

Modern Digital technology and its role in Cinematography using available light

Prof. Khaled Ali Ewis

Department of Photography, Cinema and TV Faculty of Applied Arts Helwan University.

khaledewis@yahoo.com

Prof. Marwa Abdellatif Khafagy

Department of Photography, Cinema and TV Faculty of Applied Arts Helwan University.

dr.marwa.khafagy@gmail.com

Researcher. Maged Mahmoud Fouad

Cinematographer

mgdkhalil2@gmail.com

Abstract

The use of available light" It is any light, whether natural light of all kinds, artificial light of all kinds, or a mixture of them." represents an artistic direction that represents a new range of thinking for Directors of Photography, to meet their technical needs and the ability to dye the image in a realistic way that greatly affects the audience, as cinema in its history is trying to reach the realistic form closest to the viewers, and the new digital technology and development in sensors and films like Kodak Company in the manufacture of a new raw film "Kodak Vision 3" capable of meeting the technical needs of the director of photography with a high dynamic range and the ability to catch data in shadow areas and high exposed areas while maintaining the color representation, also Arri company has developed in its sensor type Arri Alev Cmos It has been developed to match the same ability as the 35mm film, with a high ability to read light in poorly light areas, and a high dynamic range of up to 14 F Stops, and the lack of feeling of the video image, cinematic lenses and the development in the form of cinema lenses, as these lenses have become quick to respond to light, with high contrast and high details, such as the Arri Master Prime lenses, which have a wide aperture of 1.3 that allow the largest amount of light to enter in low-light areas, high contrast, high accuracy and reduce lightning. Flare and Cooke S7i lenses, these lenses have an aperture of 2, high details, high contrast, and light shadows

Where these developments helped in the success of this artistic direction and the imposition of realism on the image and meet the creative requirements

Keywords:

(available light, kinds of light sources, sensors, lenses).

Introduction :

- During the last decade in the film industry, technological development has become a major qualitative leap in the shape, dimensions and shape of the cinematic image in the absolute, where the digital age began in the early eighties through the movie Star Fighter directed by Nick Castle in 1984, and the computer intervention was through the work of boats Then, digital development invaded the field of the film industry and became a fierce competitor to the raw film due to the speed of dealing with it, whether in the post-production process or the synthetic

processes through the computer generated image, as this tremendous development was given, whether in the sensitive medium or fast-responding lenses to light. By filming in conditions that were impossible to photograph before, this provided the director of photography with the opportunity to shoot using available light and present a realistic image on the screen that is closest to the viewer using the available light.

-Research problem:

The research problem is to answer what is the role played by modern technology in cinematography using available light.

Research hypotheses:

The special modern technology of the sensitive medium and its idiomatic name today (the sensor) has provided a greater opportunity for cinematography with available light.

The technological development of lenses and the speed of their response to light helped cinematography with available light.

Modern technological development has allowed the emergence of a cinematic trend that depends on the available light to impose a state of realism on the image.

-Research Aims :

The research aims to study modern technological means that may contribute to cinematography using available light.

-Research Importance :

Presenting a study for those interested in cinematic lighting to present a realistic image on the screen using the available light.

The scarcity of studies concerned with semiotic photography using available light.

Research plan and method:

The student follows the descriptive analytical approach to study modern digital technology methods that support cinematography using available light. To achieve this, light-sensitive digital means, modern lenses, must be studied.

- 1- Available light and light sources.
- 2- The latest photosensitive media.
- 3- The latest cinematic lenses.
- 4- Reasons for the director of photography's resort to shooting with available light.
- 5- An analysis of some clips from scenes in films that benefited from modern technology.

-Research Results:

1- With the development of the art of cinema, technology provided and continues to provide support for the process of cinematic creativity in terms of the development in the light-sensitive medium and the development in the form of lenses and photography in conditions that were impossible to photograph before.

2- Photography with available light is a new artistic trend that supports the sense of reality in the cinematic image and with the support of digital and modern technological development.

3- Creativity and technology are two components that complement each other in the cinematic process.

Search recommendations:

- 1- All cinematographers and specialists in the field of cinema must keep abreast of modern technological developments and study their impact on the final shape of the image while linking it to the creative side of the film makers.
- 2- Studying all filming locations and determining the shape and direction of the available lighting, how to use it and when.

References:

- 1-Blain Brown, cinematography theory and practice, Focal Press, 2012.
- 2-George Benjamin Wright: Available light and your Camera /American Photographic Book Publishing Company, 1958.
- 3- .ماهر راضي، فن الضوء، وزارة الثقافة ٢٠٠٥ -٣-
- 4-Matthew Luckiesh, Artificial Light: Its Influence Upon Civilization, Century Company, 1920.
- 5-<https://www.kodak.com/content/products-brochures/Film/VISION3-Color-Digital-Intermediate-Film-2254-5254-brochure.pdf> 9-9-2021
- 6 -<https://www.arri.com/en/learn-help/technology/alev-sensors>. 9-9-2021
- 7-<https://www.red.com/red-101/hdrx-high-dynamic-range-video>. 9-9-2021
- 8-<https://www.arri.com/en/camera-systems/cine-lenses/master-prime-lenses/master-prime-lenses> 9-9-2021
- 9-<https://www.cookeoptics.com/l/s7i-full-frame.html> 9-9-2021