CHAPTER VI
CONCLUSION

7.1 Conclusion

7.1.1 Case Study

The semi-enclosed atrium of the Hilton Hotel Bandung is an architecturally iconic atrium that has its merits and demerits in terms of the daylight performance of the adjacent spaces namely its reception area, foyers as well as circulation areas. The areas found to not perform optimally have went through two iterations of optimization efforts to improve the daylight performance and in turn the user can benefit from this be it physiologically, psychologically, environmentally, economically and even architecturally.

The following graphs shows the compilation of the optimization efforts each of the aforementioned areas went through as well as the result with the combined alternative 07 to have the highest performance improvements. While the effect of the building tower and its shadow during certain parts of the day can surely be attributed to the lower daylight performance, the tower is within the compromised best-case scenario should the building requires it to.

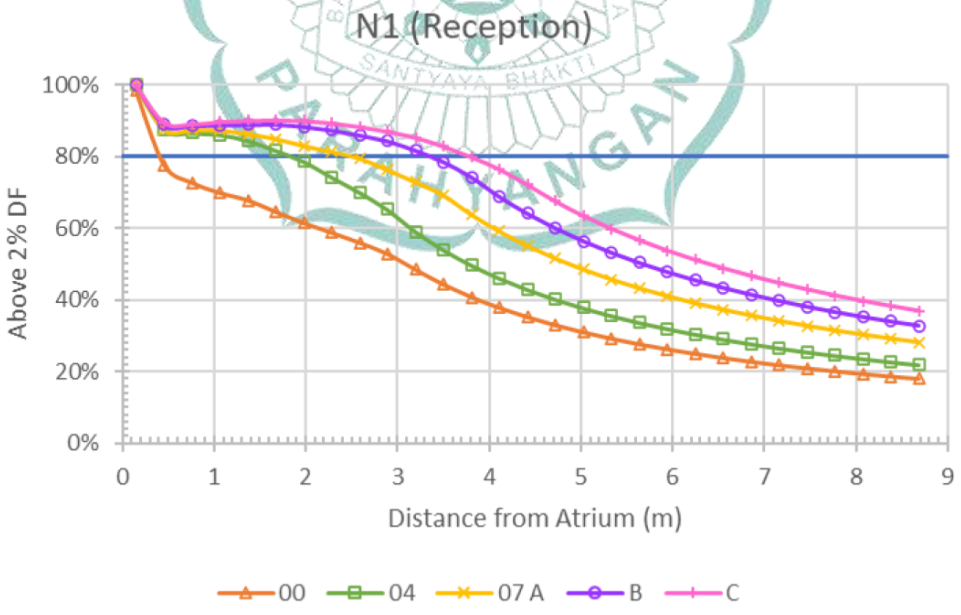

Figure 7.1 Overall performance graph of the reception area (N1)

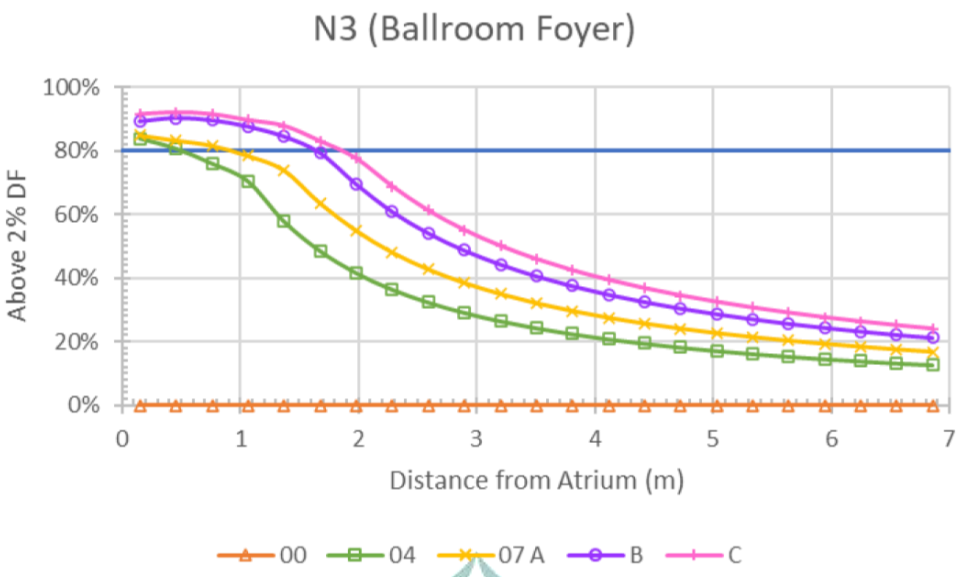

Figure 7.2 Overall performance graph of the ballroom foyer (N3)

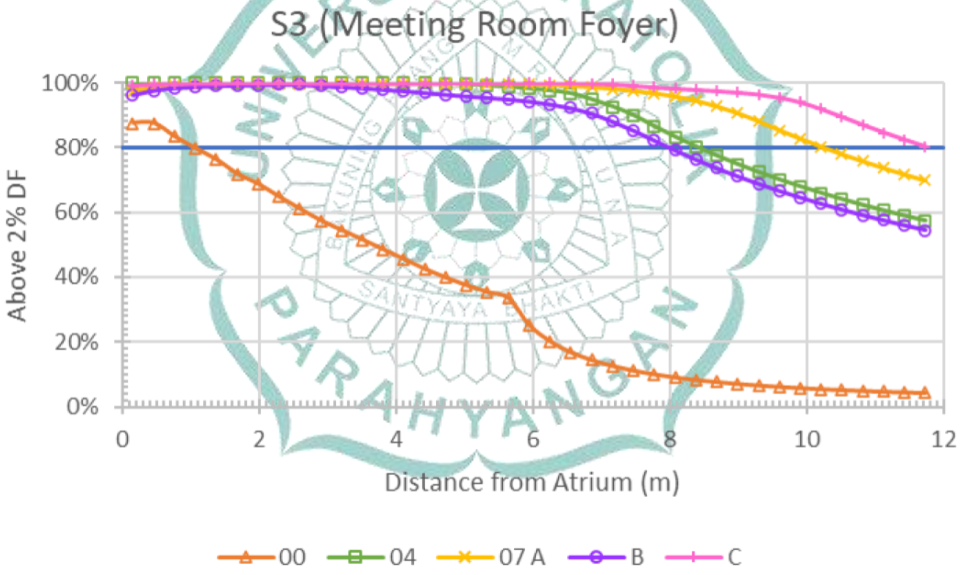

Figure 7.3 Overall performance graph of the meeting room foyer (S3)

7.1.2 Parametric Study

The parametric study shows positive relations between the width of an asymmetric semi-enclosed atrium to the average Daylight Factor (aDF) performance as well as the Daylight Factor (DF) threshold of the adjacent spaces of the atrium itself. While Uniformity Ratio (UR) remains insignificantly affected by the geometrical changes. This reaffirms the notion that the geometry of an

atrium is more significant in influencing the daylight performance compared to the reflectance of the elements within the atrium.

7.2 Suggestion

The daylight performance can be improved within and around the atrium of the Hilton Hotel Bandung with options outlined in this thesis, however as the second iteration of the optimization study and the parametric study shows that the more influencing factor is the external obstruction and the geometrical proportion of the atrium in achieving the minimum requirement, it can be said that daylight performance in an architecture depends a lot on the comprehensive thought process during the design process. As this research concludes, further study can be done with regards to the other variables not covered within this study.

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