

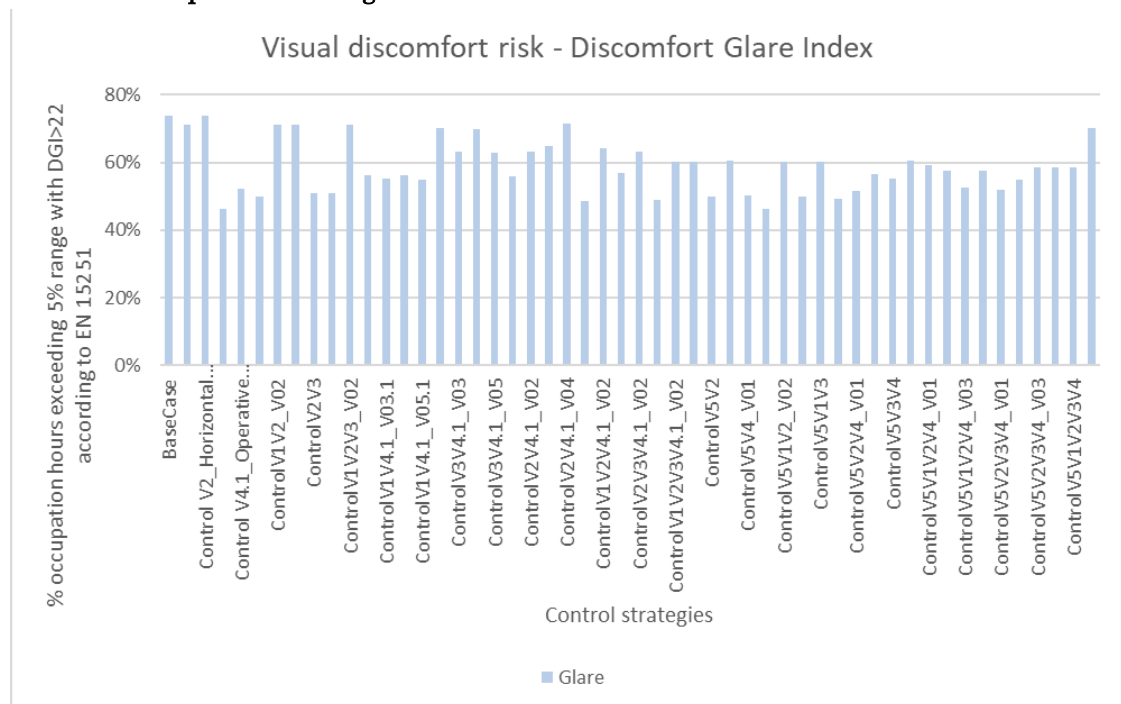
## Reviewer 1 – Revision 1 comments

- 1) Despite the thoroughness of this manuscript, it is observed that the literature review requires further elaboration to support subsequent discussions.

We reviewed section 2, adding a paragraph related to the influence of shading operation on building energy consumption, allowing us to highlight the research gap. We also added the definition of “actively controlled adaptive element”, which describes what we consider an adaptive element in this work, and we explicated the difference between “User satisfaction” (only related to the view to the outside) and “Visual comfort” (related to the illuminance level and glare). Changes can be found respectively under “2. Literature review”, page 7, lines 187-199, page 4, lines 111-115, page 7, lines 176-179, and Table 1, pages 10-11, line 258 (changes are tracked in red).

- 2) Additionally, the methodology section reveals several limitations and a constrained set of scenarios for analysis and comparison.

Due to a limit in the paper length, we selected the results to present in the paper. The algorithm analysed in the paper results from a comparison of mono and multicriteria algorithms, as shown in the figure below and as remarked in Section “5. Discussion”, page 51, lines 869-873. The comparison shown here below for DGI was performed also for energy needs and horizontal illuminance, and we selected the algorithm that provided the better compromise among these indicators.

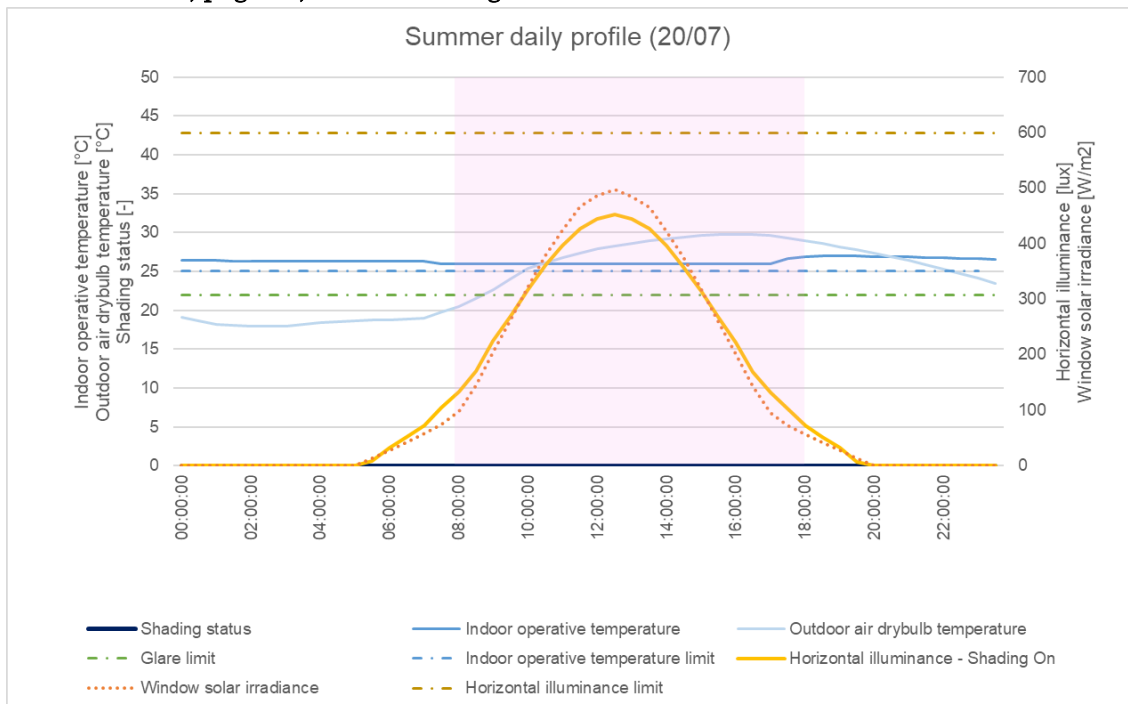


As for methodological limitations:

- we added the model validation in Section “3.5 Model validation”, page 28, lines 473-492 (changes are tracked in red).
- we improved section 3.1, adding an explanation of the choice of Liege (Belgium) and Milan (Italy) as target locations for our simulations. Changes can be found under “3.1 Climatic analysis”, page 15, lines 304-308 (changes are tracked in red).
- we improved section 3.7, by adding an explanation about the User’s satisfaction indicator and the reason behind the choice of working hours with activated shading

for its quantification. Changes can be found under “3.5 Validation and postprocess”, page 30, lines 521-526 (changes are tracked in red).

- 3) The absence of an experimental component calls for a more rigorous validation process to affirm the model's credibility, given its reliance on simulation with inherent limitations. **Model validation was performed for the office’s wing of the case study building. We took monthly monitored data and compared them to the simulation results using two indices: Mean Bias Error (MBE) and the Coefficient of Variation of the Root Mean Square Error (CV(RMSE)).** The explanation and the results obtained can be found under “3.5 Validation and postprocess”, page 28, lines 473-492 (changes are tracked in red).
  
- 4) The research identifies a gap concerning the study of view perspectives, yet this aspect is not reflected in the results. **The shading performance was evaluated also in terms of user satisfaction related to the view to the outside. This variable was quantified in terms of shading activation time, as explained in section “3.5 Validation and postprocess”, page 24, lines 421-425. The corresponding results were presented in section 4.4. We improved section 4.4, explaining the impacts of our control strategies on view perspective. Changes can be found under “4.4 How does the control strategy influence user’s satisfaction?”, page 46, lines 760-765.**
  
- 5) Furthermore, it is proposed that a sensitivity analysis could provide a more comprehensive understanding of the energetic and thermal analysis beyond the mere application of specific solar radiance values, such as 150 W/m<sup>2</sup>. **From the analysis of the activation profile below, it can be observed that the illuminance condition is the one that most influences shading activation. In fact, even if the solar radiance threshold is met, shading is not activated since shading, when rolled down, does not allow to have at least 600 lux in the office. It is for this reason that the sensitivity analysis was not performed. However, we explicitly listed "sensitivity analysis" as a weakness of this work in Section “5. Discussion”, page 51, line 895 (changes are tracked in red).**



- 6) The rationale behind controlling the indoor environment in unoccupied office spaces also warrants clarification.

**We agree with the reviewer. The control point positioned in the unoccupied office space was introduced because in this part of the office no working tasks are performed. Hence, lights can be turned on at a lower horizontal illuminance threshold than in the working space (i.e., 500 lux). In this case, the second threshold was fixed at 300 lux. We explained the logic behind this choice under “3.4 Numerical modelling”, page 24, lines 461-464 (changes are tracked in red).**

- 7) In summary, while the manuscript contributes significantly to the field and demonstrates potential, it necessitates major revisions to address the outlined concerns adequately.

**We revised the paper following your feedback, improving the methodology adopted, as pointed out in the comments above. Changes can be found across the whole manuscript (changes are tracked in red).**