

UDC 7.05:72.05:391.7 (510)

DOI <https://doi.org/10.32782/2415-8151.2025.35.23>

GRAPHIC AND LIGHTING DESIGN IN HOTEL LOBBY INTERIOR INSPIRED BY CHINESE ETHNIC DESIGN

**Yezhova Olga Volodymyrivna¹, Pashkevych Kalyna Livianivna²,
Chuprina Nataliia Vladyslavivna³, Li Ruixi ⁴, Koliesnikova Aureliia Eduardivna⁵,
Derevianko Yelyzaveta Yevhenivna⁶**

¹ Doctor of Pedagogical Sciences, Candidate of Technical Sciences,
Professor, Professor at the Department of Graphic Design,
Kyiv National University of Technologies and Design, Kyiv, Ukraine,
e-mail: oyezhova70@gmail.com, orcid: 0000-0002-5920-1611

² Doctor of Technical Sciences, Professor, Dean of the Faculty of Design,
Kyiv National University of Technologies and Design, Kyiv, Ukraine,
e-mail: kalina.pashkevich@gmail.com, orcid: 0000-0001-6760-3728

³ Doctor of Study of Art, Professor, Head of the Department of Art and Fashion Design,
Kyiv National University of Technologies and Design, Kyiv, Ukraine,
e-mail: chouprina@ukr.net, orcid: 0000-0001-7017-6456

⁴ Master student at the Department of Graphic Design,
Kyiv National University of Technologies and Design, Kyiv, Ukraine,
Kyiv Institute at Qilu University of Technology, Jinan, China,
e-mail: researcher70@meta.ua, orcid: 0009-0006-4788-2217

⁵ Senior Lecturer at the Department of Graphic Design,
Kyiv National University of Technologies and Design, Kyiv, Ukraine,
e-mail: aurika.koliesnikova@gmail.com, orcid: 0000-0003-3949-6384

⁶ Assistant Lecturer at the Department of Graphic Design,
Kyiv National University of Technologies and Design, Kyiv, Ukraine,
e-mail: derevianko.yy@knutd.edu.ua, orcid: 0009-0000-1145-484X

Abstract. In modern hospitality, lighting design serves not only as a functional element of interior spaces but also as a crucial factor in shaping the aesthetic environment, influencing the perception of space and the emotional comfort of guests. Effective lighting can highlight architectural features, create an atmosphere of coziness or formality, and promote energy efficiency through the implementation of advanced technologies. Particular attention is given to the integration of ethnic elements in lighting design, which emphasizes the cultural identity of hotel spaces.

This study focuses on analyzing the principles and methods of lighting design implementation in hotels, with an emphasis on incorporating elements of Chinese ethnic style. The aim of the research is to identify effective approaches to lighting organization that combine innovative technologies with cultural traditions, providing a comfortable environment for guests and enhancing the overall efficiency of hotel spaces.

Purpose. The purpose of the study is to investigate the principles and methods of lighting design implementation in hotels, focusing on its impact on guest satisfaction and the creation of a comfortable and aesthetically pleasing environment. The study highlights characteristics, principles, and functional divisions of hotel lighting design and examines its influence on customers. This paper is a study of lighting design in hotels and its importance. It highlights such topics as characteristics, principles, and functional divisions of hotel lighting design and its influence on customers.

The research examines differences in lighting techniques in domestic and overseas contexts. The scientific novelty of the work lies in the detection of new, innovative lighting methods and ways to combine them with ethnic Chinese style. It explores how lighting design can serve people and meet their psychological needs on the basis of a people-oriented approach.

Methodology. *The research methodology includes a comprehensive review of contemporary lighting design concepts and their practical applications in the hospitality industry. A mixed-method approach was utilized, combining quantitative analysis of lighting parameters with qualitative evaluations through case studies of successfully implemented lighting solutions in hotels. Additionally, the study investigates differences in lighting techniques between domestic and overseas applications.*

Results. *The study identifies key elements of lighting design that significantly influence the perception of hotel interiors. These include dynamic lighting systems, color temperature adjustments, and the strategic use of accent lighting. The results demonstrate that carefully designed lighting not only enhances the visual appeal of hotel spaces but also contributes to improved guest experiences and operational efficiency. Specific emphasis is placed on exploring lighting methods that align with ethnic Chinese styles. Hotel lighting scenes were created using computer graphics.*

Scientific novelty. *The scientific novelty lies in the detailed analysis of innovative lighting technologies and their role in shaping functional and aesthetic aspects of hotel interiors. This research provides new insights into the integration of smart lighting systems, sustainable practices, and their combination with cultural and ethnic motifs. The paper also explores how lighting design and graphic design techniques in the interior can meet psychological needs using a people-oriented approach.*

Practical relevance. *The findings of the study have practical significance for designers, architects, and hotel operators. Recommendations are provided for implementing advanced lighting solutions to enhance guest satisfaction, reduce energy consumption, and align with modern design trends. This research also serves as a guideline for developing lighting strategies that meet the specific needs of diverse hotel categories and incorporate innovative methods with cultural elements.*

Keywords: *lighting design, interior design, graphic design, digital technologies, computer graphics, hotel space, luminaires, cultural heritage, Chinese style, ethnic design, smart lighting technologies, dynamic lighting systems, sustainable lighting.*

INTRODUCTION

Despite all progress made on the topic, sometimes the choice of light sources and illuminators in the lighting design process of space design is not understood by the construction unit, and the design idea might be lacking, leading to an overly casual design. While lighting sales is primarily responsible for indoor lighting, lighting engineering companies handle outdoor urban landscape lighting. Situations like this frequently result in problems, such as lighting designs that don't meet the expectations of the customer.

The application of lighting design in hotel design plays a significant role in the overall positioning of an excellent hotel among other star-rated hotels. A good lighting design can not only present a unique style but also enhance the functionality of various hotel sections and significantly reduce hotel electricity expenses [10].

Furthermore, lighting design directly influences the emotional response and comfort level of guests, making it an essential component of creating a distinctive and memorable guest experience [9].

ANALYSIS OF RECENT RESEARCH

Y. Wei, Y. Zhang, Y. Wang, and C.A. Liu investigate the emotional impact of colored lighting in rural bed and breakfast interiors, revealing that while the combination of cool and warm white light with colored light notably affects arousal, it has a limited impact on pleasure and relaxation, with warm white light enhancing positive emotions [18]. Certain color combinations improve visual comfort and reduce anxiety, offering valuable insights for optimizing lighting design in rural accommodation spaces. Similarly, Z. Geng, W. Le, B. Guo, and H. Yin emphasize the significance of light illuminance, wall color,

and decoration style in enhancing visual comfort in hotel lobbies, providing critical insights for optimizing hotel lighting design to improve consumer experiences [4].

K. Houser, P. Boyce, J. Zeitzer, and M. Herf argue that while human-centric lighting is often overstated in marketing, its principles are crucial for hotel lighting design [5]. They emphasize the integration of both traditional visual needs and contemporary understanding of light's impact on non-visual health responses, advocating for a balanced approach that combines design excellence with awareness of circadian and neurobehavioral effects. C. Ratnasari, D.W. Setiawan, and B.I. Harsritanto examine how artificial lighting is applied in hotel rooms, highlighting that despite the preference for natural light, effective artificial lighting – considering types, placements, and functions – is crucial for maintaining a consistent light environment in hotels, as demonstrated through case studies of Grand Anugerah Hotel and Sae Inn Hotel in Kendal [13].

The current trend in modern design emphasizes the incorporation of national cultural heritage elements, blending tradition with innovation to create unique environments. J. Liu et al. provide an overview of the use of China's cultural heritage in contemporary graphic design [9], while S. Wu, and O. Yezhova [19] and X. Gao, and O. Yezhova [3] explore the application of Chinese cultural heritage in contemporary fashion design. These insights highlight the growing significance of integrating cultural motifs into diverse design fields, including hotel lighting design. The inclusion of cultural heritage elements not only enhances aesthetic value but also creates a sense of identity and emotional connection for guests, contributing to the overall success of the hospitality experience.

H. Ren et al. [14] proposed a data-driven approach to interior lighting design, utilizing neural networks to optimize lighting layouts for visually appealing results. Such computational techniques provide a basis for enhancing hotel lobby lighting while maintaining the integrity of Chinese ethnic design. M. Rossi [15] addressed the importance of managing colored light sources in lighting design software, arguing for the precise representation of spectral power distributions, which is particularly relevant for achieving authentic ethnic aesthetics.

L. Tayhuadong, and V. Inkarojrit [17] studied lighting design for Lanna Buddhist architecture, demonstrating how strategic illumination enhances cultural storytelling and tourism. Their findings suggest that lighting should embody cultural narratives and symbolic meanings,

aligning with the goals of integrating Chinese ethnic design into hotel spaces.

K. Kubiak introduced a design-thinking approach to lighting, emphasizing the importance of user experience and energy efficiency [8]. This methodology ensures that hotel lobby lighting not only enhances aesthetics but also meets sustainability goals. Similarly, A.N. Avci explored OLED lighting as a salutogenic design element, emphasizing its positive impact on human well-being, which could be beneficial for creating comfortable and culturally enriched hotel environments [1].

Y.N. Huang, and L.X. Chen investigated holographic 3D lighting projections for stage performances, demonstrating how dynamic lighting techniques can create immersive visual experiences [6]. H. Chen [2] proposed an IoT-based museum lighting design method using deep learning, optimizing lighting efficiency for display purposes. These innovative lighting applications can be adapted to hotel lobbies to enhance ambiance and engagement.

C.C. Hung, H.H. Lin, and C.H. Chen focused on LED lighting system design, improving color mixing uniformity [7]. This research is relevant to hotel lobbies where carefully calibrated lighting enhances guest perception and spatial ambiance. E.N.D. Madias et al. examined the impact of artificial lighting on biophilic and human-centric design, emphasizing the importance of lighting strategies that promote relaxation and well-being – an essential consideration in hospitality design [11].

Additional studies have focused on improving lighting performance and its applications in diverse settings. Y.K. Zhou, L.J. Jian, and G.D.J. Su explored mini-LED lighting design, improving uniformity and efficiency, which can be adapted to hotel lighting for precise and visually appealing results [20]. A. Moore and H. Alisafaei introduced a compact and efficient folded light source technique, contributing to advancements in architectural lighting applications [12]. Lastly, K. Skarzynski, and W. Zagan [16] proposed a modified design algorithm to enhance architectural lighting at the early design stages, a strategy that could optimize lighting solutions in hotel lobbies by balancing aesthetics and functionality.

The global trend toward sustainable, human-centric, and culturally infused lighting design reflects broader societal shifts toward inclusivity and environmental responsibility. These trends position lighting design as not just a technical discipline but a multifaceted practice that bridges art, technology, and culture. Future research is likely to further explore the integration

of advanced smart lighting technologies with principles of cultural sustainability, setting the stage for innovative applications across the hospitality industry and beyond.

PURPOSE

This study adopts a research methodology that combines theoretical and practical approaches to address the challenges in hotel lighting design. By analyzing scientific and popular literature on the topic, the research aims to summarize the significance and methods of visual information dissemination in lighting design, drawing from design experience analysis.

The project focuses on integrating and applying modern design theories and methodologies in the field of lighting. It elaborates on the characteristics and connotations of three-dimensional lighting methods, explores lighting strategies for hotel spaces, and aims to advance lighting theory. Ultimately, the study seeks to provide practical references for innovative ideas and effective strategies in hotel lighting design.

RESULTS AND DISCUSSION

The concept of "Simplicity on the Road" emphasizes the harmonious integration of modern minimalist design with traditional Chinese cultural elements, making it the focal point of this hotel lobby project. This fusion of styles offers a fresh take on Chinese design, one that honors both contemporary aesthetics and deep cultural heritage. Minimalism in design is characterized by clean lines, functional spaces, and the elimination of unnecessary decoration. However, when combined with traditional ethnic elements, it transcends basic functionality and begins to evoke emotional responses, drawing on the rich history and artistry of Chinese culture. In this project, the minimalist approach does not just aim for visual simplicity; it seeks to convey a sense of peace and serenity through carefully considered design choices that resonate with both the environment and the visitors.

The hotel is situated in a mountainous region, a feature that significantly influenced the design decisions. The mountainous landscape becomes more than just a backdrop; it is incorporated into the very fabric of the hotel's aesthetic. Drawing inspiration from the natural environment, the lobby design utilizes elements such as "mountains and rocks" and "flowing water" to evoke the grandeur and tranquility of the surrounding landscape. The motif of mountains and rocks is deeply ingrained in traditional Chinese design, symbolizing stability, strength, and a connection with the earth. By including these elements, the design reflects the rugged

beauty of the terrain while offering guests a sense of grounding and continuity with nature.

"Flowing water", another prominent design element, evokes feelings of fluidity and tranquility. Water is a central theme in Chinese philosophy and culture, representing life, purity, and renewal. The presence of water, both visually and conceptually, plays a crucial role in creating a peaceful atmosphere within the hotel lobby. It softens the otherwise stark lines of minimalist design, providing contrast and balance while enhancing the overall serenity of the space. In this context, water becomes not only a decorative feature but also a symbolic representation of the harmony between man and nature, a core principle in Chinese aesthetics.

As a result, the integration of these natural elements into the lobby's design goes beyond mere decoration. It forms a narrative that ties the built environment to its natural surroundings, inviting guests to reflect on the deep connection between human existence and the natural world. The design does not simply use natural forms for their beauty; it embeds them with cultural significance, creating a space that feels both timeless and relevant to its contemporary setting.

The use of minimalist design principles allows the elements of nature to stand out without being overshadowed by extraneous decoration. The design prioritizes open spaces, subtle textures, and clean lines, ensuring that the natural elements – such as the simulated mountain features and flowing water – remain the focal points. Lighting plays an important role in this process, with carefully chosen fixtures that highlight these elements while maintaining a soft, ambient atmosphere. The lighting design is not overpowering; it complements the minimalist approach by providing just enough illumination to accentuate the beauty of the natural motifs and the simplicity of the space.

This design approach is deeply rooted in Chinese traditional architecture, which has long emphasized the integration of natural elements with human-made structures. Ancient Chinese buildings, particularly in mountain regions, often featured courtyards or open spaces where nature was brought indoors through architectural elements like water features, stone pathways, and gardens. These natural components were not just ornamental but were believed to contribute to the overall well-being of the inhabitants by fostering a sense of peace, balance, and connection to the earth.

Incorporating traditional Chinese design philosophy into the modern hotel lobby also involves a careful selection of materials. The choice of stone, wood, and water elements reflects the

harmonious relationship between nature and design. Stone, representing the permanence of the mountains, is used in strategic locations within the lobby to create visual stability, while wood adds warmth and a tactile quality to the space, reminding guests of the natural materials that have been integral to Chinese design for centuries. The use of water in the form of fountains or reflective pools reinforces the symbolism of flow and movement, further aligning the space with the surrounding landscape.

The combination of these materials within a minimalist framework results in a modern yet deeply rooted aesthetic. The design respects traditional Chinese values while also addressing contemporary needs for simplicity and functionality. It is a space where ancient wisdom meets modern innovation, creating a unique environment that both reflects and elevates the surrounding natural beauty. The minimalist approach ensures that these traditional elements are not diluted by unnecessary adornments but are instead celebrated for their inherent beauty and cultural significance.

As guests move through the hotel lobby, they experience a gradual transition from the external world to the tranquil space within. The lighting, the materials, and the natural motifs all contribute to a sense of calm and quiet reflection, setting the tone for the rest of their stay. The lobby serves as an introduction to the hotel's ethos, offering a preview of the harmonious blend of simplicity, nature, and cultural heritage that defines the entire space. This seamless integration of design and environment encourages visitors to slow down, appreciate their surroundings, and experience the profound beauty of the natural world within a modern context.

In conclusion, the design of the hotel lobby is a testament to the power of blending traditional cultural elements with modern design principles. By incorporating elements of the natural landscape, such as mountains, rocks, and flowing water, into a minimalist framework, the design creates a space that is both visually striking and deeply meaningful. It honors the cultural heritage of China while responding to contemporary desires for simplicity and functionality. The resulting space not only serves as a functional area for guests but also as a peaceful sanctuary that connects them to the natural world, offering a unique and enriching experience that reflects the best of both ancient traditions and modern innovation.

The entrance lobby, lobby, front desk service area, VIP rest space, and transition area are the five primary sections of the lobby, that has following requirements:

1. Entrance Lobby: Keep lighting simple for functional needs, avoiding excessive ornamentation, and maintaining a focus on the primary atmosphere.

2. Lobby Atrium: Artistic environment lights serve as primary fixtures, combining functional illumination with aesthetic appeal.

3. Front Desk Area: Ensure cohesive lighting with the lobby and atrium, with heightened brightness for easy customer orientation upon entering.

4. Rest Area: Maintain strong color rendering with subdued lighting, especially to protect guests' eyes during rest, avoiding direct exposure.

5. Transition Area: Consider the overall lighting theme, gradually transitioning from bright to dim illumination between spaces like the lobby and lobby bar.

As seen in Fig. 1, the horizontal illumination provides visual direction guidance for guests. In terms of lighting control, during the day, due to the entry of natural light, the brightness of the light can be appropriately reduced or weakened, and gradually increased when the natural light weakens.

The horizontal illumination level in the front desk area (Fig. 2) must be maintained at 200Lx to meet the requirements of the front desk office, so the lighting brightness in the front desk space will be higher than in the rest of the lobby, providing guidance for guests as well.

The lighting intensity in the rest area (Fig. 3) will be lower than in the front desk service space. In terms of functional lighting, in the daytime, it mainly depends on the lighting of french window, and at night, it depends on the lights embedded in the ceiling and platform. Decorative lamps will be placed next to soft furniture to increase the atmosphere effect.

Lighting design in hotels does not exist in a vacuum; it is closely connected with cultural traditions and perceptions of light in different regions. Each culture has its unique understanding of light, and this, in turn, influences the design of lighting in hotel interiors. Hotel lighting design requires a thoughtful approach that takes cultural differences and traditions into account, as they can significantly affect the perception of space and the overall atmosphere.

The Influence of Cultural Traditions on the Perception of Light. In different countries and regions, light is attributed different meanings. For example, in China, Japan, and India, light is often perceived as an important element symbolizing spiritual purification and harmony. In Chinese culture, for instance, the red color is

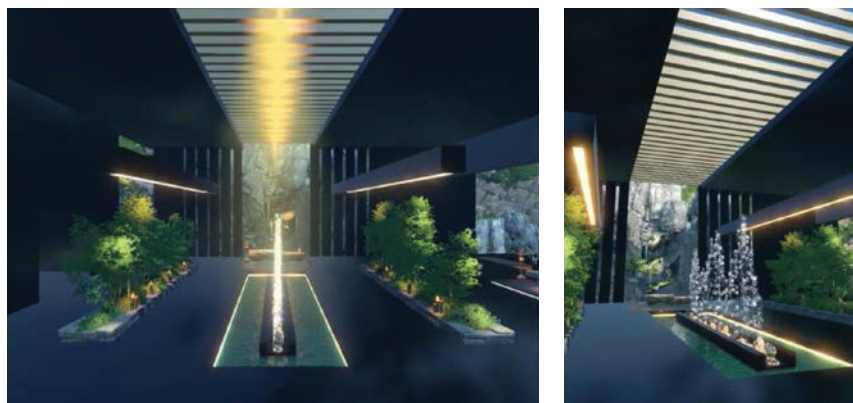


Fig. 1. Lobby ceiling lightning (Li Ruixi, 2023)



Fig. 2. Front desk lightning (Li Ruixi, 2023)

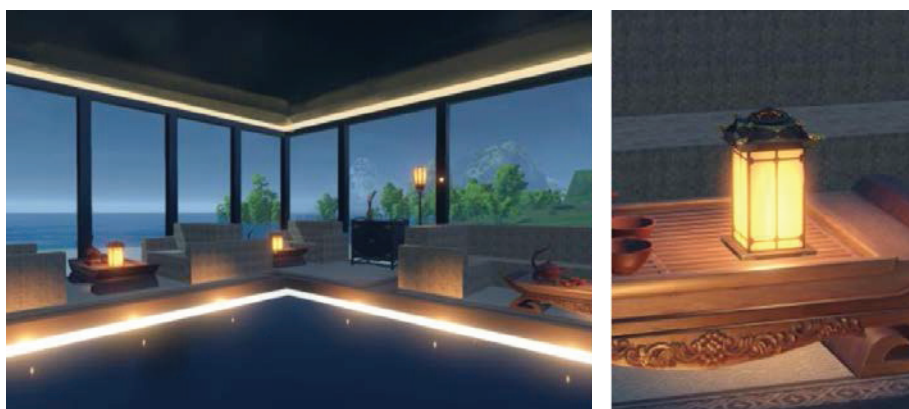


Fig. 3. Rest area lightning (Li Ruixi, 2023)

considered a symbol of luck and prosperity, and lighting in this hue is often used to create a festive atmosphere in hotel interiors. In countries like Japan, special attention is paid to the softness and smoothness of light, which reflects the values of minimalism and tranquility in Japanese philosophy.

On the other hand, in Western Europe and North America, the emphasis is often placed on the functionality of light, its brightness, and practical application, reflecting a more pragmatic approach to lighting design. For example, hotels often use bright lighting in lobbies and reception areas, aimed at creating clarity and

transparency, while softer tones are chosen for relaxation areas.

The Choice of Materials for Light Fixtures and Finishes Reflecting Local Identity. Cultural traditions also have a significant influence on the choice of materials for light fixtures and finishes. For example, in Middle Eastern and North African countries, copper or bronze finishes are traditionally used for light fixtures, reflecting the warmth and opulence of the local cultures. This can be an important element in hotels aiming to emphasize local identity and create a luxurious atmosphere.

In Scandinavia, glass and wood are often used, which aligns with the principles of functionality and simplicity inherent in Scandinavian design. Here, the lighting is often soft, with light fixtures in neutral tones, creating a warm, cozy atmosphere that harmonizes with nature. The use of natural materials such as wood, stone, and glass highlights the connection with the surrounding world and local traditions.

In India and some Asian countries, light fixtures are often made from carved wood, ceramics, or decorative metalwork, reflecting the rich cultural heritage and preferences for intricate craftsmanship in design. These materials bring warmth and a sense of comfort to the space while emphasizing the uniqueness of the hotel interior.

How Cultural Differences Affect the Choice of Light Shades The choice of light shades depends on the perception of light in different cultures. In countries with warm climates such as Italy, Spain, or Greece, warm yellow or orange light is often used, which mimics the sunlight and creates a sense of coziness and relaxation. This is ideal for resort hotels where the goal is to create a welcoming and calming atmosphere.

In countries with cold climates, such as Scandinavia or Canada, cool white light is used to compensate for the lack of natural light during long winter months. Cool light promotes concentration and activity, creating bright and clear spaces, which is especially important in business hotels.

CONCLUSIONS

This study deeply analyzed the role of lighting in hotel interior design, with a particular focus on the integration of modern technologies and Chinese ethnic style. Lighting design, as an integral part of the overall interior, shapes not only the functional but also the emotional characteristics of the space, significantly influencing how guests perceive the hotel. Especially important is the ability of lighting to not just illuminate a space but to create a unique atmosphere that

reflects cultural identity and meets the psychological needs of users.

The key findings of the study demonstrate that well-designed lighting plays a pivotal role in creating visually appealing and functional hotel spaces. Dynamic lighting systems, color temperature adjustments, and strategic use of accent lighting contribute to enhancing not only the aesthetic appeal but also the comfort of the space for guests. A significant aspect was the attention given to the ethnic Chinese style, which was seamlessly integrated into modern lighting design, creating a unique balance between tradition and innovation.

Future research should focus on the development of intelligent lighting control systems that can adapt to changing natural light, time of day, and user preferences. These smart systems, in combination with eco-friendly light sources, can significantly enhance both comfort and energy efficiency in hotel properties. Additionally, exploring the psycho-emotional impact of lighting on guests is crucial for creating more personalized and enjoyable experiences. Understanding how different lighting types affect emotional states and overall perception can lead to more tailored and effective lighting solutions that foster a positive guest experience.

BIBLIOGRAPHY

- [1] Avci A.N. OLED lighting as a salutogenic lighting design element in an indoor environment. *Light & Engineering*. 2024. № 32 (6). <https://doi.org/10.33383/2024-031>.
- [2] Chen H. Lighting design method of museum exhibition hall based on Internet of Things and deep learning. *Journal of Computational Methods in Sciences and Engineering*. 2022. № 22 (2). P. 411–423. <https://doi.org/10.3233/JCM-215717>.
- [3] Gao X., Yezhova O. Chinese Traditional Patterns and Totem Culture in Modern Clothing Design. *Art and Design*. 2023. № 22 (2). P. 20–30. <https://doi.org/10.30857/2617-0272.2023.2.2>.
- [4] Geng Z., Le W., Guo B., Yin H. Analysis of factors affecting visual comfort in hotel lobby. *PLoS One*. 2023. № 18 (1). e0280398. <https://doi.org/10.1371/journal.pone.0280398>.
- [5] Houser K., Boyce P., Zeitzer J., Herf M. Human-centric lighting: Myth, magic or metaphor? *Lighting Research & Technology*. 2021. № 53 (2). P. 97–118. <https://doi.org/10.1177/1477153520958448>.
- [6] Huang Y.N., Chen L.X. Lighting projection design of art stage from holographic naked eye 3D perspective. *Journal of Cases on Information Technology*. 2024. № 26 (1). 349739. <https://doi.org/10.4018/JCIT.349739>.
- [7] Hung C.C., Lin H.H., Chen C.H. Design of LED lighting system with improved color mixing uniformity. *Sensors and Materials*. 2024. № 36 (4). P. 1661–1674. <https://doi.org/10.18494/SAM4730>.

[8] Kubiak K. Design thinking in lighting design to meet user needs. *Sustainability*. 2024. № 16 (9). 3561. <https://doi.org/10.3390/su16093561>.

[9] Liu J., Krotova T., Yezhova O., Pashkevich K. Traditional elements of Chinese culture in logo design. *International Circular of Graphic Education and Research*. 2018. № 11. P. 66–75.

[10] Long G., Zhang Y. The regulatory role of lighting design in boutique hotel spaces – Taking the lighting application of Shenzhen Hui Hotel as an example. *Lights and Lighting*. 2019. № 03. P. 25–29.

[11] Madias E.N.D., Christodoulou K., Androvitsaneas V.P., Skalkou A., Sotiropoulou S., Zervas E., Doulos L.T. The effect of artificial lighting on both biophilic and human-centric design. *Journal of Building Engineering*. 2023. № 76. 107292. <https://doi.org/10.1016/j.job.2023.107292>.

[12] Moore A., Alisafae H. Folded light source: A technique for compact and efficient automotive lighting. *Optical Engineering*. 2023. № 62 (9). 095104. <https://doi.org/10.1117/1.OE.62.9.095104>.

[13] Ratnasari C., Setiawan D.W., Harsritanto B.I. The Application of Artificial Lighting in Hotel Room: Grand Anugerah Hotel and Sae inn, Kendal. *MAJ – Malaysia Architectural Journal*. 2020. № 2 (1). P. 25–33. URL: <https://www.majournal.my/index.php/maj/article/view/19>.

[14] Ren H., Fan H., Wang R., Huo Y., Tang R., Wang L., Bao H. Data-driven digital lighting design for residential indoor spaces. *ACM Transactions on Graphics*. 2023. № 42 (3). 28. <https://doi.org/10.1145/3582001>.

[15] Rossi M.A design-oriented approach for managing colored light sources in lighting design software. *Color Research and Application*. 2023. № 48 (1). P. 32–39. <https://doi.org/10.1002/col.22823>.

[16] Skarzynski K., Zagan W. Improving the quantitative features of architectural lighting at the design stage using the modified design algorithm. *Energy Reports*. 2022. № 8. P. 10582–10593. <https://doi.org/10.1016/j.egyr.2022.08.203>.

[17] Tayhuadong L., Inkarojrit V. Lighting design for Lanna Buddhist architecture: A case study of Suan Dok Temple, Chiang Mai, Thailand. *Sustainability*. 2024. № 16 (17). P. 7494. <https://doi.org/10.3390/su16177494>.

[18] Wei Y., Zhang Y., Wang Y., Liu C.A. Study of the Emotional Impact of Interior Lighting Color in Rural Bed and Breakfast Space Design. *Buildings*. 2023. № 13 (10). P. 2537. <https://doi.org/10.3390/buildings13102537>.

[19] Wu S., Yezhova O. Features of Contemporary Chinese Style in Digital Fashion Design: Cases of Fashion Industry Products Design. *Art and design*. 2023. № 3 (23). P. 68–78. <https://doi.org/10.30857/2617-0272.2023.3.6>.

[20] Zhou Y.K., Jian L.J., Su G.D.J. Red-Green-Blue Mini-LEDs lighting design with high uniformity under thin form factor. *Crystals*. 2022. № 12 (12). P. 1815. <https://doi.org/10.3390/cryst12121815>.

REFERENCES

[1] Avci, A.N. (2024). OLED lighting as a salutogenic lighting design element in an indoor environment. *Light & Engineering*, 32 (6). <https://doi.org/10.33383/2024-031> [in English].

[2] Chen, H. (2022). Lighting design method

of museum exhibition hall based on Internet of Things and deep learning. *Journal of Computational Methods in Sciences and Engineering*, 22 (2), 411–423. <https://doi.org/10.3233/JCM-215717> [in English].

[3] Gao, X., & Yezhova, O. (2023). Chinese traditional patterns and totem culture in modern clothing design. *Art and Design*, 22 (2), 20–30. <https://doi.org/10.30857/2617-0272.2023.2.2> [in English].

[4] Geng, Z., Le, W., Guo, B., & Yin, H. (2023). Analysis of factors affecting visual comfort in hotel lobby. *PLoS One*, 18 (1), e0280398. <https://doi.org/10.1371/journal.pone.0280398> [in English].

[5] Houser, K., Boyce, P., Zeitzer, J., & Herf, M. (2021). Human-centric lighting: Myth, magic or metaphor? *Lighting Research & Technology*, 53 (2), 97–118. <https://doi.org/10.1177/1477153520958448> [in English].

[6] Huang, Y.N., & Chen, L.X. (2024). Lighting projection design of art stage from holographic naked eye 3D perspective. *Journal of Cases on Information Technology*, 26 (1), 349739. <https://doi.org/10.4018/JCIT.349739> [in English].

[7] Hung, C.C., Lin, H.H., & Chen, C.H. (2024). Design of LED lighting system with improved color mixing uniformity. *Sensors and Materials*, 36 (4), 1661–1674. <https://doi.org/10.18494/SAM4730> [in English].

[8] Kubiak, K. (2024). Design thinking in lighting design to meet user needs. *Sustainability*, 16 (9), 3561. <https://doi.org/10.3390/su16093561> [in English].

[9] Liu, J., Krotova, T., Yezhova, O., & Pashkevich, K. (2018). Traditional elements of Chinese culture in logo design. *International Circular of Graphic Education and Research*, 11, 66–75 [in English].

[10] Long, G., & Zhang, Y. (2019). The regulatory role of lighting design in boutique hotel spaces – Taking the lighting application of Shenzhen Hui Hotel as an example. *Lights and Lighting*, (03), 25–29 [in English].

[11] Madias, E.N.D., Christodoulou, K., Androvitsaneas, V.P., Skalkou, A., Sotiropoulou, S., Zervas, E., & Doulos, L.T. (2023). The effect of artificial lighting on both biophilic and human-centric design. *Journal of Building Engineering*, 76, 107292. <https://doi.org/10.1016/j.job.2023.107292> [in English].

[12] Moore, A., & Alisafae, H. (2023). Folded light source: A technique for compact and efficient automotive lighting. *Optical Engineering*, 62 (9), 095104. <https://doi.org/10.1117/1.OE.62.9.095104> [in English].

[13] Ratnasari, C., Setiawan, D.W., & Harsritanto, B.I. (2020). The application of artificial lighting in hotel room: Grand Anugerah Hotel and Sae Inn, Kendal. *Malaysia Architectural Journal*, 2 (1), 25–33. <https://www.majournal.my/index.php/maj/article/view/19> [in English].

[14] Ren, H., Fan, H., Wang, R., Huo, Y., Tang, R., Wang, L., & Bao, H. (2023). Data-driven digital lighting design for residential indoor spaces. *ACM Transactions on Graphics*, 42 (3), 28. <https://doi.org/10.1145/3582001> [in English].

[15] Rossi, M. (2023). A design-oriented approach for managing colored light sources in lighting design software. *Color Research and Application*, 48 (1), 32–39. <https://doi.org/10.1002/col.22823> [in English].

[16] Skarzynski, K., & Zagan, W. (2022). Improving the quantitative features of architectural lighting at the design stage using the modified design algorithm. *Energy Reports*, 8, 10582–10593. <https://doi.org/10.1016/j.egy.2022.08.203/> [in English].

[17] Tayhuadong, L., & Inkarojrit, V. (2024). Lighting design for Lanna Buddhist architecture: A case study of Suan Dok Temple, Chiang Mai, Thailand. *Sustainability*, 16 (17), 7494. <https://doi.org/10.3390/su16177494/> [in English].

[18] Wei, Y., Zhang, Y., Wang, Y., & Liu, C.A. (2023). Study of the emotional impact of interior lighting

color in rural bed and breakfast space design. *Buildings*, 13 (10), 2537. <https://doi.org/10.3390/buildings13102537/> [in English].

[19] Wu, S., & Yezhova, O. (2023). Features of contemporary Chinese style in digital fashion design: Cases of fashion industry products design. *Art and Design*, 3 (23), 68–78. <https://doi.org/10.30857/2617-0272.2023.3.6/> [in English].

[20] Zhou, Y.K., Jian, L.J., & Su, G.D.J. (2022). Red-Green-Blue Mini-LEDs lighting design with high uniformity under thin form factor. *Crystals*, 12 (12), 1815. <https://doi.org/10.3390/cryst12121815/> [in English].

АНОТАЦІЯ

Єжова О., Пашкевич К., Чупріна Н., Лі Руїсі, Колєснікова А., Дерев'янка Є. Графічний та світловий дизайн в інтер'єрі готельного лобі на основі китайського етнодизайну

У сучасному готельному бізнесі дизайн освітлення виступає не лише функціональним елементом інтер'єру, а й важливим чинником формування естетичного середовища, що впливає на сприйняття простору й емоційний комфорт гостей. Ефективне освітлення здатне підкреслити архітектурні особливості, створити атмосферу затишку або офіційності, а також сприяти економії енергоресурсів завдяки впровадженню сучасних технологій. Особливого значення набуває інтеграція етнічних елементів у світловий дизайн, що дозволяє підкреслити культурну ідентичність готельного простору.

Це дослідження спрямоване на проведення аналізу принципів і методів реалізації дизайну освітлення в готелях з акцентом на використання елементів китайського етнічного стилю. Мета роботи полягає у виявленні ефективних підходів до організації освітлення, що поєднують інноваційні технології з культурними традиціями, забезпечують комфортне середовище для гостей і підвищують загальну ефективність готельних просторів.

Мета. Метою дослідження є вивчення принципів і методів реалізації дизайну освітлення в готелях, зокрема акцент на вплив освітлення на задоволення гостей і створення комфортного й естетично приємного середовища. Дослідження висвітлює характеристики, принципи та функціональні підрозділи дизайну освітлення готелів і досліджує його вплив на клієнтів. Робота присвячена вивченню дизайну освітлення в готелях і його значення. Зокрема, акцентується увага на характеристиках, принципах і функціональних підрозділах дизайну освітлення готелів, їхньому впливі на клієнтів. Проаналізовано відмінності в техніках освітлення в національному та закордонному контекстах. Наукова новизна роботи полягає у виявленні нових інноваційних методів освітлення та шляхів їх поєднання з етнічним китайським стилем. Досліджено, як дизайн освітлення може служити людям і задовольняти їхні психологічні потреби на основі людиноорієнтованого підходу.

Методологія дослідження передбачає всебічний огляд сучасних концепцій дизайну освітлення та їхнього практичного застосування в готельній індустрії. Використано змішаний підхід, який поєднує кількісний аналіз параметрів освітлення з якісними оцінками через кейс-стаді успішно впроваджених рішень освітлення в готелях. Окрім того, вивчено особливості в техніках освітлення національного та закордонного застосування.

Результати. У дослідженні ідентифіковано ключові елементи дизайну освітлення, які значно впливають на сприйняття інтер'єрів готелів. Сюди входять динамічні системи освітлення, регулювання кольорової температури та стратегічне використання акцентного освітлення. Результати показують, що ретельно

спроєктоване освітлення не тільки підвищує візуальну привабливість готельних приміщень, але й сприяє покращенню досвіду гостей і підвищенню операційної ефективності. Особлива увага приділяється дослідженню методів освітлення, що відповідають етнічним китайським стилям. Створено сцени освітлення готелю з використанням комп'ютерної графіки.

Наукова новизна полягає в детальному аналізі інноваційних технологій освітлення та їхньої ролі у формуванні функціональних і естетичних аспектів інтер'єрів готелів. Це дослідження надає нові відомості щодо інтеграції розумних систем освітлення, сталих практик та їх поєднання з культурними й етнічними мотивами. У роботі також досліджено, як дизайн освітлення та прийоми графічного дизайну в інтер'єрі можуть задовольняти психологічні потреби, згідно з людино-орієнтованим підходом. .

Практична значущість. Результати дослідження мають практичне значення для дизайнерів, архітекторів і операторів готелів. Наведено рекомендації щодо впровадження передових рішень освітлення для підвищення задоволення гостей, зменшення енергоспоживання та узгодження із сучасними тенденціями дизайну. Це дослідження також слугує орієнтиром для розроблення стратегій освітлення, що відповідають специфічним потребам різних категорій готелів і включають інноваційні методи з культурними елементами.

Ключові слова: дизайн освітлення, інтер'єрний дизайн, графічний дизайн, цифрові технології, комп'ютерна графіка, готельний простір, світильники, культурна спадщина, китайський стиль, етнічний дизайн, розумні технології освітлення, динамічні системи освітлення, сталий підхід до освітлення.

АВТОРСЬКА ДОВІДКА:

Єжова Ольга, доктор педагогічних наук, кандидат технічних наук, професор, професор кафедри графічного дизайну, Київський національний університет технологій та дизайну, Київ, Україна, e-mail: oyezkhova70@gmail.com, orcid: 0000-0002-5920-1611.

Пашкевич Калина, доктор технічних наук, професор кафедри дизайну одягу, Київський національний університет технологій та дизайну, Київ, Україна, e-mail: kalina.pashkevich@gmail.com, orcid: 0000-0001-6760-3728.

Чупріна Наталія, доктор мистецтвознавства, професор, завідувач кафедри мистецтва та дизайну костюма, Київський національний університет технологій та дизайну, Київ, Україна, e-mail: chouprina@ukr.net, orcid: 0000-0001-7017-6456.

Лі Руїсі, магістр кафедри графічного дизайну, Київський національний університет технологій та дизайну, Київ, Україна, Київського інституту Технологічного університету Цілу, Цзінань, Китай, e-mail: researcher70@meta.ua, orcid: 0009-0006-4788-2217.

Колєснікова Аурелія, старший викладач кафедри графічного дизайну, Київський національний університет технологій та дизайну, Київ, Україна, e-mail: aurika.koliesnikova@gmail.com, orcid: 0000-0003-3949-6384.

Дерев'янка Єлизавета, асистент кафедри графічного дизайну, Київський національний університет технологій та дизайну, Київ, Україна, derevianko.yy@knu.edu.ua, orcid: 0009-0000-1145-484X.

Стаття подана до редакції 26.02.2025 р.