

Review of: "Finding the illuminance levels for walkers in a prominent public park in New Delhi during the post-twilight period for healthy visual comfort, security, and other related parameters."

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Potential competing interests: No potential competing interests to declare.

This is an interesting work, as adequately illuminating our cities (and parks within) is a must nowadays. A task that is heavily connected with many of the 17 sustainable objectives (17SDO) within Agenda 2030, especially - just to mention some – those that have to do with energy efficiency, energy savings, health, environmental quality or even social justice.

This is so because urban planning and management is experiencing a great transformation, sometimes even revolution, regarding how development issues and challenges are presently being addressed as a consequence of the aforementioned 17SDO. We are not just talking about applying “typical” sustainable development methods but also new approaches in sustainability of the built environment such as regenerative sustainability (RS) and sensory sustainability science (SSS) advancing paradigms (1-2).

Having said that, and to my best knowledge, the manuscript would be greatly improved if some changes were made. In its present form it seems more like an academic essay, a final university degree project, than a proper research work. The structure of the manuscript is close to be adequate, but it should refine some sections.

The “Introduction” is correct though some more recent literature would encourage reading and, most important, would make it easier to fix the research question (RQ) of this work. You can guess the reasons why this work is done, but “finding the illuminance levels” is not a RQ by itself unless it is clearly connected to current sustainable development challenges in relation to city lighting. This should be certainly improved.

“Materials and methods” would benefit with a separate a description of both the field campaign and the instrumentation used in the field campaign. A description of reference documents, not only in India but also international standards/recommendations, would also be appreciated and useful in the subsequent discussion of results. A description of the mathematical (statistics) and/or physical or any other type of analysis method used is also missing in this section.

“Results” section would benefit with a more detailed description of the experimental data obtained in the field campaign and the analysis that has been carried out. The inclusion of Tables with original data, direct magnitudes and/or indirect calculus would make it easier to see and interpret results. Figure 3 appears too loaded with information and, conversely, Figures 4 and 5 appears sparse on information. As measurements locations are GPS localised, a better description of

results in each section of the park would be possible, connecting information in Figures 4 and 5 with that in Figure 3. Some other figures would also benefit interpretation of results, mainly those related to the spatial distribution of illuminance levels, the real magnitude of it, the real area of affection, the projected/suggested area of affection, etc.

The "Discussion" section is somehow thick, it does not favour reading mainly because it is not well connected with previous "Results" section. It concentrates in illuminance levels mainly connected with suitability issues rather than other concerns as anticipated in the title of the manuscript. In this sense, it is suggested to shorten the "Title".

Taking all these together, the research work would be greatly improved if some other parks or urban areas were included and not just that specific park. It would also be greatly improved if other equipment were used, as the Digital Lux Meter LX 1010B doesn't seem to be the most appropriate device for research. The perceived quality perception of the environment could also be easily connected to other ambient dimensions that may contribute to the overall assessment (for example, illuminance+sounds)

Bibliography is also somehow scarce and not very updated, as this important issue is concentrating much interest nowadays. Present work could be easily connected and compared with results in other countries if standard methods were accomplished. Some references are proposed (3-4) to strengthen the methodology in the field campaign and the magnitudes considered in the study.

1. https://www.mdpi.com/journal/sustainability/special_issues/urban_sus_built
2. <https://www.mdpi.com/2071-1050/14/10/6062>
3. https://www.mdpi.com/journal/sustainability/special_issues/outdoor_lighting
4. <http://cie.co.at/publications/lighting-roads-motor-and-pedestrian-traffic-2nd-edition>