



LIGHTING AND ITS ROLE IN VISUAL ATTRACTION IN INTERIOR SPACE

Ahmed Saad Ghalib^{a1}, Dr. Rajaa Saadi Lafta^b

^{a,b} *University of Baghdad - College of Fine Arts*

As9387576@gmail.com^a, Rajae.lafta@cofarts.uobaghdad.edu.iq^b

APA Citation:

Ahmed Saad Ghalib, Dr. Rajaa Saadi Lafta (2022). LIGHTING AND ITS ROLE IN VISUAL ATTRACTION IN INTERIOR SPACE, *18(2)*, 105-123

Submission Date: 05/01/2021

Acceptance Date: 10/03/2022

Abstract:

The importance of lighting comes as an applied basis for the establishment of a conceptual vocabulary related to the complementary role that gives visual comfort to the recipient (the user) of the internal spaces according to technical treatments related to the process of receiving to create the act of visual attraction as an important lobbying to the shops within the closed space of the buildings that engage in commercial activity in malls particularly, so the lighting is One of the most important design elements through the strength of contrast and resolution to achieve functional reflection.

Keywords: (lighting, visual attraction, interior space, design).

Methodological framework

1- Research problem: lighting is one of the most important design elements that directly affect the recipient, and lighting is characterized by influencing the spaces and objects in the interior space and this is what distinguishes the interior space from other spaces and that light is one of the important elements in visual attraction, after which a system that completes Clarity within the space-time of the

¹ Corresponding author.

E-mail address: As9387576@gmail.com

inner space as it is characterized as a mental and sensory element to provide an aesthetic environment that meets the needs of pleasure within the spatial space. Hence, the researcher finds a cognitive justification for the problem of his research after which one of the important considerations in the design, as the research problem was represented by the following question:

Does lighting and its systems play a role in visual attraction within the interior space?

2- The importance of research:

The importance of this research comes as it is concerned with the study of lighting formations , their elements and systems to bring them with the rest of the interior design elements to a high level of creativity in achieving visual attraction as a whole because of its direct or indirect impact on the recipient in order to reach an integrated design with other design systems, as well. Contributes to the development of the special optical system in the interior spaces of the shops, to diagnose the current reality of the shops in the city of Baghdad, and to know the extent to which lighting achieves visual attraction.

3- Research objective: The current research aims to:
identify the lighting systems and the role of visual attraction in the interior space.

4- Limitations of the search:

Objective limits: Preparing a scientific study on the effectiveness of visual attraction through lighting systems

Place limits: The search was limited to the shops selling clothes in Turkey-Istanbul.

Time limits: year 2021.

5- Research methodology: Adopting the descriptive approach for the purpose of analysis.

6- Define the term:

A- Systems: They are the technical qualities that result in the elements according to a pattern of relational organization within a visual mechanism in which the idea of design is functionally consistent with the role of lighting in the interior space.

B - Visual attraction: It is the power of voluntary and involuntary attention to entice the recipient towards the commercial exhibits.

Theoretical framework

The first topic: Lighting between concept and application:

The concept of light is related to what is generated by the meaning of the natural physical frequency emanating from the sun naturally, and what is reflected from it is known as light or illumination. Its quantity, intensity, or intensity all have an effect on our moods, our mental capacity, and our general feeling of good or bad.

The use of lighting and its employment in the design of public interior spaces and on different spaces to give a different sense of meaning, expression and direction, as “light, vision, and color constitute an integrated trinity, each of them has its capabilities, characteristics, and importance in shaping the interior space” (Ahmed). , 1987, p. 113). And since light has different wavelengths and its reflection on shapes (it produces psychological and physical effects on humans, especially when it is reflected in large quantities from the roofs of buildings and interior ceilings, the use of light puts in the designer’s hand a huge magical power) (Al-Bayati, 2005, p. 130)

The lighting and the distribution of its sources did not recede on the ceiling only, as was the case in the traditional design, but the location of the lighting, its sources and its projections became one of the distinguished relations on Western lighting in the designs of public interior spaces on the basis that “artistic creativity and technology go hand in hand. Adding lighting systems to floors is Elegant solutions for modern interior spaces” (Al-Bayrouiti, 2008, p. 129).

The great technological intervention on lighting and the emergence of modern technologies led to a change in the concepts of awareness of the aesthetics of lighting through the formulation of new forms and symbols that move the recipient to a new level of aesthetic knowledge, by activating the role of imagination in the installation of mental images of them, so they made “advanced models with wide possibilities.” It includes controlling the light beams and the movement of the device itself, and the shapes of the light parameters in the way the designer desires” (Mohammed, 2005, p. 29).

1- Natural lighting: It is the most physiologically appropriate lighting for humans, but it changes and varies with time, season, location, distance from the equator, weather, and climate. Its most important features are according to the following:

A- It provides visual and psychological comfort and infuses vitality and vitality into all beings.

B - Its reflections are unobtrusive and its shadows are acceptable and reasonable, since the combination of shadows and light corresponds to the building from the inside and outside with its unity and openings, giving a sense of homogeneity and unity.

C- It is the most important element that saves free energy.

D- The best source in showing the colors of their strength and quality and giving a sense of clarity and comprehensive vision of the place and the building from the inside and outside.

E- It increases the spaciousness and wideness in the spaces and has many advantages (Al-Akkam, 2007, pp. 111-130).

2- Artificial lighting: It is the lighting that comes from the installation of artificial lighting, and the nature of space lighting is determined depending on several factors, including:

A- Characteristics of lighting structures through their quality, intensity, shape and color of the light emitted by them.

b- Characteristics of the distribution of structures in space in terms of their number, arrangement and location (ceiling, mural or floor).

c- Reflection of the interior surfaces of the space.

d- Space aspect ratios (Al-Bayati, 2005, p. 37).

Thus, we find that artificial lighting in the interior spaces is characterized by the following:

- Its dependence mainly on the quality of lighting installations, and this is a technical issue.
- Its sources are within the designer's control, as he can control their number, intensity, and distribution within space (Al-Muslimi, 2000, p. 68).

3- The importance of natural lighting and artificial lighting:

The importance of lighting in interior design stems from the fact that it represents the axis of the formative structure in the visual structural process of internal spaces, some of which affect the psychological state and others are related to mood as well as the psychological reflection of light and the clarity process, according to the following:

A-Visual function: As it is well known that the human eye is one of the greatest visual systems at all, and without light, the sense of sight is ineffective.

B - Functional benefits: improve human performance in the space

C - Psychological (sensory) importance: Lighting in general creates psychological balance and a sense of safety within the various architectural spaces, especially natural lighting because it adapts to the human eye.

D- Environmental and health importance: It is commonly known that sunlight (daylight) works on a natural environmental purification of the air of those spaces, whether they are living spaces or bedrooms...etc.

E - Preventing cases of visual fatigue and the dangers of accidents due to poor lighting.

F- Reducing the energy consumed and reducing environmental pollution.

G - Economic benefits: result from reducing artificial lighting costs through energy used and maintenance expenses, and help to exploit the void at night, which increases the economic return.

H - Aesthetic benefits: it leads to serenity, so no one is happy in the dark, but the light, especially the good and reasonable light, suggests joy and rejoice (Al-Arian, 2007, p. 69)

4- The main methods or systems for lighting the interior space: There are three main methods or systems for lighting the interior space, as follows:

A - General lighting: It is illuminating the space in a homogeneous and dispersed manner throughout the space, and it can be direct or indirect. It reduces the contrast between the light source and the

surrounding illuminated surfaces in the space, and is used to obtain soft shadows and give a larger appearance to the space.

B - Spot lighting: It is lighting specific areas of space to help illuminate certain works (kitchens, library, bathroom, etc.), and here the light source usually shows near (above or next to) the work site itself, and we usually use direct lighting. directive and controllable. In addition to illuminating a specific work site, local lighting provides a diversity of space and is useful in defining certain parts of the space or specific activities within the interior space (Al-Baroudi, 2013, net page).

C- Focused lighting: It is a type of spot lighting, which creates a focal illumination or a repetitive rhythm of light and darkness within a specific space. (Tabal, 2012, p.57)

5- Characteristics of light: Light has many characteristics, the most important of which are:

A- Reflection:- The reflection of light is the basic property of vision. It is the rebound of light rays in the same atmosphere when they meet a reflecting surface. Light falls on objects and then bounces back from them with a different force that depends on their physical properties and their ability to absorb light. The degrees of smoothness or roughness of the material surface affect On the strength of the reflection of the light falling on it, the polished surface reflects the light with a greater force and greater uniformity than the rough surface.

b- Absorption:- Light can be absorbed by the surface, and it is often converted into heat, and the percentage of light absorbed by the surface depends on both the angle of incidence and the light spectrum.

C- Scattering:- It is the separation of light into its colors, so the scattering of white light is separated into the colors of the full visible spectrum by sending white light through the prism

D- Refraction :- The refraction of light is a change that occurs in the direction of the forces of light rays (bending) when they pass through a specific material medium. , p. 85.(

The second topic: visual attraction in interior design:

The interior design expresses the resulting vision of the ability of the interior designer to organize the units and elements using expression tools in new contexts to convey meaning within a pattern of reasonableness, and this meaning becomes a latent force that works on visual attraction within the design of interior spaces, so what is visual attraction? And what are its aspects in the inner space. The general concept of visual attraction is summed up in “the energy realized by the objects and their ability to attract the recipient and activate his sensory reception centers and withdraw his attention. When looking at this result, we find that all the attractive objects possess latent or activated energy to confirm their attractive action” (Al-Azzawi, 2004, page 9), As the visual attraction can be expressed through the ability of (the scene) within the inner space to draw the attention of the recipient and direct him stop or change his course, the attractive inner scene which possesses an abundance of distinctive, sensory stimulating and attention-stimulating characteristics that help direct the recipient towards the source of

© 2022 Cognizance Research Associates - Published by JLLS.

stimulation. Perception is linked to visual attraction through visual characteristics that work to draw the attention of the recipient, as it can be absorbed within the internal environment and attracted towards it as sources of stimulation.

Through what was proposed, the process of visual attraction is a process of visual stimulation by drawing the attention of the recipient by creating an unconventional (innovative) relationship between the various parts of the interior space and is done by the strangeness of the idea or the many techniques of display as well as the role of elements and relationships in them such as lighting and others as it depends on it. In the shops (shoe stores), the visual attraction depends on two important aspects: (the visible and the invisible). The visible aspect depends on the structural forces of the elements and formal relationships, which carry an (invisible) intellectual motivating compatibility towards the contents inherent in it of symbols and connotations of related forms. Meaning, any human product represents a symbol for showing meaning in certain relationships between the recipient and the form within a certain internal environment (Faraj, 2004, page 62). From the above, the researcher finds it important to put forward the most important theories that deal with the issue of attraction, which are as follows:

1- **Theories of attraction:** These theories examine how the relationship between the recipient and the forms arises, and they are:

A- Reinforcement theory: The act of attraction is related to sensory perceptions and the results they lead to, and it is the truth that relates to the characteristics of the design work and the target recipient. Or the events in that environment that are positive associations between us and that form, and when such a link is formed, the attraction towards this thing occurs” (Ali, 2008, pg. 7) Through this theory, our evaluation of any form depends on the extent of positive and negative feelings generated towards it.

B - Complementary Needs Theory: Similarity is the main factor of attraction in this theory. Which indicates “the attraction between the person and the figure occurs when the expressions of the figure match the person’s needs, so the attraction and interaction between them is rewarding and satisfactory”.

C - Theory of exchange and opportunity for interaction: This theory assumes that the most important factors that provoke attraction between people and shapes is “the factor of spatial or temporal kinship or other factors that can be a positive interaction between the person and the shape, just as the amount of the interaction plays a major role in increasing the intensity of attraction.” The papers of (Shaker Abdel Hamid) indicated that the cognitive perceptual schemas are the subjective cognitive structures of the individual that affect his behavior through the distinctive response and that the role of the cognitive perceptual schemas in the theories of attraction towards shapes through tasting them. For example, when we see an architectural or interior design, we activate the cognitive schemes for this work, as some of them are specific to a historical stage to which he belongs, the environment in which he lived, or the artistic, architectural or design style through which the work was created, and insights or special understandings of the artistic and design work occur, i.e. the interaction that occurs between (the subject and the object) (Abdul Hamid, 2001, p. 198). Accordingly, we find that all the theories share in how to

build an interactive relationship between the form within the internal space and between the recipient, and the act of gravity is related to the sensory and cognitive perceptions of the recipient from external stimuli related to the characteristics of the artistic or design work on the one hand, and internal stimuli related to the psychology of the recipient on the other hand.

2- The mechanisms of visual attraction stimuli:

Each space has stimuli that serve as forces that work to direct the movement of the eye and the body within the limits of the design environment. These stimuli considered by the researcher as theoretical foundations that can be employed for practical purposes, through which visual attraction can be established in the designs of the internal environment for the space of artifacts, and they can be divided as follows:

First: objective factors:

1- The energy factor in design: an important element in attracting attention, “strong stimuli attract more than less intense stimuli” (Al-Dabbagh, 2010, page 58), as the energy elements in the interior space are considered through color, size, light, strange idea and other factors that arouse attention in design through visual enrichment, which is a characteristic of the design product that possesses an abundance and an increase in visual characteristics through mechanisms of novelty, ambiguity, diversity, contrast, and richness or enrichment, one of the basic conditions that work to attract the attention of the recipient.

we find here that the strong stimuli that have a direct and effective impact within the interior space and through which the designer seeks to reach the highest expressive ability of visual attraction, for example (the employment of a central lighting unit or a monument that dominates its appearance in the space center)

2- The movement factor: the elements that appear with real or imaginary movement characteristics “gain an attractive value more than the static elements, as they are an attractive and visual pull factor that raises interest” (Mansour, 1986, p. 114). From the foregoing, we find that through the textualization of the constructional determinants through repetition or gradation of geometric shapes, they achieve a result of kinetic illusion, and moving furniture units can be used, such as small mannequins (clothes, shoes, etc.), as they work to attract the attention of the recipient.

3- The nature of the stimulus factor: the living forms are more attractive than the non-living ones in that they give a kind of privacy, movement and attraction within the inner space with the outside

4- The factor of organization and arrangement: “Man, by nature, tends to get attached to organized forms in a way that is compatible with his perceptions and nature and makes it easier for the recipient

to perceive them” (Abdullah, 2008, p. 169). As the elements or shapes that are organized according to a specific style tend to attract attention more than other elements that seem disorganized or scattered, where a group (clothes or shoes) representing a particular style can be placed in a unit of presentation whose form is of a particular style or category, where this diversity of organization leads to enriching the space with a kind of fun, suspense and excitement, opposing the principle of the formal system, which is characterized by monotony or boredom.

5- Unfamiliar or exotic factor: Interior design is no longer just aesthetics or a formal or chromatic agitation for the designer’s emotion, but rather aims to address the mind and motivate the act of imagination of the recipient, i.e. “a process of building and creating new phenomena through changing the mechanisms of systems and relationships and inventing new non-dominant formats to achieve attraction.” (Haidar, 1996, p. 136) through “the structural reorganization of the interior design elements according to innovative methods based on surprising the recipient through innovative design treatments that make the interior space an integrated aesthetic formal system with unfamiliar artistic and intellectual dimensions” (Khazal, 2009, p. 6). Thus, the peak of the exception is formed in those design structures, and this is what we strive for as a design goal on the one hand, and the value of penetrating the effectiveness of time and space, which is called creativity and future Orientalism on the other hand. This is what we find in the seven wonders of the world, as it is the creation of God, who dealt with the idea, matter and material to form an exception in his time for design features, and attraction can be achieved through a familiar idea, but it is embodied within a new combination of material, size, color values, or modern lighting techniques.

From the above, we note that the goal that the interior designer seeks to achieve is an exotic expressive goal, and this is what leads to it being understandable and having a specific meaning because it has technical significance and meaning at the same time. New stimuli that enter a person’s experience attract him more than familiar stimuli. The manipulations that the designer performs to achieve a state of differentiation by synthesizing or organizing the units of forming the design environment. The penetration of everything that is familiar within an unusual pattern is one of the unfamiliar aspects that the designer uses to achieve attractive stimuli within the interior space.

Second, subjective factors:

1- Factor of needs and motives: “they are important factors in attracting attention because man often seeks to fulfill his needs and motives. The designer must realize in his design what are the elements or techniques that raise those motives or needs (material or moral) and seeks to achieve them in his designs. (Mohamed M., 2004, p. 207), as time adds its value to many of the purposes used by man and highlights its historical value by highlighting the scarcity factor in it, and thus it acquires the attractiveness of its rarity and its temporal and historical value, as the designer intends it when he designs and that is due to its close relationship to relevant events and processes connected to a person's feelings and memories.

2- Related to everything that is in harmony with it or similar to it “as the designer exploits these interests and tendencies to turn them into working units within the overall design system, the designer was able to employ in the design of the space interface some tendencies and trends (Abdullah, 2008, p. 170).

3- The factor of the level of motivation or internal arousal: “The designer must be accurate in choosing his design within the appropriate time, place and environment.” The intended attraction is the one that evokes pleasure and beauty within noticeable limits so that it makes the recipient feel that it is useful to perceive it or contemplate it.

(Description and Analysis)

Sample No. (1) A store selling clothing Turkish brand with European style

1- Sample Description:

Katia Boutique in Istanbul is one of the most famous names of clothing stores in Europe within Turkey in Istanbul. This boutique is located specifically in the Hasopulu passage, and if you visit Turkey, you must visit this boutique before leaving Istanbul. This is because it specializes in selling unique types of clothes in the old Turkish style. This boutique can also be visited as a kind of visit to the archaeological, cultural and old-fashioned monuments in Turkey.

The image of the sample (1) shows the main space of the boutique (KATIA)



The central type of movement was used in which the furniture for sitting was distributed around it as if it was a resting house surrounded by exhibits from all levels of displaying women’s clothing. A table was placed in the middle of the sitting area as if it were a modern house that combines eastern and western frescoes, and for its various levels in the ceiling it was allowed to design lighting systems according to the tracks of the rails hanging from the ceiling to carry the artificial lighting as if they were headlights with strength and space that spread throughout the space, in addition to the multiplicity achieved as a result of high luminance in contrast to achieve strong clarity that refers us to a pattern of

visual attractiveness as an effective contribution that is reflected on the recipient and echoes with the force of spreading as degrees uniform luminous value.

This store is distinguished by several rooms and is characterized by the view of the second floor on the main courtyard, which makes the recipient feel the possibility of linking the reality of the homes in Istanbul and that place, taking into account the distinction of some spaces in that they contain (Cleary) exhibits of these women's clothes.

This space also extends with an area of 10 m x 10 m, with the presence of other spaces such as rooms overlooking the main courtyard for places of change and makeup, a studio for visualization and other services.

2- Sample Analysis:

A - Units of lighting in the interior design of clothing stores:

Those artificial lighting units that were employed to achieve an aesthetic environment that meets the needs of pleasure and a sense of familiarity. Hence the interest in improving the lighting of the interior spaces (shops) in terms of quantity and quality, which makes architecture and lighting a coherent system that meets the direct needs of the occupants and gives their environments a charming atmosphere, and advanced lighting was used with a modern technology known as (LED), and the lights are hanging from the ceiling and directed downward so that they do not affect the eye of the viewer or the customer, which allows a focused view of the clothes and objects.

The use of the white color for artificial lighting to create appropriate glare and rays as a system to provide a suitable and comfortable environment that gives the overall space a kind of luxury and a formal way, and we note that through spaced distribution in a regular pattern, a kind of hidden lighting was provided, which effectively contributes to adding one degree to provide calm and visual illusion specified to simulate photolysis. The space is completely isolated from sunlight, as it does not contain window openings exposed to the sun or any type of natural lighting, as it has been completely relied on artificial lighting, due to the type of construction and composition of the building and when using modern technology techniques and methods by hiding the lighting that mimics natural lighting and exchanging it with smooth surfaces on one side, and on the other hand, the white of soft surfaces matches with artificial lighting, which gives the recipient the feeling that the place is surrounded by openings for the entry of solar rays.

B - Design characteristics of lighting in the interior space:

The lighting formation methods were available to express the nature of the space and show its features by distinguishing the size of the lighting units and the furniture components employed in a harmonious manner, granting the lighting systems to be prominent from the ceiling and hanging from it, to be directed towards the display units for clothing to give a special and aesthetic style and work to reduce the shadow as much as The possibility that is formed due to the micano inside the space, which is

reflected in the display units, and this depends entirely on the ceiling-hanging lighting system in a large proportion and a good expansion, which prompted the designer to dispense with the wall units so as not to conflict with the layout of the exhibits, which led to their use in small proportions and in colors close to gray and beige that simulate the color of the sun and the work to give a high light intensity that provides a solar glare, which does not affect the recipient's eye due to the use of wall lighting units that are hidden in a smart design behind design areas consisting of construction materials such as gypsum board, which is directed to the ceiling and reflects the shadows on it in varying ways to give an aesthetic design and achieve its functional goals as in the form (1-D), either inside the display and storage units (the windows), in which the lighting used is directed downwards and of medium size, which is of a linear design to give an even and distinct area of light and shows the objects to be displayed in its door an image and aesthetic to attract the attention of the two delegations to the space.

C- Perception and the mechanism of attraction in interior design:

The values of perception and the mechanisms of attraction appear by placing the foundations of design in the interior space to provide a psychological feeling for the individual and give psychological comfort and a sense of calm and welcome through design units within the space, the most important of which is how to illuminate the space and the appropriate choice of colors and method of employment and this is what the designer sought through the use of the color (mixed beige with summer atmosphere) in the hidden lighting to give a sense of calm and this is one of the features of natural lighting, but because of the location of the space and its distance from the sources of natural light, the designer tried hard to provide even a small percentage, even if it was by simulating sunlight, and this led to the excessive use of the color (white) even on the floor, which also mimics the color of sand and desert, which symbolizes this color of welcome and hospitality, but it is not good that it needs continuous cleaning because it suggests dirt as mentioned because of simulating the nature and environment of Istanbul.

The strangeness in the design also played an important role by providing unfamiliar elements with regard to the place and time of the design, where we notice the presence of smart clothes display units (mannequins) directed by ceiling lighting units, which gives beauty and function that attracts customers to and which excites the arrivals through the view Innovative modern design and smart handling of the designer by employing his design elements with precision and a style of presentation of the highest ingenuity to draw the attention of everyone who passes in front of the space and attracts him to the interior.



Figure (2)



Figure (3)



Figure (4)

Figure (2,3,4) The pictures of the boutique show the color values achieved by the artificial lighting systems and the surfaces employed in the interior spaces. Source / Read more on Maqal.com:

<https://mqaall.com/clothing-store-names-in-europe>

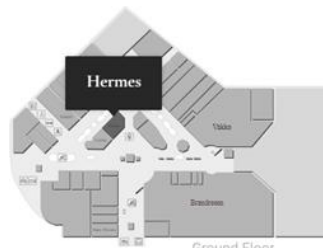
Sample No. (2) Hermes store in Turkey - Istanbul.

1- Sample Description:

One of the agencies of the well-known French brand Lacoste, which was established in a complex of several countries

Founded as a French fashion house, and now it is a high-fashion clothing store in Turkey - Istanbul, occupying an important space in the global and European market in particular, so it was distinguished by the use and employment of artificial lighting with a contemporary look that fits with the warm summer atmosphere. The store takes an engineering shape closer to a rectangle, as one of its front sides is characterized by its facade extending to the sides of the street with three directions. This calls for the use of a linear kinetic system similar to the letter (U), which came according to a design between the inside and the outside with the same treatment in lighting degrees and as a simulation of hot lighting, degrees and values of sunlight (orange) varying values in some aspects that focus on some of the exhibits of fashion.

Figure (5) Sitemap of the Hermes store in Istanbul,



source/ <https://www.emaarsquaremall.com/ar/istanbul-shopping-center/luxury/hermes>

Sample analysis:

A - Units of lighting in the interior design of the Hermes clothing store:

We note that the interior design of this space has shown an integrated system of lighting in a large proportion after it was relied on a number of types of artificial lighting to diversify the places they occupied, as it was relied on two types of ceiling lighting, which is the hanging and hidden lighting from the ceiling, which formed a system with display units and according to what suits it from the method and style of presentation followed in the design that coordinated its forms according to wheels or libraries in the manner of suspension, and this provided aesthetic dimensions and balanced performance through which the design sought to focus on lighting that achieves attractiveness to the varying value frequency with a high contrast degree of orange, and in the style of lighting the chandelier in a modern and new way and with a new technology, which is focusing with white lighting to achieve a degree of color attraction, which is determined according to functional and aesthetic considerations, and its role was limited to providing aesthetic space by visual attraction, taking into account the provision of hidden lighting in display units and transparent glass storage, forming a linear system with LED technology systems to give Appropriate glow adds beauty and realism to stimulate the feeling of the recipient through the clarity of the display and the light glow.



Figure (6)



Figure (7)

Figure (6, 7) Pictures showing the storefront and the main entrance.

Source: <https://onlinestores.outlets2022.ru>

The determinants of the space, which is located close to the open interior corridor, which gives a sufficient amount of light and distinctive radiation, giving a distinct addition to the system as a whole to provide psychological calm and comfort for the individual, gave a kind of contrast between the uses of natural and artificial lighting to give an appropriate visual attraction that achieves a reaction at the recipient and attracting his view into the space through the reflections of light on the smooth surfaces of the walls of the space.

B - Design characteristics of lighting in the interior space:

The design characteristics of the lighting came in ways that express the nature of the space as a store for exhibits of fashion and the orientation of the building helped to achieve a treatment between the interior and the exterior through the use of colors and depending on the transparency of glass and taking into account the style of the exhibits and the choice of white color in artificial lighting to achieve focus in some aspects of the determinants in the interior decoration to give the character of unity and harmony as well as the effectiveness of white color systems that are in balance with the rest of the colors and take into account the function of space in displaying clothes of different shapes and colors in which attraction and this provides the color of the sun through the natural lighting available from the entry of sufficient sunlight that mixes with the white color provided by artificial lighting , taking into account the glare from the intensity of the radiation that is provided by the units of lighting systems, as it is noted the use of lighting of medium sizes with the ability to cover the area of the interior space through the contrast in the multiplicity and diversity of artificial lighting sources, their size and the way they illuminate the space.

C - Cognition and the mechanism of attraction in interior design:

The mechanism of attraction and cognition is showed through a balanced design relationship to bring about a reflection and effectiveness of the recipient towards a sense of space by using the white color and orange surfaces because of their mental and psychological effects on the recipient, as it creates joy, comfort and focus that gives the recipient a sense of space more than its actual space and gives monotony Because of the ease of reflection of shadows on the ground, it also achieves unfamiliarity in orange tones in order to increase attraction and give space a strange pattern and realization events for the recipient in order to achieve awareness or attraction and the availability of stimuli or vocabulary that draws attention with design data with a high degree of visual stimulus that must be provided and the function of space.



Figure (8)



Figure (9)



Figure (10)

Figure (8, 9, 10) the pictures show the storefront, one of the spaces, the decoration of the display and the strength of the lighting.

Source: <https://onlinestores.outlets2022.ru>

Sample No. (3) Collezione Store in Turkey-Istanbul

1- Sample Description:

Collezione is the largest company in the Bakirkoy in Istanbul. It is one of the most important companies in the clothing sector. It is characterized by large areas and has a variety of different clothing displays for all age groups and for both genders. A network kinetic system was employed according to the requirements of distributing the interior furniture of the space, which gave the space a kind of comfort and generality and no restriction in the path of the individual's movement within the space so that the space did not appear to be any formal considerations.

Figure (11) Collezione Storefront



Source: <https://www.turkpress.co/node/18444>

2- Sample analyzing:

A - Units of lighting in the interior design of the space:

The space showed design contrasts for lighting that led to the diversity of lighting sources that were formed between natural lighting and artificial lighting, as well as technical diversity and diversity in how to illuminate the space through the use of types of artificial lighting, in which the use of ceiling lighting units directed according to the requirements of the display was formed linearly, which purifies prominently from The ceiling to be directed and according to its functional and aesthetic function and the appropriate method of presentation, and this gave the designer a sense of insufficient units in lighting the space, which prompted her to employ ceiling lighting units recessed in the ceiling determined by purely functional data as it was relied on lighting and providing sufficient light for the space only showing any Aesthetics at all.

Enhancing the space with plastic suspended ceiling lighting units in the form of modern and contemporary lighting through specific design unit in an aesthetic and innovative way through the use of wooden panels in the structural form of the unit and directing the lighting in multiple directions to give movement and spirituality to the space and add the character of aesthetics and function to the space as a whole, as it is noted that some of its units are directed sideways To simulate the wall lighting that is completely non-existent due to the reliance on directed ceiling lighting, which led the designer to dispense with the wall units, as he clarifies this, as well as the constructional location of the space,

which provides sufficient natural lighting through the use of glass in the facade of the store that allows the passage of available sunlight to the space as a whole, which It gives a sense of excitement, movement and a sense of luxury, modernity and development in space by mixing the color of artificial lighting and the color of the sun that is provided through sunlight and the covers of some chandelier lighting units, which were formed with each other using a degree of red and also a degree of white.

B - Design characteristics in the interior space of lighting:

The effectiveness of the design characteristics of the space came through the colors used to employ them in an unfulfilled manner due to their design considerations through the use of more than one color in the space, as it is noted the diversity in the use of colors (gray, brown, yellow, white and red, which made the space take another design direction as it appears to be a selling space (play) Children) as the color design was not taken into account at all, that the space originally deals with many colors and color gradients used in clothes, which is illustrated by the model (3-D), and the lighting has provided the glowing white color that provides a lot of delusion due to its intensity and focused brightness on display units Also, the use of special covers for lighting units in different colors, such as red and zero, showed the use of lighting units in an exaggerated manner and the lack of attention to the size that suits the design and functional requirements of the space, which caused weakness in the system, which the designer tried through the multiplicity of lighting units and the use of units that cause high radiation intensity that affects the eye of the recipient, which leads him to feel uncomfortable inside the space, which was directed towards the main door of the space, which means that it gives intensity and high glare when entering the customer, causing damage to the eye, which may push him not to look enough and pass the exhibits of clothes and others and not pay attention to what It is displayed, which distances the recipient and does not perform the function of lighting and attracts the attention of the recipient.

C- Cognition and the mechanism of attraction in interior design:

The sense of space is manifested through functional expression through the vocabulary that was employed in the space and the state of consistency by choosing the appropriate colors that give calm and psychological comfort within the special design of the space, whether the colors used in artificial lighting or the colors used in the walls and ceiling are white with a soft texture to achieve communication and conformity between the exhibits, which is reflected positively on the perception of the recipient, which is a mechanism for delivering a message of the openness of space, and this leads to achieving visual attraction, starting from the facade and ending with the clothing displays, taking into account the strangeness of the design and the unfamiliarity in the distribution of lighting as a visual stimulus with a design aesthetic that sings the space from the inside from the need for sound stimuli or Display screens or smart mannequins and other stimuli that are available in a few units to show aesthetic meanings that give a distinctive performance function to the space to achieve continuous attraction to the recipient.



Figure (13)



figure (12)



Figure (16)



figure (15)



figure (14)

The figures (12-16) represent the multiplicity of space and indicate the lighting systems and their internal distribution.

Source: <https://www.aslisevgi.com.tr/portfolio/collezione-antares-avm-magaza-tasarim-ve-uygulama/>

Chapter Four (Research Results)

Research results: The results of the research showed the following:

- 1- The functional dimension of the natural lighting systems has not been achieved because the designs of the shops are located within the interior space of the building in all the models, in addition to the determinants of the glass front facades.
- 2- The design characteristics of lighting showed according to a diverse organization that varies from one model to another based on the effectiveness of the distribution of artificial lighting through visual attraction as a distinct system through the effective use in the exchange of color values of lighting and the intensity of the light reflected on surfaces with different textures, which reflects a state of clarity for the exhibits within a monotonous distribution with a homogeneous rhythm.
- 3- The apparent weakness in the level of perception and its mechanisms in some aspects of space design, which reflects the lack of comfort and a sense of visual closure that causes a defect in the attention process or what provokes the individual inside the space, taking into account the lack of employing sovereign stimuli within the space.

4- The aesthetic dimension was not achieved in the treatment of lighting systems in focusing on certain points in the optical polarization, which indicates the existence of a state of unfamiliarity between the functional parts (shelves) and luminance levels.

Second: Conclusions: Based on what was stated in the results, the conclusions were built as follows:

1- The higher the contrast of the lighting, the more the amount between the design elements and the clarity of the shapes is achieved, the contrast of the design is beautiful and vibrant, especially in the colored lighting, which is a very important thing to achieve visual attraction and voluntary and involuntary attention.

2- The factors referred to by the formal theory through homogeneous relations between the stimulus and the response are based on the basics that must be available in the inner space to achieve its functional goal in visual attraction and achieve the response dimension.

3- The nutrients of the perception of elements are related to the effectiveness of visual attraction on the strength and compatibility of the perceptual and mental perceptions of the recipient with what enables him to interpret the results of the apparent structures of the visual attraction and shows the other supporting elements.

4- Artificial lighting systems are one of the structural elements that provide an effective presence in achieving the paths of visual attraction and show the rest of the elements supporting it.

6- Accuracy in addressing the level of the visual formal system through the good distribution of lighting will be greatly reflected in achieving the premises of visual attraction in the interior design.

Third: Recommendations: To achieve the goal of the research with the stated results and conclusions, the research recommends the following:

1- Relying on smart lighting systems and taking into account their performance and functional aspects within the internal space of the shops as they are formal headlights that reflect the level of goods.

2- Benefiting from international experiences in interior design, optimum use of economic lighting, and adopting clean sustainable energy as the best way to achieve display and display products and goods in the space in the best way.

3- Taking into account the design of the facades in the stores by paying attention to the way of lighting and what is reflected in the lighting of the facades in general to draw attention and achieve visual attraction.

4- Adopting the use of aesthetic formulas for the characteristics of space formation, such as unity, balance and diversity, because of their high ability of visual attraction.

References:

1. Ahmed, M. (1987). Interior design. Beirut: Arab Thought House.
2. Al-Baroudi, A. (2013). Illumination Encyclopedia. Beirut: <http://ezzatbaroudi.wordpress.com>.
3. Al-Bayati, N. s. (2005). A. B. Interior Design. Diyala: Diyala University.
4. Al-Bayrouiti, M. (2008). Artistic and Technological Creativity, Look Decor Magazine, No. 18. Beirut: Dar M. copper;
5. Al-Dabbagh, Shamael Muhammad Wajih. (2010). The architecture of multiple sensory responses. Baghdad: University of Technology - College of Engineering.
6. Al-Sharif, Dalal Abdullah. (2009). Light technology in textiles as a design source on the mannequin. Kingdom of Saudi Arabia: PhD thesis (unpublished) Umm Al-Qura University.
7. Al-Arian, Sarah Abdel Moneim. (2007). Modern techniques for external lighting, a study in urban spaces, published research. Cairo: Cairo University.
8. Al-Azzawi, Hikmat Rashid. (2004). Visual attraction in the structure of magazine covers. Baghdad: PhD thesis (unpublished) University of Baghdad, College of Fine Arts.
9. Al-Akkam, Akram Jassem. (2007). Technical formations for interior lighting for hotel lobby. Baghdad: Iraqi Journal of Engineering and Technology, Issue 25/3.
10. Al-Muslimi, Ahmed Mohamed. (2000). The role of lighting in highlighting the functional and aesthetic values of interior design, Master's thesis (unpublished). Cairo: Helwan University.
11. Haider, Najm Abd. (1996). Analysis and installation in contemporary Iraqi painting. Baghdad: PhD thesis (unpublished) University of Baghdad-College of Fine Arts.
12. Khazal, Fann Hamoudi. (2009). Exoticism and its aesthetic levels in interior design. Baghdad: Master's thesis (unpublished).
13. Tabbal, Talal. (2012). Lal Lighting Engineering Course. Syria: Arab International League.
14. Abdel Hamid, Shaker. (2001). Aesthetic preference (a study in the psychology of artistic taste). Kuwait: The World of Knowledge Series.
15. Abdel Hamid, Shaker. (2008). Visual Arts and Perceptual Genius. Cairo: The Egyptian General Book Authority.
16. Abdullah, Iyad Hussein. (2008). Design philosophy between theory and practice. Sharjah: Department of Culture and Information.
17. Ali, Nagham Zaid. (2008). Elements of attraction in the urban landscape and mechanisms for their enhancement. Bifdad: Master's thesis (unpublished) University of Baghdad, College of Engineering.
18. Faraj, Raz Saeed. (2004). Visual attraction as a catalyst for the act of shopping. Baghdad: Master's thesis (unpublished) University of Technology.
19. Muhammad, Bashar Abdul Ghani. (2005). Modern directing methods and theatrical lighting, a master's thesis (unpublished). Baghdad: University of Baghdad, College of Fine Arts.

20. Muhammad, Muhammad Jassim. (2004). *Experimental psychology, experiments and experimentation in the branches of psychology*. Jordan, Amman: Dar Al-Marbad for printing and publishing.
 21. Mansour, Ali and Amal Al-Ahmadi. (1986). *The psychology of cognition*. Damascus: Damascus University Press.
-