

Divine Light: Exploring the Functional and Emotional Role of Lighting in the Ramayana Museum Interiors in Ayodhya

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Abstract

Lighting plays a pivotal role in museum design, shaping not only the visibility and perception of exhibits but also the emotional and spatial experience of visitors. Within the context of the Ramayana Museum in Ayodhya, lighting assumes deeper cultural and spiritual dimensions. As Ayodhya is a city rooted in mythological and religious heritage, the museum's lighting design must evoke the divine essence and timeless narrative of the Ramayana while ensuring functional excellence in display and preservation. This study explores the dual role of lighting; as a technical medium ensuring visibility, conservation, and spatial coherence, and as an emotional tool enhancing spirituality, storytelling, and immersion. The research adopts a mixed-method approach combining case studies, on-site observations, and lighting simulations to analyse the interaction between light, material surfaces, and visitor perception. Both natural and artificial lighting strategies are assessed to determine how controlled light transitions can guide visitors through the sequential episodes of the Ramayana, creating a sensory and sacred atmosphere. The study further investigates the role of light in reinforcing spatial hierarchy, emphasizing symbolic elements, and crafting a coherent narrative journey. The anticipated outcome is a comprehensive framework for heritage museum lighting design that harmonizes technical precision with cultural authenticity. By transforming light into a medium of storytelling and spiritual engagement, the research aims to contribute to the discourse on experiential museum environments that celebrate India's mythological legacy.

Keywords: Ayodhya, cultural heritage, museum lighting design, Ramayana Museum, spatial experience, storytelling through light

INTRODUCTION

One of the most important aspects of museum planning and interior design is lighting. It defines meaning, hierarchy, and mood in addition to illuminating objects. Lighting in museums affects how visitors perceive artifacts, understand narratives, and feel a connection to history. From a technical standpoint, lighting preserves spatial clarity, facilitates artifact preservation, and guarantees visibility [1]. It has an experiential impact on visitors' feelings, whether they are inspired, serene, or spiritually elevated (Figures 1 & 2)

A museum can be transformed from a static exhibition space into a dynamic story with the correct lighting design. By adjusting brightness, direction, and shadow, it facilitates the creation of areas for exploration, introspection, and feeling [2]. As a result, museum lighting serves as both a functional requirement and a design language that expresses the curator's intentions and improves visitor interaction.

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Figure 1. Stone sculptures displayed on illuminated pedestals against a red gallery wall in a museum exhibition space.



Figure 2. Visitors observing an immersive digital art projection displayed across the walls and floor of an exhibition space.

CONTEXT

Being the birthplace of Lord Rama, Ayodhya is one of the oldest and holiest cities in India and has great cultural and religious significance. The goal of the Ramayana Museum is to create a modern setting for preserving and presenting the epic story of the Ramayana [3]. Through architecture, sensory design, and visual storytelling, it seeks to engage contemporary tourists with mythology (Figures 3 & 4).

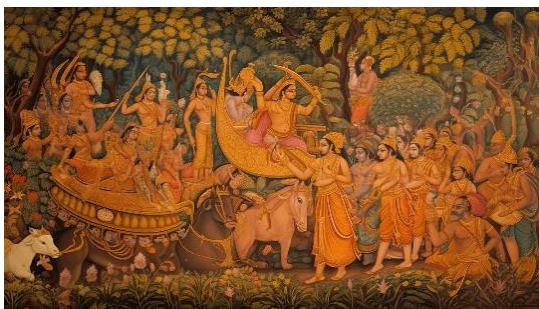


Figure 3. Traditional mural painting depicting a mythological procession scene set within a lush forest landscape.



Figure 4. Ornately decorated grand hall featuring elaborate ceiling carvings, classical columns, and a central skylight illuminating the interior space.

Lighting in this context takes on a symbolic and spiritual quality in addition to being functional. The journey of good versus evil, the dawn of truth, or the divine presence of Lord Rama can all be symbolized by the play of light and shadow. Dynamic lighting transitions can tell important stories like exile, battle, and return to Ayodhya, while warm, golden light may evoke a sense of sanctity [4–6].

While dynamic lighting transitions can tell the story of important episodes like exile, battle, and return to Ayodhya, warm, golden light may evoke a sense of sanctity. Light itself thus becomes a storytelling medium in this museum.

Problem Statement

Achieving proper lux levels, conservation standards, and visibility are the main goals of conventional museum lighting. Even though these elements are important, they frequently overlook the cultural and emotional impact that light can have, particularly in narrative museums with a strong religious and traditional component. The visitor experience loses its immersive and spiritual qualities when it lacks emotional depth and instead becomes purely observational [7–9].

This study highlights the disconnect between heritage museums' emotional storytelling and technical lighting design. It aims to demonstrate how lighting in the Ramayana Museum in Ayodhya can act as a link between practical effectiveness and spiritual resonance.

Aim

To study and propose lighting design strategies that balance functional requirements with emotional and spiritual expression in the Ramayana Museum interiors.

Objectives

- To examine lighting as a useful design element for spatial clarity, visibility, and conservation.
- To research how lighting can improve narrative and visitor immersion while evoking spiritual and emotional experiences.
- To provide lighting design standards for museums' interiors that are narratively focused and historically inspired.

Scope

The study examines interior lighting techniques in the context of the Ramayana Museum, taking into account both natural and artificial light. It does not include structural or solely electrical design details, but it does include visitor experience, design aesthetics, and conservation needs [10–12].

Limitations

- There might not be much access to the lighting plans or data for the actual museum.
- Qualitative interpretation is essential to emotional response research.
- The results are theoretical and not empirically verified.

LITERATURE REVIEW

Importance of Lighting in Museum Design

One of the most important design elements in a museum is the lighting. It influences people's perceptions, emotions, and interpretations of the surrounding spaces and exhibits. Lighting in museums must accomplish two key goals:

- *Functional*: To safely preserve and make objects visible.
- *Experiential*: To direct atmosphere, narrative, and feelings.

Lighting has a significant impact on visitors' attention, comfort, and memory of exhibits, according to research in museum design. Focus, attention to detail, and a sense of exploration can all be achieved with the right lighting. In historical or religious galleries, for example, soft, diffused light can encourage introspection and serenity, whereas brighter, directed light may highlight dramatic sculptures or action sequences.

Evolution of Museum Lighting

As technology and exhibition philosophy have advanced, so too has the history of lighting in museums.

- *Natural Lighting Era (18th–19th Centuries)*: Early museums, such as the Louvre, depended on natural light coming in through clerestory windows or skylights. Natural light damaged delicate artifacts but added realism [12–14].
- *Introduction of Artificial Lighting in the 20th Century*: The invention of fluorescent and incandescent lighting gave museums the ability to regulate colour and brightness. But early artificial lights frequently produced heat and warped colours.
- *21st-Century Innovations*: LED technology transformed museum lighting by providing low UV emission, colour accuracy (high CRI), and energy efficiency, all of which protect artifacts. Smart sensors, dimmers, and programmable lighting scenes that alter during the day or exhibition sequence are also features of modern lighting systems.

Emotional and Experiential Role of Light

Human psychology is impacted by light. Cool tones (4000–6000K) encourage alertness, focus, and clarity, while warm tones (2700–3000K) foster sentiments of coziness, intimacy, and devotion. Warm, golden lighting, akin to the glow of temple lamps or sunrise, is frequently chosen by designers for sacred or narrative museums to evoke divinity and peace.

Additionally, studies reveal that the contrast between light and shadow in lighting produces drama and focus. This can assist visitors to the Ramayana Museum in emotionally traversing the various sections of the epic, from Rama’s serene childhood in Ayodhya to the more sinister exile in the forest and his victorious return on Diwali.

Emotion is also guided by light intensity. Bright light energizes, while dim light encourages reflection.

Symbolism of Light in Indian Tradition

Light has profound spiritual significance in Indian culture. It represents wisdom, innocence, and the triumph of good over evil, which is the central idea of the Ramayana. The festival of Diwali, which commemorates the return of Lord Rama to Ayodhya, revolves around light as a representation of truth and hope.

Lighting ceremonies like aarti, or the offering of lamps, are used in temples all over India to symbolize devotion. These lights’ motion and warmth foster concentration and spiritual intimacy. The museum can be transformed from an exhibition space into a spiritual journey by incorporating this symbolism into the lighting design. For instance.

- Temple sanctity can be evoked by soft, warm light at entrances.
- Rama’s journey from darkness (exile) to enlightenment (return) can be symbolized by gradual changes in light.
- Idols, inscriptions, and holy artifacts can be reverently highlighted with accent lighting.

Functional Requirements in Museum Lighting

Lux Levels of Illumination

- Artifacts made of paper, textiles, and paintings need between 50 and 150 lux.
- Stone objects and sculptures can withstand up to 300 lux.
- Overall, there should be no glare and consistent ambient lighting.
- *Color Rendering Index (CRI)*: True color visibility of artwork and historical displays is ensured by high CRI lighting (above 90).
- *Conservation*: Materials can be harmed by excessive heat, UV, and infrared radiation from lighting sources. As a result, low UV emission LED lighting is recommended.
- *Control and Direction of Glare*: Light should never shine directly into a visitor’s eyes or reflect off of glass surfaces. Diffusers and proper angling are crucial.

- *Integration with Architecture:* The architecture of the building should be complemented by the lighting. Track systems, cove lighting, and concealed lights all contribute to aesthetic preservation while organically directing attention.

Previous Studies and Case Examples

The Museum of the Future in Dubai combines technology and narrative by using dynamic lighting that responds to visitors' movements.

To preserve old manuscripts and sculptures, the National Museum in New Delhi uses a combination of artificial and natural lighting with regulated lux levels.

Ayodhya's Ram Katha Sangrahalaya is a regional museum that displays scenes from the Ramayana using spot lighting and warm tones, but it still lacks sophisticated dynamic effects and technological control.

To create immersive thematic sections, the V&A Museum in London uses zoned illumination and adaptive LED lighting.

These illustrations demonstrate how technology and narrative experience are combined in contemporary museum lighting, a concept that this study applies to the Ramayana Museum.

Summary of Literature Review

It is clear from the reviewed studies that lighting in museums serves a purpose beyond simple functionality; it is an artistic tool that helps visitors feel an emotional connection to culture and history. The salient observations are:

- Lighting has the power to direct memory, emotion, and attention.
- Storytelling is improved when warm and cool tones are used in balance.
- Sensors and LEDs are examples of technological advancements that enhance experience and sustainability.
- Design choices must be informed by cultural and spiritual contexts such as the symbolism of light in Ayodhya (Figures 5 & 6).



Figure 5. Sculptural artifacts displayed in illuminated glass cases within a museum gallery setting.

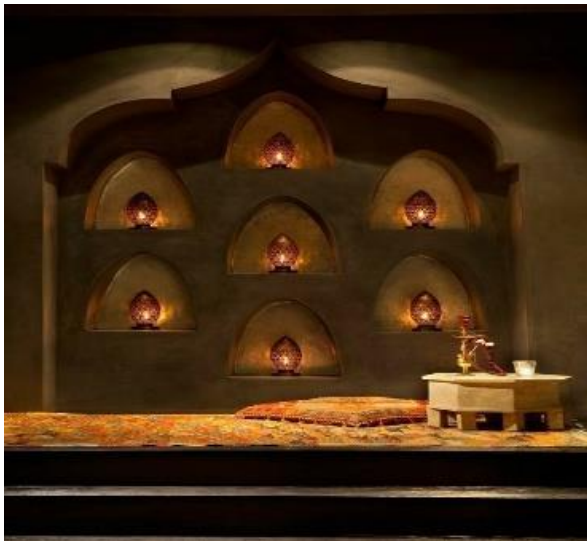


Figure 6. Symmetrical stage backdrop with illuminated arched niches and traditional Indian interior elements creating a warm theatrical ambiance.

These results lend credence to the notion that the Ramayana Museum can become a fully immersive cultural experience through the use of a dual-focus lighting strategy that blends emotional storytelling with functional clarity.

RESEARCH METHODOLOGY

This study combines visual and analytical techniques with a qualitative research approach. A qualitative approach aids in investigating human perception, mood, and spatial experience in relation to lighting because the topic is more about design, culture, and emotional response than it is about numerical data.

Instead of measuring, the research aims to understand. It seeks to determine how lighting affects a museum space's emotional and functional ambiance.

- Among the primary areas of focus are:
 - How visibility and spatial clarity are defined by lighting.
 - How visitors' emotional and spiritual reactions are impacted by varying lighting intensities and tones.
 - How mythological or cultural tales can be told through light, particularly in the Ramayana Museum [15].

A few quantitative references, like lux levels, color temperature, and CRI standards, are taken into consideration to support design accuracy, even though the focus is still primarily qualitative.

Research Design

The theoretical review, case analysis, and conceptual proposal are all integrated into the research design in a methodical manner.

Step 1: Literature Study

Secondary data was gathered from books, scholarly publications, design blogs, and museum design guidelines. This aided in the comprehension of lighting types, technologies, and cultural symbolism associated with Ayodhya and the Ramayana.

Step 2: Contextual Analysis

To comprehend the architectural, spiritual, and cultural context in which lighting must function, the city of Ayodhya and the Ramayana Museum's concept were examined.

Step 3: Case Studies

To find lighting strategies that strike a balance between conservation and narrative, we looked at examples from Indian and foreign museums.

Step 4: Analytical Framework

Functional lighting parameters include safety, conservation, illumination levels, and spatial clarity.

Cultural symbolism, narrative flow, mood creation, and visitor immersion are examples of emotional and spiritual parameters.

Step 5: Design Proposal

Based on the research, a conceptual lighting framework for the Ramayana Museum was suggested, emphasizing the integration of aesthetic appeal and technical requirements.

Data Collection

Both primary and secondary data sources are used in the study.

Primary Information

- Observations of the lighting in nearby cultural institutions and museums.
- Visual documentation includes pictures, drawings, and lighting condition diagrams.
- Interviews and casual conversations with instructors and students studying interior design who are knowledgeable about lighting design concepts.

Secondary Information

- Research articles, manuals for museum lighting, and standards like the IES Museum Lighting Standards and the CIBSE Lighting Guide 8.
- Heritage museum case studies that have been published.
- Books, blogs, and articles about storytelling and lighting psychology.

This combination of information guarantees that the study is theoretically and contextually sound.

Research Tools and Techniques

Visual Mapping

- Used to understand how light interacts with space, exhibits, and visitor circulation.
- Helps visualize light direction, focus points, and emotional zones [16].

Comparative Case Analysis

- Comparison of selected museums to study differences in lighting intent, control systems, and visitor experiences.

Mood and Tone Analysis

- Examines how colour temperature and brightness affect emotional response (e.g., calmness, devotion, excitement).

Conceptual Diagrams

- Illustrate light zoning, layering (ambient, task, accent), and transitions in the Ramayana Museum design.

Photographic Studies

- Analysing images of museum interiors and temple lighting to extract design cues for atmosphere and spirituality.

Analytical Framework

This study employs a dual-framework approach to strike a balance between technical and emotional goals.

- Parameters of Function Spiritual and Emotional Aspects.
- Visibility levels, or Lux Creating and sustaining a mood.
- Index of Colour Rendering (CRI) Light's cultural significance.

- Control of contrast and glare Kindness, awe, and a spiritual tone.
- Conservation of artifacts Storytelling through light, or narrative flow.
- Sustainability and energy efficiency Comfort on an emotional level and a feeling of divinity.
- Both the final design recommendations and the case study analysis are guided by this framework.

Site Context: Ayodhya and the Ramayana Museum

The Tulsi Smarak Bhavan Museum in Ayodhya, Uttar Pradesh, is a revered cultural institution dedicated to the legendary 16th-century poet-saint Goswami Tulsidas, best known for composing the *Ramcharitmanas* and *Hanuman Chalisa*. Established in 1969 by Shri Vishwanath Das, the then Governor of Uttar Pradesh, the museum honours Tulsidas' literary and spiritual legacy (Figures 7 & 8).



Figure 7. Relief mural depicting a devotional scene with a kneeling figure offering respect while a woman extends a gesture of blessing against a rural backdrop.



Figure 8. Intricately painted circular mural illustrating mythological narratives and symbolic motifs arranged in concentric bands with detailed inscriptions.

The city's atmosphere – rich in temples, ghats, and rituals centered around light, provides a natural inspiration for the museum's lighting design. The aim is to capture Ayodhya's spiritual radiance and cultural warmth through thoughtful illumination.

The Design Approach Should

- reflect Ayodhya's identity as a city of light and devotion.
- use light as a narrative bridge to connect ancient myth and modern exhibition design.
- ensure lighting remains energy-efficient, visitor-friendly, and respectful of cultural aesthetic

By the Study's Conclusion, the Research Hopes to

- provide a set of rules for lighting design in narrative museums with a heritage theme.
- provide a lighting design that strikes a balance between emotion and visibility.
- provide workable solutions for fusing contemporary LED and control technologies with traditional symbolism (like warmth evoked by diya).
- help advance scholarly knowledge of lighting as a tool for technical and cultural design [17, 18].

DISCUSSION

The study's conclusions demonstrate that the lighting in the Ramayana Museum needs to be viewed as both a practical requirement and a moving narrative device. It became clear from research, literature reviews, and case studies that the best museum lighting designs combine technical effectiveness with emotional resonance and cultural significance.

The results are explained in three sections in the discussion that follows: the visitor experience, the emotional role, and the functional role.

Functional Role of Lighting

Lighting serves as the foundation for visual communication within the museum. It ensures that visitors can clearly see, move, and interact with exhibits while maintaining artifact safety. In the Ramayana Museum, this functional dimension focuses on visibility, conservation, and spatial orientation.

Visibility and Clarity

Every exhibit must have adequate visibility. Every object, be it a model, sculpture, or manuscript, needs enough light to show texture, color, and detail.

- General brightness without glare is ensured by uniform ambient lighting.
- Important artifacts like idols of Hanuman, Sita, and Rama are highlighted by focused spotlights.
- Reflections on polished surfaces or glass can be avoided with diffused lighting.

Conservation of Artifacts

One of the main issues facing heritage museums is preservation. Manuscripts, textiles, and paintings can all be harmed by excessive light exposure.

The Ramayana Museum should use the following to address this:

- LED lights that emit less UV and IR light.
- When galleries are empty, dimmers and motion sensors are used to minimize exposure.
- UV-filtered protective glass for display cases.

Visitor Orientation and Wayfinding

Additionally, lighting serves as a navigational aid, directing guests along the museum's narrative path.

- Orientation is aided by brighter areas along circulation routes.
- Points of entry or departure between galleries are indicated by subtle light transitions.
- The lighting of the signage guarantees that guests can comfortably read labels without detracting from the atmosphere of the exhibit.

This method promotes spatial hierarchy, where visitors are naturally guided from one Ramayana chapter to the next by varying light intensities, making the journey easy and intuitive (Figures 9 & 10).



Figure 9. Interior view of a museum gallery displaying framed paintings and sculptural exhibits under a skylit ceiling.



Figure 10. Visitors engaging with an immersive digital art installation featuring dynamic blue light projections across walls and floor.

Differentiation of Exhibit Zones

Additionally, lighting is used to visually divide the museum's various exhibition areas.

- Sacred displays, such as temple artifacts, can be defined by focused spotlights.
- Scenes of exile or forests can be distinguished by their cooler ambient tones.
- Scenes that are celebratory or emotional may be indicated by warm glows.

The spatial and visual organization of the story is facilitated by this differentiation, which guarantees storytelling clarity and makes it easier for visitors to quickly identify thematic shifts.

Cognitive Roles of Lighting

Emotional Role of Lighting

Beyond practicality, lighting has a significant impact on visitors' emotions and spiritual connections to the exhibits. The presence of divinity and moral enlightenment, two of the epic's main themes, are represented by light in the Ramayana Museum in addition to actual illumination.

Spirituality and Divinity Evocation

In places of worship or mythology, lighting must convey awe. The atmosphere of a museum should be serene, cozy, and holy, much like that of a temple.

- Amber and golden hues evoke the sacred aura of Ayodhya and the warmth of lamps.
- Around idols or scriptures, soft, diffused lighting exudes serenity and purity.
- Divine figures are surrounded by backlit halos or niches that draw attention to them and give them a sense of divinity.

The spiritual message of the Ramayana is emotionally more relatable to visitors thanks to this hallowed setting.

Symbolism of Light and Darkness

The journey from darkness to light – from exile and struggle to return and victory – is central to the Ramayana’s narrative. This symbolic journey can be graphically represented through lighting design:

- During Rama’s exile (Vanvaas), cool, dim blue hues evoke a sense of isolation and hardship.
- His return to Ayodhya (Diwali) is marked by warm golden light, which stands for joy, hope, and moral victory.
- The epic’s moral lessons are reflected in the dynamic contrasts between bright and dark areas, which highlight emotional highs and lows.

Lighting becomes a living metaphor for knowledge dispelling ignorance and good triumphing over evil through this symbolism.

Narrative Sequencing Through Light

Lighting can serve as a visual guide that takes visitors step-by-step through the Ramayana. Designers can imply time or emotional shifts by varying brightness, color, and direction.

- Enlightenment or dawn can be simulated by gradually increasing the brightness.
- Different environments, such as a forest, palace, or battlefield, can be identified by changes in color.
- Similar to flipping through pages in a book, sequential spotlighting can guide attention from one display to the next.

By using light instead of written explanations, this technique produces a cinematic experience that enables visitors to follow the story intuitively (Figures 11 & 12).

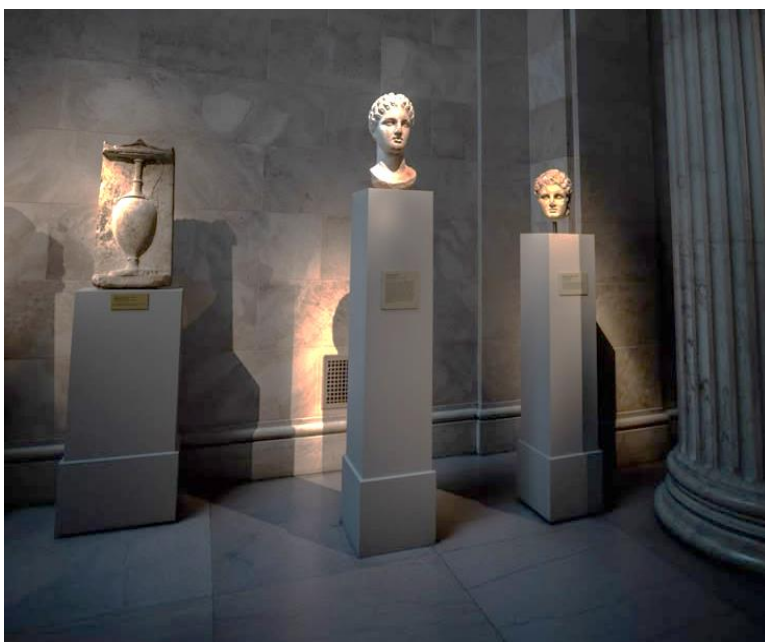


Figure 11. Ancient marble sculptures illuminated in a dimly lit museum gallery.



Figure 12. A lone visitor stands in a quiet contemporary art gallery under soft spotlights.

Emotional Immersion

Emotional lighting encourages visitors to not just observe but *feel* the story. For example:

- Low, intimate lighting makes spaces feel personal and sacred.
- Rhythmic lighting transitions evoke a sense of movement and life in otherwise static displays.
- Interactive light responses (that change when visitors move) add surprise and engagement.
- By controlling rhythm, tone, and color, the museum can trigger emotions like empathy, awe, and nostalgia – key to creating a memorable experience.

Visitor Experience

How visitors experience the museum is directly impacted by the lighting design's combination of emotional and practical elements. Making sure that everyone who leaves the room feels both informed and emotionally enriched is the aim.

Impact on Mood: The museum's overall mood is determined by its lighting. Brighter areas make visitors feel alert and involved, while softly lit golden galleries tend to make visitors feel reverent and at ease.

- Warm tones evoke sentiments of spirituality, safety, and tranquillity.
- During instructional displays, cooler tones provide clarity and focus.
- The emotional journey reflects the narrative arc of the Ramayana thanks to well-balanced transitions.

An inviting, cozy atmosphere that encourages guests to stay longer can be created with well-balanced lighting, which can also lessen visual fatigue.

Engagement and Interaction

Visitors' level of engagement with exhibits is influenced by lighting. Research indicates that when lighting effectively highlights focal points, people are more likely to pause, observe, and think.

- Accent lighting highlights important details or artifacts.
- Storytelling scenes can come to life with dynamic lighting effects.
- Interactive zones with light-triggered effects (e.g., when a person step closer) can create curiosity and participation.

Cultural and Spiritual Connection

Lighting can evoke a strong sense of cultural belonging for many visitors, particularly those who are familiar with the Ramayana. The traditional beauty of Indian temples and festivals is reflected in the divine halos, symbolic shadows, and the warm glow of lamps.

This familiarity strengthens their bond with the narrative and enables visitors to see the museum as a spiritual journey through culture and devotion rather than merely a collection of artifacts.

Overall Visitor Perception

The overall impression is one of depth, meaning, and harmony when both emotional and functional lighting are used in tandem. The area is seen by visitors as being spiritually uplifting, emotionally stirring, and well-designed.

Thus, the lighting in the Ramayana Museum can transform it into a living manifestation of light – a space where light stands for knowledge, innocence, and the everlasting victory of dharma (righteousness).

PROPOSED FRAMEWORK FOR MUSEUM LIGHTING

A comprehensive strategy that combines practicality, narrative, and spiritual experience forms the foundation of the lighting design framework for the Ramayana Museum in Ayodhya. It transforms the rich cultural content of the Ramayana into an emotionally and aesthetically captivating museum experience.

The Framework is Organized into Five Interconnected Layers

- Layer of Function.
- Layer of Narration.
- Layer of Emotion.
- Layer of Technological Integration.
- Layer of Sustainability.

Although each layer has a distinct function, they all come together to create a coherent, significant lighting design system.

Functional Layer: Technical Foundation of Lighting

The museum's smooth operation, including clear visibility, comfort, and artifact conservation, is guaranteed by the functional layer.

Crucial Components

- *Standard Lux Levels:* For fragile artifacts, keep lighting between 50 and 150 lux, and for sculptures or models, up to 300 lux. This guarantees clarity without causing any harm.
- *Artifact-Safe Lighting:* To avoid fading or heat accumulation, use LED lights with low UV and IR emissions. To adjust intensity, combine dimmers, diffusers, and filters.
- *Wayfinding Clarity:* To make it easier for guests to move around comfortably and safely, use subtly linear lighting along steps, walkways, and display transitions.
- *Layered Illumination:* To add depth and flexibility to various exhibition spaces, combine ambient, task, and accent lighting.

Narrative Layer: Storytelling Through Light

The narrative layer guides viewers through the Ramayana's successive episodes by converting light into a storytelling medium. The mood, setting, and feelings of the corresponding story are reflected in the lighting in each gallery.

- Concept for the Episode/Theme Lighting Tone and Colour Desired Emotion.
- Rama's Birth and Childhood in Ayodhya Ambient soft golden light with tones reminiscent of daylight table yellow and warm white Joy, tranquillity, and innocence.
- Vanvaas, or Forest Exile Low-key, dim lighting with hints of green Cool white and subdued green loneliness, hardship, and modesty.
- The Battle of Lanka Red highlights, directional lighting, and high contrast Warm white and amber-red Bravery, conflict, and vitality.
- (Rama Rajya) Coronation Warm, consistent lighting with a brilliant golden glow Amber and golden Victory, divinity, and festivity.
- Scenes of God (Blessings, Return) Halos and ethereal back lighting Pale gold and white Enlightenment, spirituality, and awe.

Emotional Layer: Symbolism and Spiritual Resonance

By utilizing light as an interactive medium instead of a static element, the Ramayana Museum is able to combine innovation and legacy.

Technological Approaches

LED Setups

Flexible mood and tone control is made possible by LEDs that are long-lasting, energy-efficient, and color-tunable.

Mapping Projections

- used to bring scenes to life, like the coronation ceremony or the war in Sri Lanka.
- Surfaces and walls can be given depth, motion, and shadow by using light projections.

Interactive Lighting

Lighting changes can be triggered by sensors that detect visitor movement (e.g., lights brighten as visitors approach a key artifact).

Intelligent Controls

Light levels are controlled by programmable systems according to exhibition mode, crowd density, and time of day.

Lighting for Augmented Reality

AR lighting improves 3D storytelling in digital sections, enabling interactive visualization of mythological scenes.

Integration of Technology: Modern Tools for Storytelling

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Sustainability Layer: Light with Responsibility

Design ethics and cultural symbolism both depend on sustainability. According to Indian tradition, light is a symbol of balance and purity, two qualities that are inherently consistent with ecological responsibility. The Ramayana Museum respects the environment and its cultural context thanks to the sustainability layer (Figures 13 & 14).



Figure 13. Sunlight filters through intricately carved arches, casting patterned shadows along a grand palace corridor.



Figure 14. A vibrant depiction of Hindu deities in a traditional temple court scene, symbolizing divine grace and harmony.

Principles of Sustainable Lighting

- *LED Efficiency:* Compared to traditional lighting, using low-wattage LED fixtures can save up to 70% on energy use.
- *Daylight Integration:* By carefully placing clerestory windows and skylights, natural light can be controlled during the day, lowering the need for artificial lighting.
- *Smart Zoning:* By separating galleries into separate lighting zones, power consumption is limited to areas that are actively used.
- *Material Responsibility:* Eco-friendly design objectives are met by fixtures composed of natural fibres, low-VOC finishes, or recycled aluminium.

CONCLUSION

In museums, lighting has two purposes: it is both a practical requirement and an emotional enhancer. Emotionally, it creates ambiance, inspires spirituality, and links guests to the cultural core of the area. Functionally, it guarantees the preservation, safety, and visibility of artifacts.

Lighting at the Ramayana Museum in Ayodhya enhances storytelling through colour, tone, and symbolism, transforming the space into a spiritual and narrative journey. In religious-cultural museums, thoughtful lighting design enhances the experience of visitors by establishing areas that are both aesthetically pleasing and emotionally impactful.

In the future, comparative studies between Indian spiritual museums, like the Krishna Museum in Mathura and the Kashi Vishwanath Corridor Museum, can delve deeper into the ways that light conveys cultural identity, divinity, and immersive storytelling in various sacred settings.

The Ramayana Museum is a symbol of devotion and legacy in the city of Ayodhya, which is a place that is eternally lit by faith. Through careful lighting design, the story of Lord Rama can be brought to life through the play of light and shadow as well as through words and artifacts.

In the end, this study confirms that light is a medium that connects architecture, emotion, and spirituality. It is both science and soul. The museum becomes more than just a place when its design goes beyond functionality to speak to the human heart; it becomes an enlightening experience.

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