

Ergonomic Factory Lighting to Reduce Glare and Increase Worker Productivity

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ABSTRACT

This article will discuss factory lighting so that workers do not experience glare and eye fatigue and productivity remains good. In this article, it is done descriptively, namely presentation. Data are obtained from several opinions or research results, this is commonly referred to as a literature study. Then it is also analyzed descriptively. Conclusion: Ergonomic lighting allows workers to see the objects being worked on clearly, ergonomic lighting in factories/offices plays an important role in increasing comfort, welfare, and productivity in the workplace. By minimizing glare and supporting natural posture, ergonomic lighting creates a healthier and more effective workspace. Suggestion: Factories/offices should use ergonomic lighting so that workers can work by seeing work objects clearly, comfortably, with welfare, and optimal work productivity

INTRODUCTION

Problems with non-ergonomic factory lighting can cause glare and eye fatigue and reduce productivity. Therefore, this article will discuss factory lighting so that workers do not experience glare and eye fatigue and productivity is maintained. According to Tessa Smits (2023), "a lack of ergonomic office lighting can lead to various health problems." Then Karen Kimanye (2025) stated that "improper lighting, whether too little or too much, contributes significantly to digital eye strain." According to Doni Morika (2025), "lighting is used as one of the indicators of an ergonomic space with the consideration that comfort in performing activities in the space is influenced by the light entering the room." According to Anastasia Lidya Mukar et al. (2019), "the purpose of lighting is to reduce the risk of eye disease".

LITERATURE REVIEW

Furthermore, if there is no lighting in the workplace, it can be dangerous, as Rahardi Ferri Putranto (2011) stated, "workplace lighting, workroom conditions, workplace hazards, and public facilities are expected to help achieve the target of zero accidents." Then, respondents in the shoe factory experienced effects due to lighting according to Sari Eka Wahyuni et al. (2014), "respondents who experienced severe eye fatigue were 62.5%, those who experienced moderate eye fatigue were 25%, and those who experienced mild eye fatigue were 12.5%." Apuna Chawre (2025) stated that "poor lighting in the workplace or at home affects human health." Furthermore, according to Erik Extrada et al. (2021), "insufficient lighting results in complaints of eye fatigue among workers. The complaints of eye fatigue experienced by workers include burning around the eyes, dizziness, drowsiness, and pain around the eyes."

Therefore, ergonomic lighting is needed in the workplace to prevent eye fatigue complaints. By avoiding eye fatigue, overall body fatigue can also be prevented. If the body is not tired, work concentration improves and productivity increases.

METHODOLOGY

In this paper, a descriptive approach is used, namely exposition. Data is obtained from several opinions or research results, commonly referred to as a literature study. It is then also analysed descriptively and concluded deductively.

RESULT AND DISCUSSION

Ergonomic Lighting

Ergonomic lighting is lighting designed to match the visual comfort needs of the user, aimed at preventing eye strain and increasing productivity. It is one aspect of ergonomics, a science focused on adapting the work environment to human capabilities and limitations.

As Busyaro Hasap Najmi Hakim et al. (2024) stated, "an ergonomic work environment is designed to enhance employee comfort by optimising the interaction between individuals and their workspace, with proper lighting being one of the key elements." Lighting in the workplace is very important for comfort, as Jelly Tan et al. (2023) stated, "the concepts of interior design, ergonomics and lighting in the workplace are still lacking and can be further developed to create comfort for workers." In fact, lighting can increase comfort, well-being and productivity, as noted by Benq (2024): "ergonomic lighting in offices plays a crucial role in enhancing comfort, well-being, and productivity at work. By minimising glare and supporting natural posture, ergonomic lighting creates a healthier and more effective workspace."

We know that the lighting of a factory is obtained from natural and artificial lighting. Natural lighting comes from sunlight. Sunlight then enters the factory space through the arrangement of candles or glass tiles so that the factory space can be bright. Then there is artificial lighting obtained from electric lamps. According to Riski Cahya Aryanti (2006), "good lighting allows workers to see objects being worked on clearly, quickly and without unnecessary effort, and can provide a pleasant view and a refreshing environment".

Based on the analysis and discussion above, ergonomic lighting allows workers to see the objects they are working on clearly. Ergonomic lighting in factories/offices plays an important role in enhancing comfort, well-being, and productivity in the workplace. By minimising glare and supporting natural posture, ergonomic lighting creates a healthier and more effective workspace. II. Recommendation Factories/offices should use ergonomic lighting so that workers can perform their tasks with clear visibility, comfort, well-being, and optimal work productivity.

Ergonomic lighting allows workers to see the objects they are working on clearly. Ergonomic lighting in factories/offices plays an important role in enhancing comfort, well-being, and productivity in the workplace. By minimising glare and supporting natural posture, ergonomic lighting creates a healthier and more efficient workspace.

CONCLUSION AND RECOMMENDATION

Ergonomic lighting allows workers to see the objects they are working on clearly. Ergonomic lighting in factories/offices plays an important role in enhancing comfort, well-being, and productivity in the workplace. By minimising glare and supporting natural posture, ergonomic lighting creates a healthier and more efficient workspace.

Factories/offices should use ergonomic lighting so that workers can work by clearly seeing their work objects, in a comfortable, well-being, and optimally productive manner.

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