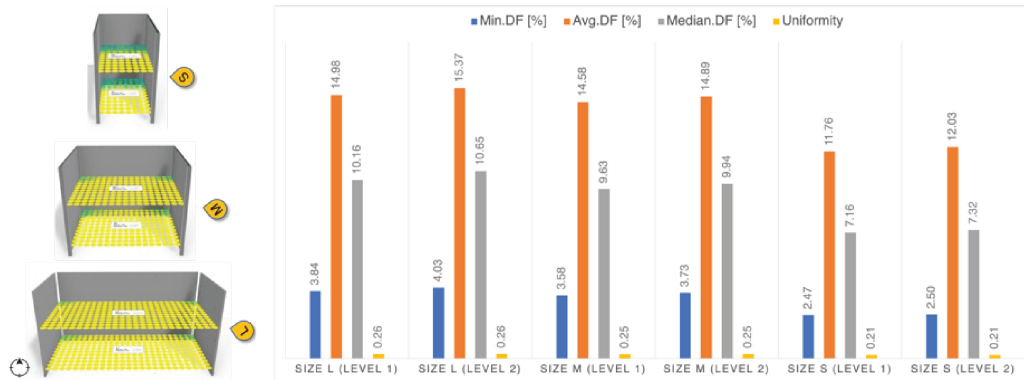


## Supplementary material

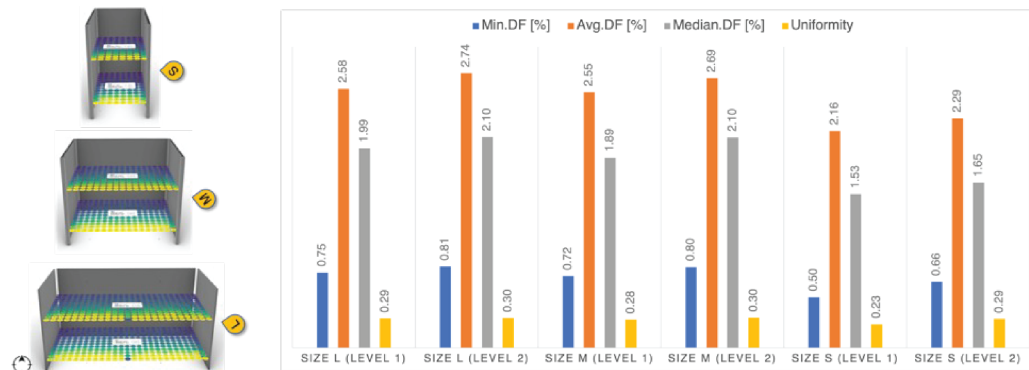
### S1: Glass panel alone



**Figure S1.** The results of daylight factor simulation in terms of a glass panel alone.

The results of the daylight simulation illustrate the crucial factor for evaluation, namely, the daylight factor (DF). Figure S1 shows the results of glass panels alone in terms of daylight factor (DF) analysis, with 27% of all illuminance sensors having a daylight factor of 2% or higher. Therefore, assuming the room exceeds daylight in the space, it should be improved in 615 order to filtrate daylight into the area. However, the benefit of this level of daylight is that 616 artificial lighting is not required.

### S2: Static façade

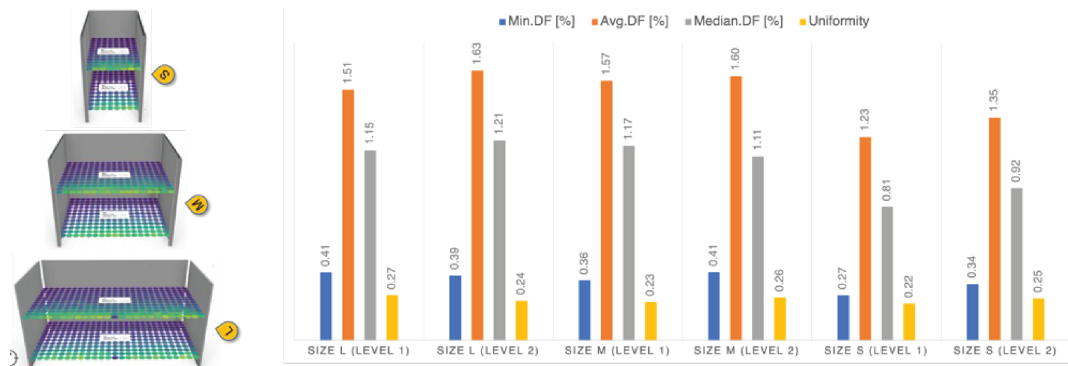


**Figure S2.** The results of daylight factor simulation in terms of a static façade.

Figure S2 shows the results of the daylight factor (DF) analysis of a static façade, with 9% of all illuminance sensors having a daylight factor of 2% or higher. It means the room has a strong daylight presence that provides users the ability to perform activities in the space since at this level of daylight, electric lighting is rarely required.

## Kinetic façade (version 1)

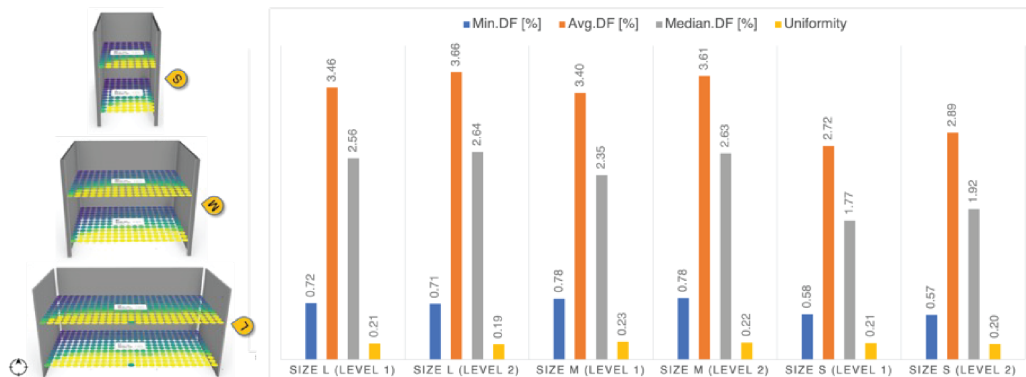
### S3: Kinetic façade (version 1, 20 deg)



**Figure S3.** The results of daylight factor simulation in terms of a kinetic façade (version 1, 20 deg).

Figure S3 shows the results of the daylight factor (DF) analysis of a kinetic façade (version 1, 20 deg), with 0% of all illuminance sensors having a daylight factor of 2% or higher. It means the room is gloomy since the façade makes daylight hard to access the area. Thus, in this case, it must be improved with artificial lighting.

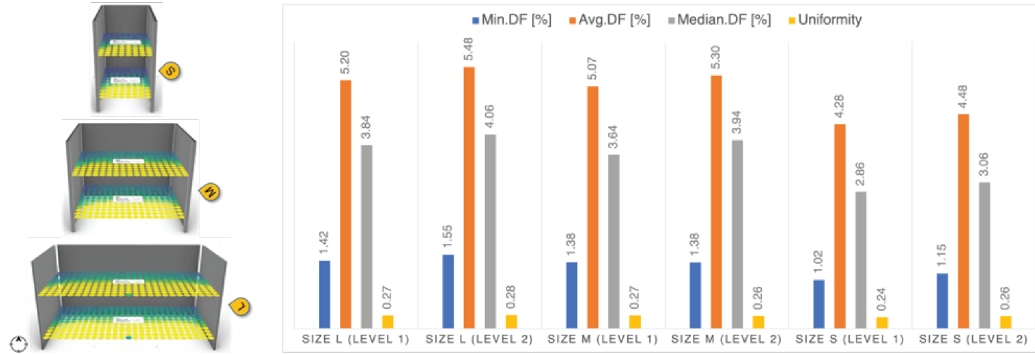
### S4: Kinetic façade (version 1, 50 deg)



**Figure S4.** The results of daylight factor simulation in terms of a kinetic façade (version 1, 50 deg).

Figure S4 shows the results of the daylight factor (DF) analysis of a kinetic façade (version 1, 50 deg), wherein 4% of all illuminance sensors had a daylight factor of 2% or higher. Thus, it means a predominantly daylight appearance: daylight can be accessed at some periods. However, artificial lighting is also mandatory in this condition since natural light alone is not adequate for user activities in the space, mainly working activities.

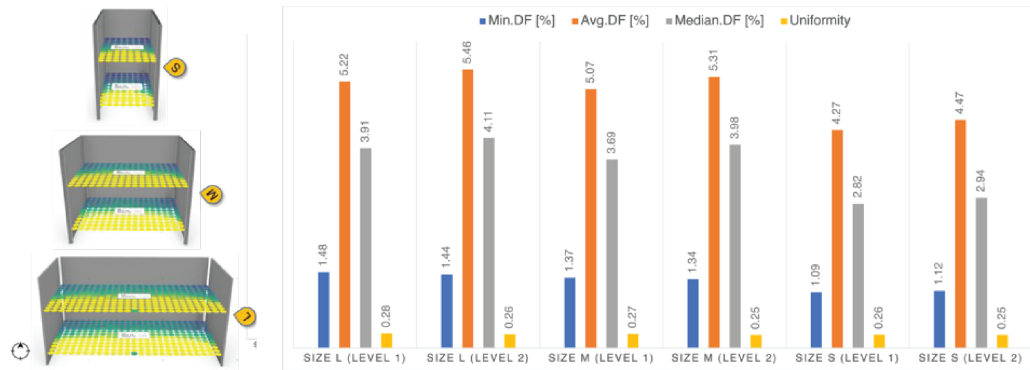
### S5: Kinetic façade (version 1, 80 deg)



**Figure S5.** The results of daylight factor simulation in terms of a kinetic façade (version 1, 80 deg).

Figure S5 shows the results of daylight factor (DF) analysis of a kinetic façade (version 1, 80 deg), wherein 8% of all illuminance sensors had a daylight factor of 2% or higher. Thus, it means the room has a strong daylight level that provides users with the ability to perform activities in the space since at this level of daylight, electric lighting is not crucial in terms of its installation.

### S6: Kinetic façade (version 1, 100 deg)

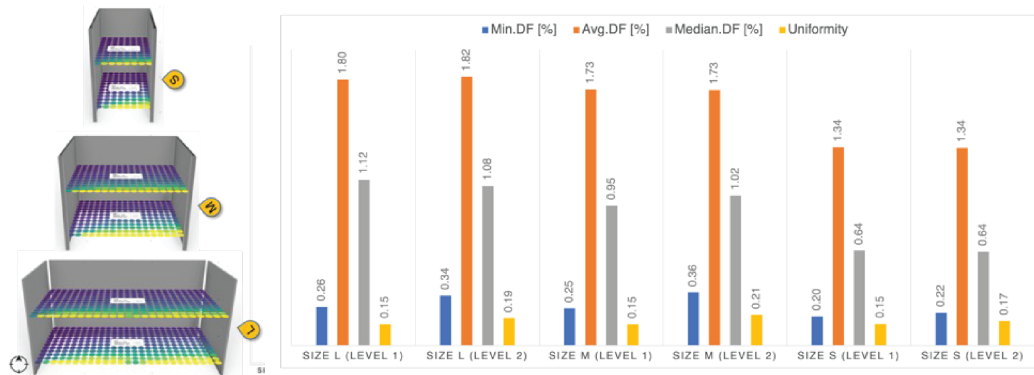


**Figure S6.** The results of daylight factor simulation in terms of a kinetic façade (version 1, 100 deg).

Figure S6 shows the results of daylight factor (DF) analysis of a kinetic façade (version 1, 100 deg), wherein 8% of all illuminance sensors had a daylight factor of 2% or higher. Therefore, it means the room has a strong level of daylight that provides users with the ability to perform activities in the space all day long in the working period since at this level of daylight, electric lighting is not crucial in terms of its installation.

## Kinetic façade (version 2)

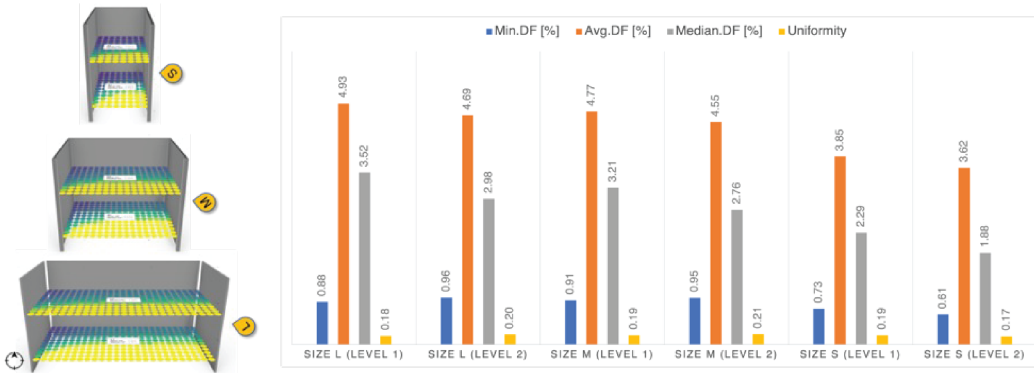
### S7: Kinetic façade (version 2, 20 deg)



**Figure S7.** The results of daylight factor simulation in terms of a kinetic façade (version 2, 20 deg).

Figure S7 shows the results of daylight factor (DF) analysis of a kinetic façade (version 2, 20 deg), wherein 4% of all illuminance sensors had a daylight factor of 2% or higher. This means a predominantly daylight appearance: daylight can be accessed at some periods. However, artificial lighting is also mandatory in this condition since natural light is not adequate for user activities in the space, particularly working activities.

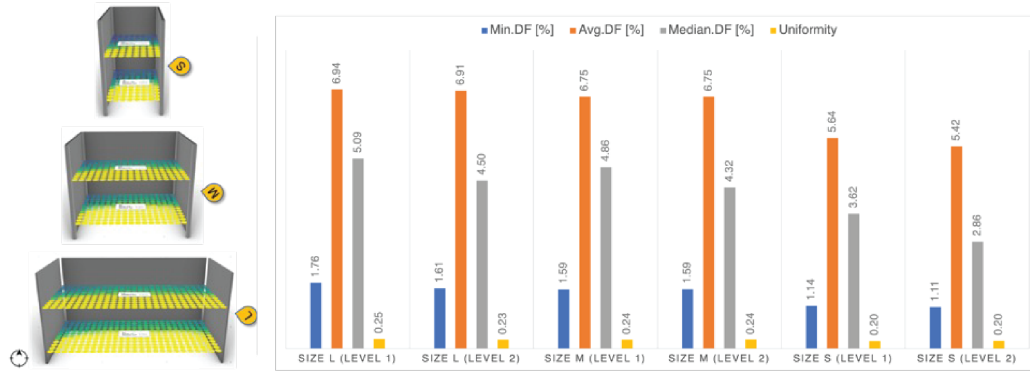
### S8: Kinetic façade (version 2, 50 deg)



**Figure S8.** The results of daylight factor simulation in terms of a kinetic façade (version 2, 50 deg).

Figure S8 shows the results of daylight factor (DF) analysis of a kinetic façade (version 2, 50 deg), wherein 9% of all illuminance sensors had a daylight factor of 2% or higher. Thus, it means the room has a strong level of daylight that provides users with the ability to perform activities in the space all day in the working time since at this level of daylight, electric lighting is not crucial in terms of its installation.

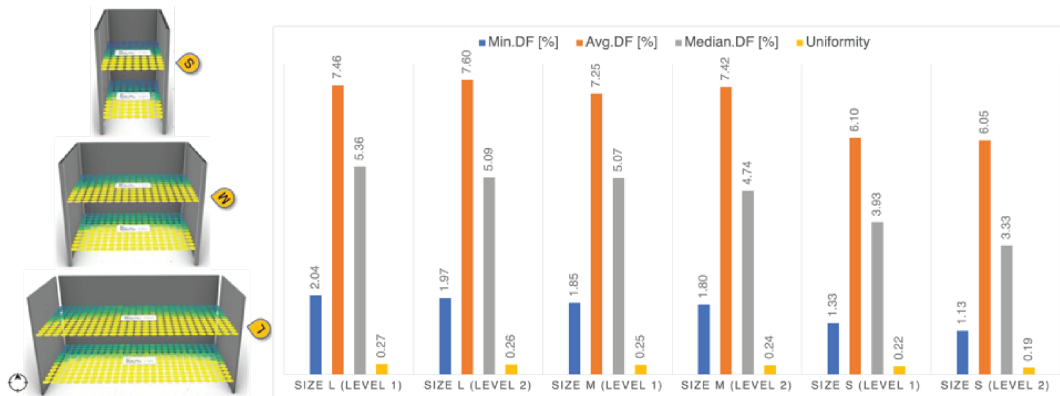
### S9: Kinetic façade (version 2, 80 deg)



**Figure S9.** The results of daylight factor simulation in terms of a kinetic façade (version 2, 80 deg).

Figure S9 shows the results of daylight factor (DF) analysis of a kinetic façade (version 2, 80 deg), wherein 13% of all illuminance sensors had a daylight factor of 2% or higher. Thus, it means the room had a strong level of daylight that provides users with the ability to perform activities in the space all day in the working period since at this level of daylight, electric lighting is not crucial in terms of its installation.

### S10: Kinetic façade (version 2, 100 deg)



**Figure S10.** The results of daylight factor simulation in terms of a kinetic façade (version 2, 100 deg).

Figure S10 shows the results of daylight factor (DF) analysis of a kinetic façade (version 2, 100 deg), wherein 16% of all illuminance sensors had a daylight factor of 2% or higher. Thus, it means the room has a strong level of daylight that provides users with the ability to perform activities in the space all day in the working period since at this level of daylight, electric lighting is not crucial in terms of its installation.

S11

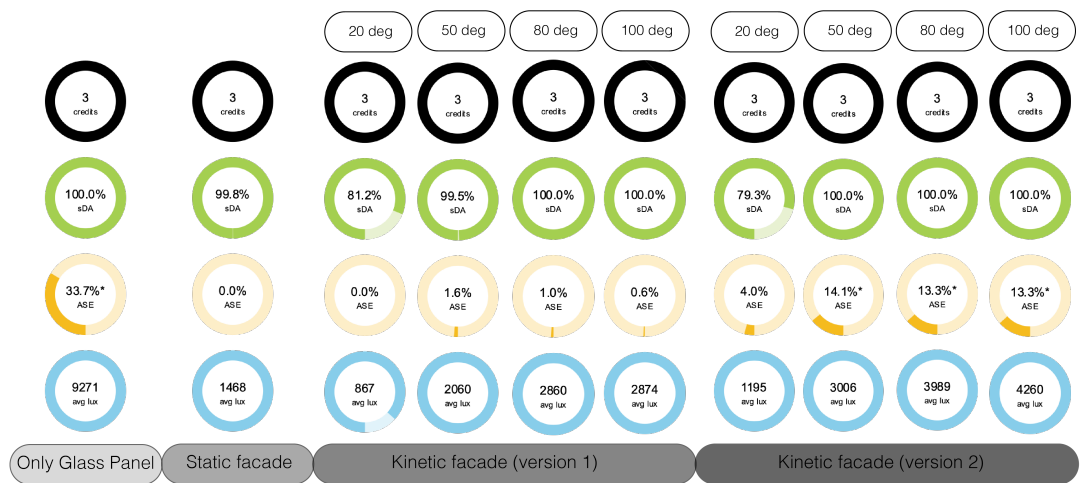


Figure S11. Summary of all the façades in terms of LEED version 4.1 criteria.

S12



Figure S12. The result of the kinetic façade (version 2) after improving the movement.