

how strong can glare be compared to ambient light pdf

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Glare is an often-overlooked factor in visual comfort and safety, especially in environments where lighting plays a crucial role. Understanding how strong glare can be compared to ambient light, particularly through the lens of PDF resources and scientific studies, is essential for designers, engineers, and anyone involved in creating visually comfortable spaces. This article delves into the nature of glare, how it compares to ambient light, the measurement techniques, and the implications for various settings.

Understanding Glare and Ambient Light

What Is Ambient Light?

Ambient light refers to the overall illumination present in a space, typically provided by natural sources like sunlight or artificial lighting such as ceiling fixtures. It sets the general brightness level and influences visibility and comfort. Ambient light is usually uniform and stable, designed to support activities without causing eye strain.

Defining Glare

Glare is a visual phenomenon characterized by excessive brightness or contrast that causes discomfort or reduces visual performance. It can be categorized into two main types:

- **Discomfort Glare:** Causes visual discomfort but does not necessarily impair vision.
- **Disability Glare:** Reduces visibility and can impair task performance.

In practical terms, glare can be caused by bright light sources, reflections, or high contrast objects within a field of view.

Measuring Glare: How Strong Can It Be?

Quantifying Glare Using Photometric Units

The strength of glare relative to ambient light is often measured using photometric units, with the most common being:

- **Unified Glare Rating (UGR):** A scale from 5 to 30 that indicates discomfort caused

by luminaires.

- **Glare Index (GI):** An older measurement used to evaluate discomfort glare.
- **Contrast Ratio:** The luminance difference between the glare source and the surrounding environment.

These metrics help quantify how intense glare is compared to ambient lighting levels.

Lux and Luminance Levels

Lux (lumens per square meter) measures the illuminance or the amount of light falling onto a surface. Luminance, measured in candelas per square meter (cd/m^2), describes the brightness of a surface or light source as perceived by the eye. To compare glare strength to ambient light, one often considers:

- The luminance of the glare source.
- The ambient illuminance level.

If a glare source's luminance significantly exceeds ambient lighting, it can cause discomfort or visual impairment.

Comparing Glare to Ambient Light Through PDF Resources

Scientific Studies and Guidelines

Numerous PDF documents, including standards from organizations like the Illuminating Engineering Society (IES) and the International Commission on Illumination (CIE), provide insights into the thresholds of glare relative to ambient light.

For example:

- The IES recommends that glare sources should have luminance levels not exceeding a certain percentage of the ambient luminance to minimize discomfort.
- CIE guidelines specify that a glare source with luminance exceeding 3 to 10 times the ambient luminance can cause discomfort or disability glare, depending on viewing conditions.

Typical Glare-to-Ambient Light Ratios

Based on studies and standards documented in PDFs, typical ratios include:

- **Minor discomfort:** Glare luminance is about 3–10 times ambient light.
- **Moderate glare:** Glare luminance is approximately 10–50 times ambient light.
- **Severe glare:** Glare luminance exceeds 50 times ambient light, often causing significant discomfort and impaired vision.

These ratios help designers assess potential glare issues in various environments.

Factors Influencing Glare Severity

Source Brightness and Size

The intensity and apparent size of the glare source significantly impact perceived glare:

- Bright, small sources (e.g., point sources like reflections) can cause intense discomfort even if the overall ambient light is low.
- Large, diffuse sources tend to produce less discomfort relative to their size and luminance.

Viewing Environment and Adaptation

The background luminance, contrast, and viewer adaptation state influence glare perception:

- In brightly lit environments, higher glare levels may be tolerated without discomfort.
- In darker environments, even moderate glare can be overwhelming.

Reflections and Surface Properties

Glossy surfaces and reflective materials can amplify glare by redirecting light sources into the viewer's line of sight, increasing the effective glare intensity compared to ambient conditions.

Implications for Design and Safety

Lighting Design Strategies

To manage glare effectively, designers consider:

- Using diffusers and indirect lighting to reduce direct glare.
- Controlling the luminance of light sources to stay within acceptable ratios relative to ambient light.
- Implementing shading, blinds, or filters to minimize reflections and high-contrast areas.

Application in Workspaces and Public Areas

In settings such as offices, hospitals, or transportation hubs, understanding the glare-to-ambient light ratio is crucial for:

- Ensuring visual comfort.
- Preventing accidents caused by impaired visibility.
- Optimizing energy efficiency by balancing ambient and task lighting.

Conclusion

The strength of glare compared to ambient light can vary widely depending on source luminance, environmental factors, and viewer perception. According to standards and scientific literature documented in PDFs, severe glare can be many times brighter than ambient illumination, often exceeding 50 times the ambient luminance in extreme cases. By understanding these relationships and applying proper lighting design principles, it is possible to minimize glare discomfort and enhance visual safety and comfort across various environments.

References & Further Reading

- Illuminating Engineering Society (IES) Lighting Handbook PDFs
- International Commission on Illumination (CIE) publications

- Standards and guidelines on glare measurement and control
- Research articles available in PDF format on glare and ambient light comparison

Frequently Asked Questions

What factors determine the strength of glare compared to ambient light in PDFs?

The strength of glare relative to ambient light in PDFs depends on factors such as luminance contrast, glare source intensity, viewer's adaptation level, and the quality of the display or document material.

How is glare quantified in comparison to ambient light in PDF documents?

Glare is typically quantified using metrics like the Discomfort Glare Index or luminance contrast ratios, which compare the luminance of glare sources to ambient illumination levels within PDF-based visual assessments.

Can a PDF file's design influence the perceived glare strength compared to ambient light?

Yes, design elements like high contrast colors, reflections, and bright highlights in PDFs can increase perceived glare intensity relative to ambient light, affecting readability and eye comfort.

What is the typical ratio of glare luminance to ambient light in high-glare PDF scenarios?

In high-glare scenarios, the luminance of glare sources can be several times higher than ambient light levels, often exceeding 10:1 or more, leading to significant discomfort and visual impairment.

How can PDF creators minimize glare to reduce its strength relative to ambient light?

Creators can reduce glare by using matte backgrounds, avoiding overly bright highlights, ensuring appropriate contrast, and optimizing display settings to balance luminance with ambient lighting conditions.

Is there a standard measurement or threshold for glare strength in relation to ambient light in PDFs?

While specific standards vary, guidelines such as those from the International Commission on Illumination (CIE) suggest limiting glare sources to maintain comfort, often recommending luminance ratios below certain thresholds, like 3:1 or 10:1, depending on context.

How does ambient light influence the perception of glare strength in PDF viewing environments?

Higher ambient light levels can diminish the perceived contrast and glare intensity, but excessive ambient illumination can also cause reflections and reduce visual comfort, complicating the perception of glare strength in PDFs.

Are there tools or PDFs that can help measure and compare glare strength to ambient light?

Yes, specialized measurement tools and software, such as luminance meters and visual comfort assessment tools, can quantify glare and ambient light levels, aiding in evaluating their relative strengths in PDF reading environments.

How does the concept of 'glare strength' versus ambient light impact PDF accessibility and readability?

Understanding glare strength relative to ambient light helps optimize PDF design and viewing conditions, improving accessibility and readability by reducing visual discomfort caused by excessive glare.

Can adjusting ambient lighting conditions mitigate the effects of strong glare in PDF viewing sessions?

Yes, adjusting ambient lighting—such as dimming lights, reducing reflections, or controlling light angles—can significantly mitigate glare effects, making PDFs easier to view and reducing discomfort from strong glare sources.

Additional Resources

[Glare Intensity and Its Comparison to Ambient Light: An In-Depth Analysis](#)

In the ever-evolving realm of visual ergonomics, display technology, and lighting design, understanding the strength of glare relative to ambient light levels is crucial. Whether you're designing a workspace, evaluating display screens, or simply seeking to optimize visual comfort, grasping how glare compares to ambient illumination is essential. This article delves into the nuances of glare intensity, how it can be quantified, and how it stacks up against ambient light, providing a comprehensive overview suitable for professionals,

researchers, and tech enthusiasts alike.

Understanding Glare and Ambient Light

Before exploring their comparative strengths, it's vital to define what glare and ambient light entail, as well as why their relationship impacts visual comfort and performance.

What Is Glare?

Glare refers to the uncomfortable or blinding sensation caused by excessive brightness in the visual field. It can be broadly categorized into:

- Discomfort Glare: Causes visual discomfort or pain without necessarily impairing vision.
- Disability Glare: Reduces visual performance by creating veiling reflections or reducing contrast.
- Disability Discomfort Glare: A combination that impairs vision and causes discomfort.

Sources of glare include direct reflections from glossy surfaces, bright light sources within the field of view, or high luminance objects.

What Is Ambient Light?

Ambient light constitutes the general, diffuse illumination present in an environment. It influences overall visibility, contrast, and visual comfort. Ambient light levels are typically measured in lux, a unit that quantifies illuminance (lumens per square meter). Typical indoor ambient lighting ranges from 100 lux (cozy living room) to over 1000 lux (office or task lighting).

Measuring Glare and Ambient Light

Quantification of both glare and ambient light is essential for meaningful comparison. The tools and units used include:

- Lux (lx): Measures illuminance (ambient light).
- Candela per square meter (cd/m²): Measures luminance, often used for screens or reflective surfaces.
- Glare Rating (GR): A subjective or objective scale assessing glare severity.
- Unified Glare Rating (UGR): An internationally recognized metric (ISO 17081), quantifying discomfort glare from luminaires.

Quantifying Glare Strength in Comparison to Ambient Light

The core question—"How strong can glare be compared to ambient light?"—can be addressed by examining the luminance of glare sources relative to ambient illumination levels.

Relative Luminance Ratios

One way to compare glare strength is by considering the ratio of the luminance of the glare source to the ambient luminance:

Glare-to-Ambient Ratio (GAR):

$$GAR = \frac{L_{\text{glare}}}{L_{\text{ambient}}}$$

Where:

- L_{glare} = luminance of the glare source (cd/m^2)
- L_{ambient} = ambient luminance (cd/m^2 or lux converted to luminance)

Typical Values:

- Ambient light in a well-lit office might be around 300–500 lux ($\sim 50\text{--}80 \text{ cd/m}^2$).
- Glare sources can range from a few hundred to thousands of cd/m^2 , especially in bright displays or direct light sources.

Example:

A computer monitor with a luminance of 300 cd/m^2 in a room with ambient luminance of 50 cd/m^2 yields a GAR of 6.

This ratio indicates that the glare source is six times brighter than the ambient environment, which can cause discomfort or impair visual performance depending on context.

Thresholds of Glare Relative to Ambient Light

Research indicates certain thresholds where glare becomes problematic:

- Discomfort Glare:

Usually occurs when a bright source exceeds the ambient luminance by a factor of 3 to 10.

- Disability Glare:

Becomes significant when the luminance of the glare source is at least 10 times higher than ambient luminance.

Implication:

A glare source that is 1000 cd/m² in an environment with 50 cd/m² ambient luminance (GAR of 20) can cause severe disability glare.

How Strong Can Glare Be? An Expert Perspective

From a practical standpoint, glare can sometimes be far more intense than ambient light, especially in specific scenarios.

High-Luminance Displays and Light Sources

Modern screens, especially high-dynamic-range (HDR) displays and large LED billboards, can reach luminance levels exceeding 1000 cd/m², with some specialized displays surpassing 10,000 cd/m². When viewed against a relatively dark environment, such as a dimly lit room or outdoor at night, these sources dominate ambient illumination, creating intense glare.

Real-world examples include:

- HDR monitors:

Capable of 1000–4000 cd/m², often used in professional imaging.

- Outdoor billboards or digital signage:

Can reach 10,000 cd/m² or more.

- Direct sunlight:

Illuminates objects at approximately 100,000 lux (~17,000,000 cd/m²), vastly overpowering indoor ambient luminance.

In such cases, glare sources can be orders of magnitude stronger than ambient lighting, causing discomfort or impairing vision.

Reflections and Surface Glossiness

Reflective surfaces such as glossy screens, windows, or polished floors can produce reflected glare with luminance levels comparable to or exceeding ambient levels. For example:

- Glossy screens in bright environments:

Glare luminance can reach several hundred cd/m² when reflecting bright light sources.

- Sunlight reflections:

Can produce glare with luminance levels in the millions of cd/m², vastly overshadowing ambient light.

Implications of Glare Intensity on Visual Comfort and Performance

The relative strength of glare compared to ambient light directly influences:

- Visual Comfort:

Excessive glare relative to ambient illumination causes discomfort, headaches, and eye strain.

- Visual Performance:

Glare reduces contrast sensitivity and impairs task performance, especially in reading, computer work, or detailed visual tasks.

- Design Considerations:

Lighting designers and engineers aim to keep glare sources within tolerable limits, often ensuring the glare luminance does not exceed ambient levels by a factor of 3 to 10.

Managing and Mitigating Glare Based on Its Strength

Given that glare can be significantly stronger than ambient light, effective mitigation strategies are essential. These include:

1. Control of Light Sources:

- Use shades, louvers, or diffusers to reduce direct glare.
- Select lighting fixtures with appropriate shielding to minimize veiling reflections.

2. Surface Treatments:

- Matte finishes on screens and surfaces reduce reflective glare.
- Anti-glare coatings on displays.

3. Environmental Design:

- Position screens away from direct light sources or windows.
- Use controlled lighting with dimming capabilities.

4. Technological Solutions:

- Implement glare-reducing display settings (e.g., brightness adjustments).
- Use ambient lighting that matches or exceeds the luminance of glare sources to reduce contrast.

Conclusion: The Spectrum of Glare Strengths

The strength of glare in comparison to ambient light can vary widely depending on the source, environment, and context:

- In typical indoor settings, glare sources are often 3 to 10 times brighter than ambient lighting, causing discomfort or performance issues.
- In specialized applications, such as HDR displays or outdoor sunlight, glare can be hundreds or thousands of times stronger than ambient illumination.
- Reflective glare from surfaces can sometimes produce luminance levels that overshadow ambient light by several orders of magnitude.

Understanding the scale of glare intensity relative to ambient light is fundamental for designing comfortable, efficient, and visually optimized environments. Whether mitigating discomfort in an office, enhancing readability on a display, or managing outdoor lighting conditions, recognizing how strong glare can be compared to ambient light informs better decision-making and technological innovation.

In essence, glare can be surprisingly intense, sometimes exceeding ambient lighting by factors of 10, 100, or even 1,000, depending on circumstances. Recognizing these magnitudes helps in developing standards, designing better lighting schemes, and improving visual ergonomics across various fields.

References & Further Reading:

- CIE 117:1995, Discomfort Glare in Interior Lighting
- ISO 17081:2006, Light and Lighting — Unified Glare Rating (UGR)
- Boyce, P. R. (2003). Lighting Design.
- Boyce, P. R., & Hunter, C. (2003). Lighting and Visual Performance.
- Lighting Research Center. (2014). Understanding Glare and Its Impact.

[How Strong Can Glare Be Compared To Ambient Light Pdf](#)

how strong can glare be compared to ambient light pdf: *Outdoor Lighting for Pedestrians* Frank Markowitz, 2021-12-30 *Outdoor Lighting for Pedestrians* shows how outdoor lighting is important for pedestrians' safety, personal security, and comfort, with major impacts on street, path, and park aesthetics and neighborhood sense of place. Providing clear, basic technical background (accessible to non-engineers), the book focuses especially on planning and policy concerns. It covers the fundamentals of lighting technology; benefits, costs, and possible adverse impacts of lighting enhancements; traditional and innovative approaches; planning and policy documents and practices; aesthetics and placemaking; and technology trends in lighting design. This book is aimed primarily at practicing transportation planners and engineers, generalist urban planners, safety advocates and researchers, and university students. However, lighting designers and other professionals will also find it useful. It considers how lighting can be coordinated with other potential improvements to enhance the pedestrian environment for better walkability.

how strong can glare be compared to ambient light pdf: [Human Performance, Simulation,](#)

User Information Systems, and Older Person Safety and Mobility National Research Council (U.S.). Transportation Research Board, 2003

how strong can glare be compared to ambient light pdf: Video Displays, Work, and Vision National Research Council, Division of Behavioral and Social Sciences and Education, Commission on Behavioral and Social Sciences and Education, Committee on Vision, Panel on Impact of Video Viewing on Vision of Workers, 1983-02-01 Along with the widespread use of computers have come growing fears that working in front of video display terminals (VDTs) can irritate and even damage the eyes. Separating scientific fact from popular opinion, this report takes a critical look at the link between VDT use and eye discomfort and disease as well as at changes in visual performance and oculomotor function. Drawing on information from ergonomics, illuminating engineering, and industrial and organizational psychology, the report gives practical advice on optimal workstation design to improve the comfort, performance, and job satisfaction of VDT users.

how strong can glare be compared to ambient light pdf: The Encyclopedia of Elder Care Liz Capezuti, Michael L. Malone, MD, Paul R. Katz, MD, Mathy Doval Mezey, 2014
Print+CourseSmart

how strong can glare be compared to ambient light pdf: Distilled Spirits, Volume 3 P.S. Hughes, G.M. Walker, 2010-12-01 Discussing the worldwide traditions and innovations associated with the production of distilled spirits, this comprehensive reference emphasizes the importance of continuing to have a supply of high-quality raw materials as modern agricultural practices change. The source material for this study originated in the 2008 Worldwide Distilled Spirits Conference, where hundreds of distillers from around the world gathered to share knowledge under the theme of energy, environment, and enlightenment to meet the challenges of the future. Tackling environmental issues and emphasizing the importance of high-quality distilling, this sourcebook is an essential reference for distillers, brewers, research institutes, and anyone with an interest in spirits.

how strong can glare be compared to ambient light pdf: Methods to Address Headlight Glare Kent B. Christianson, Daniel S. Greenhouse, Joseph E. Barton, Christina Chow, 2009

how strong can glare be compared to ambient light pdf: HWM , 2004-02 Singapore's leading tech magazine gives its readers the power to decide with its informative articles and in-depth reviews.

how strong can glare be compared to ambient light pdf: Bridging Silos Katrina Smith Korfmacher, 2019-08-27 How communities can collaborate across systems and sectors to address environmental health disparities; with case studies from Rochester, New York; Duluth, Minnesota; and Southern California. Low-income and marginalized urban communities often suffer disproportionate exposure to environmental hazards, leaving residents vulnerable to associated health problems. Community groups, academics, environmental justice advocates, government agencies, and others have worked to address these issues, building coalitions at the local level to change the policies and systems that create environmental health inequities. In Bridging Silos, Katrina Smith Korfmacher examines ways that communities can collaborate across systems and sectors to address environmental health disparities, with in-depth studies of three efforts to address long-standing environmental health issues: childhood lead poisoning in Rochester, New York; unhealthy built environments in Duluth, Minnesota; and pollution related to commercial ports and international trade in Southern California. All three efforts were locally initiated, driven by local stakeholders, and each addressed issues long known to the community by reframing an old problem in a new way. These local efforts leveraged resources to impact community change by focusing on inequities in environmental health, bringing diverse kinds of knowledge to bear, and forging new connections among existing community, academic, and government groups. Korfmacher explains how the once integrated environmental and public health management systems had become separated into self-contained "silos," and compares current efforts to bridge these separations to the development of ecosystem management in the 1990s. Community groups, government agencies, academic institutions, and private institutions each have a role to play, but collaborating effectively requires stakeholders to appreciate their partners' diverse incentives, capacities, and constraints.

how strong can glare be compared to ambient light pdf: ADA in Details Janis Kent, 2023-08-08 ADA IN DETAILS Comprehensive visual interpretation of the ADA Standards for accessible design, expanded with 50% more content and comparisons with two additional codes and standards ADA in Details, Second Edition provides a visual interpretation of the Americans with Disabilities Act Standards (ADAS). A comprehensive guide to incorporating accessibility thru bullet points and visual details, the book is a convenient go-to reference of pertinent scoping, technical requirements, and sourcing information. It highlights typical requirements for new projects and alterations, and also covers specialty uses such as assembly areas, kitchens, site elements, hospitality, retail, restaurants, and recreational facilities. This revised edition now integrates the 2010 ADA Standards with the 2021 International Building Code (IBC), the 2022 California Building Code (CBC), and the 2017 ICC A117.1 Standard for Accessible and Usable Buildings and Facilities. The book uses color to differentiate between the different standards and codes, and now includes photos for real-world examples. ADA in Details, Second Edition, includes: Color-coded comparisons between the ADA, IBC, CBC, and ICC A117.1, which help in understanding how to navigate thru the different requirements in accessibility Visual details and bullet point specifications for both newly constructed and existing facilities are color coded to identify which requirements apply Solutions for accessible routes, site features, architectural elements, restrooms, electric vehicle charging stations, and more, including public multi-family housing dwelling units Discussions and notes on various topics to be considered in new and existing facilities due to how building codes have evolved from preceding cycles Clear explanation and illustrations that synthesize various federal regulations including limited portions of ABA and HUD's Deeming Notice among other regulations Architects and designers, plan checkers and inspectors, along with facility managers and contractors, as well as everyone else involved in the built environment can turn to ADA in Details as an authoritative resource to understand accessibility compliance for places of public accommodation, commercial facilities, and public facilities.

how strong can glare be compared to ambient light pdf: Reliable Face Recognition Methods Harry Wechsler, 2009-04-05 One of the challenges for computational intelligence and biometrics is to understand how people process and recognize faces and to develop automated and reliable face recognition systems. Biometrics has become the major component in the complex decision making process associated with security applications. The many challenges addressed for face detection and authentication include cluttered environments, occlusion and disguise, temporal changes, robust training and open set testing. Reliable Face Recognition Methods seeks to comprehensively address the face recognition problem while gaining new insights from complementary fields of endeavor such as neurosciences, statistics, signal and image processing, computer vision, machine learning and data mining. This book examines the evolution of research surrounding the field to date, explores new directions, and offers specific guidance on the most promising venues for future research and development. Endorsements by: Ruud Bolle (IBM), John Daugman (Cambridge University, UK), David Zhang (Hong Kong Polytechnic University, China), Stan Li (Chinese Academy of Sciences, China), Tom Huang (University of Illinois, USA).

how strong can glare be compared to ambient light pdf: 13th International Symposium on Automotive Lightning - ISAL 2019 - Proceedings of the Conference Tran Quoc Khanh, 2019-09-19

how strong can glare be compared to ambient light pdf: Peaceful Places: Washington, D.C. Judy Colbert, Denis Collins, 2012-04-10 Native Washingtonians Judy Colbert and Denis Collins have grown up and lived amid some of the most exciting sightseeing in the country--in their own grand urban backyard. They share this knowledge in Peaceful Places: Washington, DC. Now readers can enjoy the sights without being elbow-to-elbow with visitors from around the country and the world. Their diverse peaceful finds unfold in 12 categories of tranquil spots: Day Trips & Overnights, Enchanting Walks, Historic Sites, Museums & Galleries, Outdoor Habitats, Parks and Gardens, Quiet Tables, Reading Rooms, Scenic Vistas, Shops & Services, Spiritual Enclaves, and Urban Surprises. Readers will find places that please the senses of smell, touch, hearing, sight, and taste. In addition

to the beautifully written site descriptions, the concise entries also include vital information such as locations for the nearest Metro stations or local parking facilities, admission charges (and any free times), and operating hours. Plus, the authors provide a peacefulness rating based on three criteria: always peaceful, usually quite tranquil, or peaceful during the times or seasons specified in the peaceful place entry description. The entries are arranged three ways: alphabetically by name; by category (see all 12 listed above); and by area (keyed to the guidebook's maps). That is so readers can pick a quiet spot according to interest, mood, and location. Although most of the attractions are in the downtown, National Mall, and northwest sections of Washington, many escapes are located beyond those perimeters and on into Northern Virginia and Suburban Maryland. *Peaceful Places: Washington, DC* is not a coffee-table book. It's one to keep in the car, the briefcase, the backpack, or the purse. Whether the reader is a native, who has lived in D.C. long enough to be considered a native, or is a visitor with only a few hours between business meetings or a hectic tourist schedule, this book will be a treasured asset.

how strong can glare be compared to ambient light pdf: Liquid Scripture Jeffrey S. Siker, 2017-09-01 The electronic Bible is here to stay—packaged in software on personal computers, available as apps on tablets and cell phones. Increasingly, students look at glowing screens to consult the Bible in class, and congregants do the same in Bible study and worship. Jeffrey S. Siker asks, what difference does it make to our experience of Scripture if we no longer hold a book in our hands, if we again “scroll” through Scripture? How does the “flow” of electronic Scripture change our perception of the Bible’s authority and significance? Siker discusses the difference made when early Christians adopted the codex rather than the scroll and Gutenberg began the mass production of printed Bibles. He also reviews the latest research on how the reading brain processes digital texts and how churches use digital Bibles, including American Bible Society research and his own surveys of church leaders. Siker asks, does the proliferation of electronic translations reduce the perceived seriousness of Scripture? Does it promote an individualistic response to the Bible? How does the change from a physical Bible affect liturgical practice? His synthesis of the advantages and risks of the digitized Bible merit serious reflection in classrooms and churches alike.

how strong can glare be compared to ambient light pdf: Advances in Ergonomics in Design Francisco Rebelo, Marcelo M. Soares, 2019-06-03 This book provides readers with a timely snapshot of ergonomics research and methods applied to the design, development and prototyping – as well as the evaluation, training and manufacturing – of products, systems and services. Combining theoretical contributions, case studies, and reports on technical interventions, it covers a wide range of topics in ergonomic design including: ecological design; cultural and ethical aspects in design; Interface design, user involvement and human-computer interaction in design; as well as design for accessibility and many others. The book particularly focuses on new technologies such as virtual reality, state-of-the-art methodologies in information design, and human-computer interfaces. Based on the AHFE 2019 International Conference on Ergonomics in Design, held on July 24-28, 2019, Washington D.C., USA, the book offers a timely guide for both researchers and design practitioners, including industrial designers, human-computer interaction and user experience researchers, production engineers and applied psychologists.

how strong can glare be compared to ambient light pdf: GB 50157-2003 English Translation of Chinese Standard <https://www.codeofchina.com>, 2003-08-01 1.0.1 This Code is designed to guarantee safety, reliability, adaptability, economy and advanced technology in metro design. 1.0.2 This Code is applicable to new metro engineering design adopting steel wheel and steel track system. This code can be referred to rebuilt and extended metro engineering and those whose the highest running speed exceeds 100km/h, as well as urban rail transit of other types. 1.0.3 Metro engineering design must comply with general urban planning and urban rail transit network planning approved by competent governmental authorities. 1.0.4 Under the precondition that metro engineering has satisfied requirement of system safety, function and environment, aerial defence requirement can be determined by competent municipal authorities according to concrete conditions. 1.0.5 Design period of metro engineering shall be divided into three stages, such as

preliminary stage, short-term stage and long-term stage. The preliminary stage of metro engineering shall be completed for train operation within 3 years, and short-term stage shall be within 10 years and long-term stage shall be within 25 years. 1.0.6 Construction scale and equipment capacity of metro engineering as well as area of land occupied by depot and stabling yard shall be determined according to forecasted long-term passenger flow volume and passing capacity of train. Design of engineering and configuration that can be constructed by stages shall consider by-stage extension and setting. 1.0.7 Design service life of main metro structure shall be 100 years. 1.0.8 Metro line shall adopt right driving and double line mode, and 1435mm standard gauge shall be adopted. 1.0.9 Metro line must adopt fully-close mode, and operation is high-density and depot-grouping operations are recommended to be adopted. The maximum operation capacity of long-term design is recommended to adopt 40 pairs of train per hour, but shall not be less than 30 pairs of train. 1.0.10 Train number of each group in preliminary, short-term and long-term stages shall be determined according to forecasted passenger flow volume, allowable passenger number of train and designed density of train flow separately. Allowable passenger number of train shall be the total number of seat number on train and number of passengers who stand in train. Allowable passenger number at free area in train shall be 6/m². 1.0.11 Metro depot shall be designed according to line network planning. According to concrete conditions, one depot can be set on each line or one depot can be shared by several lines. Where length of one line exceeds 20km, extra stabling yard can be set at appropriate places according to operation requirements. 1.0.12 Convenient travel change shall be adopted at crosses among metro lines and other rail transit lines. Travel change between metro lines and other general ground traffic lines is recommended to consider uniform planning. 1.0.13 During design of shallowly-embedded and overhead ground wires, measures shall be adopted to reduce noise and shake and to avoid influence on biological environment, and shall comply with emission provisions of applicable national standards. The emission, sewage and solid waste discharged from the metro system shall meet the relevant discharge standards of the nation. 1.0.14 Determination of modes and quantity of ground and overhead metro devices shall consider influences on urban landscape and coordination with ambient environments. 1.0.15 Earthquake protection intensity shall be determined according to earthquake safety evaluation approved by competent authorities of local government. 1.0.16 Ground and overhead metro engineering crossing and adjacent to rivers shall be designed according to 1/100 flood frequency standard. Metro engineering crossing rivers and lakes shall have flood-proof gate or adopt other flood-proof measures at appropriate positions at ends of relevant water area. 1.0.17 Metro design shall gradually realize electromechanical equipment integrated automation centralized on train travel direction and train operation. 1.0.18 Selection of metro electromechanical equipments and trains shall consider standardization and series, and China-made equipments are recommended to be adopted. 1.0.19 During metro design, measures shall be adopted to reduce engineering cost and operation cost, but metro safety, reliability and adaptability shall not be affected. 1.0.20 In addition to provisions prescribed herein, metro design shall also comply with relevant provisions of the current national compulsive standards.

how strong can glare be compared to ambient light pdf: *Sustainable Lighting & Lighting for Sustainability* MDPI, 2021-01-08 The role of lighting is developing into a topic considered alongside sustainable development. Some years ago, lighting installations fulfilled technical requirements and consumed only enough energy for the accurate completion of visual tasks. This recently changed due to several discoveries in the matter of non-visual paths, whose influence on users' well-being, safety, mood, and productivity is starting to be applied to installations. Today, we know that sustainable development depends on many factors but we are only now beginning to understand how accurate lighting can be used to promote development from different perspectives. The present book compiles work dealing with the way lighting installations must be designed to work in an efficient and sustainable way, together with the way lighting can be used to contribute to sustainable development beyond the well-know savings in energy, green-house gas emissions, and raw materials consumption. The union of both concepts, sustainable lighting and lighting for sustainability is what is call total lighting, the global framework with which the lighting community

will work in the near future.

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