares mounted on it. The color checker contains images of colors from real objects such as leather or foliage to primary, secondary, different and gray colors. Figure 1.07 Color Performance Chart. If all colors are shown correctly compared to the ideal light source, the performance can be considered good. Originally introduced to test the correct lighting in photography and film, it is also increasingly used today by critical lighting professionals as a reference chart. Color temperature pic. 1.08 Color temperature scale. When entering a DIY store to try to buy white paint one understands quickly that there is not a single white on display, but different white. One realizes quickly that shopping can take a little longer than expected as deciding which white to paint our walls is of course important to us. The same applies to white light sources. There is not a single white light source in the store display, but a different white light color, and it is important that the white light one chooses feels good. The color temperature of white light is measured in kelvins and ranges from warm 1700K candles to cold bluish 20,000K Sky. Our sun is a perfect example of variance variance Light. The sun emits warm white light in the morning and evening, creating visually warm surfaces. Light becomes colder, reaching its peak when the sun is at the highest point of the sky. Artificial light sources aim to mimic daylight and are available at all colours. They start at a very warm 2400K and usually end with a cold 6500K. The color temperature of 4000K is perceived as a neutral white, not assigned to either the warm spectrum of white light or the cold spectrum. Color temperature preferences Preferences in relation to color temperature vary from country to country. In the Nordic countries, warm light is usually the preferred choice. The warm light seems more attractive in a region dominated by cold nights and days over the years. In the southern countries, however, the opposite is true. In a warm climate, cold light invites you to cool down and freshen up and therefore generally prefer the choice. Of course, this does not mean that there are no variations and cultural exceptions in the West and east. Fig. 1.09 Warm, inviting light, Kakslauttanen Arctic resort. The temperature of the color and objects to throw the object or product in the right light, not only a good performance of color is important, but also the correct color temperature. The appearance of the object changes with the temperature of the color under which it is exposed. Some color temperatures are more suitable for some objects than others. This knowledge should be taken into account when choosing a lamp. Foods such as meat profit from more reddish warm light while fruits look best in bright neutral daylight. Bread products look best in a warm orange light, while fish will look fresh and attractive in bright cool light. Lighting the exhibition area is important. When we buy meat and fish, we would like to see the whole product. These items usually cannot be touched by us before buying; so we rely almost entirely on our visual feelings. We are particularly sensitive when buying them and do not appreciate when some parts of the products are left in the dark. Bread, on the other hand, comes daily to our bakeries and we touch it through the packaging to check whether it is soft inside and crispy outside. Here, the lighting can be more dramatic. Partial light is more forgiving and should therefore be used in the mapping area where possible, for example in bakeries where full lighting is not essential. Fig. 1.10 Color temperature in relation to products. The distribution of light When lighting objects, the chosen distribution is important. Lamps distribute light in different ways. Fluorescent lamps and LED tubes, for example, generate diffuse soft light with a large emission surface, while incandescent light sources, halogens and metals, as well as their LED counterparts emit light from a small point, creating strong shadows. In both cases, distribution almost 360 degrees, but the effect caused is different. In the early days of artificial light, these light sources were either used naked or behind the shadow. Soon, however, the first light sources will be architectural lighting design a practical guide pdf