# Daylight & Sunlight Assessments of a Strategic Housing Development at Dolcain House, Monastery Road, Clondalkin, Dublin 22.

**Applicant:** Randelswood Holdings Ltd.
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**Prepared by John Healy**
**MSc Environmental Design of Buildings**

1 Rathmines Road Upper, Dublin 6, D06 Y5P5 tel 01 4965340 email mail@digitaldimensions.ie
web digitaldimensions.ie Digital Dimensions Ltd trading as Digital Dimensions.

# 1: Introduction

This project is for a strategic housing development at Dolcain House, Monastery Road, Clondalkin Dublin 22, comprising of 130 apartments and all associated site and enabling works as described in the statutory notices.

This analysis is carried out based on the drawings of HA Design Studio.

## 1.1 Executive Summary

The report assesses the impact of the proposed development for Daylight and Sunlight on the neighbouring buildings and the quality of daylight and sunlight to within the proposed development.

### Impact on adjacent properties

There will be no impact to the daylight and sunlight to the adjacent dwellings and any reduction in daylight or sunlight will be negligible. There will be no reduction in the sunlight to any of the adjacent amenity spaces. All areas assessed continue to meet or exceed the recommendations of the BRE guidelines.

### Assessment of the quality of the proposed development.

All the proposed units within the development will exceed the recommendations of the BRE guidelines for quality of Daylight with the apartments layouts which have been optimised for daylight and sunlight. The proposed amenity spaces will be bright well sunlit places and exceed the recommendations of the BRE guidelines.

Overall the results find that any impact on the adjacent residential structures would be minimal and imperceivable. There would be a good quality of daylight in the apartments analysed and the amenity areas would have sufficient sunlight to be bright and a pleasant spaces. The proposed development meets the recommendations of the BRE guidelines.

# 2: Methodology

## 2.1 Notes on the use of BS 8206-2 2008 and BRE guidance document (2011) Site layout planning for daylight and sunlight (BR209).

This Daylight and Sunlight Assessment demonstrates compliance with the BRE guide 'Site Layout Planning for Daylight and Sunlight' (2nd edition) and BS 8206-2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting'. This in accordance with the most relevant S.28 Ministerial Guidelines including Section 6.6 of the Sustainable Urban Housing: Design Standards for New Apartments (2020), and Section 3.2 of the Urban Development and Building Heights Guidelines for Planning Authorities (2018).

Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2020) directs planning authorities to have regard to quantitative performance approaches to daylight provision outlined in guides like the BRE guide 'Site Layout Planning for Daylight and Sunlight' (2nd edition) or British Standard BS 8206-2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting'. The standards for daylight and sunlight access in buildings (and the methodologies for assessment of same) suggested in both of these documents have been referenced in this Sunlight and Daylight Access Analysis.

The former standard BS 8206-2 was read in conjunction with BRE BR209 Site layout planning for daylight and sunlight and CIBSE LG10 as guidance only, but the launch of BS EN 17037 directly impacts on the recommendations of these other technical documents due to the withdrawal of BS8206-2:2008. The new standard can no longer be interpreted as guidance and cannot be incorporated into BR209 but BR209 continues to reference a standard that no longer exists. The updated 3rd Edition of the BRE guide 'Site Layout Planning for Daylight and Sunlight' intends to address this and is due to be published in spring 2022.

Neither the British Standard nor the BRE Guide set out rigid standards or limits. The BRE Guide is preceded by the following very clear warning as to how the design advice contained therein should be used:

*"The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aims is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design."*

That the recommendations of the BRE Guide are not suitable for rigid application to all developments in all contexts is of particular importance in the context of national and local policies for the consolidation and densification of urban areas.

## 2.2 Daylight to the existing dwellings

A proposed development could potentially have a negative effect on the level of daylight that a neighbouring property receives, if the obstructing building is large in relation to their distance from the existing dwelling. To ensure a neighbouring property is not adversely affected, the Vertical Sky Component (also referred to as VSC) is calculated and assessed. VSC can be defined as the amount of skylight that falls on a vertical wall or window. The site is analysed in plan, section and building use. Windows and amenity area are selected to test for impact from the proposed development.

BRE guidelines recommend that: "*Loss of light to existing windows need not be assessed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window."*
The diffuse light of the existing building may be adversely affected if part of a new building measured in a vertical section perpendicular to the main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25º to the horizontal. If a window falls within a 45° angle both in plan and elevation with a new development in place then the window may be affected and should be assessed.

For loss of daylight and sunlight to existing buildings BRE guidance document (2011) "Site layout planning for daylight and sunlight" is used and BS8206 Part 2:2008 Lighting for Buildings, Code of Practice for Daylighting.

For loss of light the report recommends calculation of the Vertical Sky Component. This is the ratio of direct sky illuminance falling on the outside window, to the simultaneous horizontal illuminance under an unobstructed sky. The standard CIE Overcast Sky is used and the ratio is usually expressed as a percentage. The maximum value is just under 40% for a completely unobstructed vertical wall. The Vertical Sky Component on a window is a good measure of the amount of daylight entering it.

The BRE guidelines recommend one of two criteria is met when assessing for the Vertical Sky Component:
a) Where the Vertical Sky Component at the centre of the existing window exceeds 27% with the new development in place then enough sky light should still be reached by the existing window.

b) Where the Vertical Sky Component with the new development in place is both less than 27% and less than 0.8 times its former value, then the area lit by the window is likely to appear more gloomy, and electric light will be needed more of the time.

The BRE Guidelines state that if the VSC is:

- At least 27%, then conventional window design will usually give reasonable results;
- Between 15% and 27%, then special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight;
- Between 5% and 15%, then it is very difficult to prove adequate daylight unless very large windows are used;
- Less than 5%, then it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed

This report assesses the percentage of direct sky illuminance that falls on the centre point of neighbouring windows that could be affected by the proposed development.

## 2.3 Sunlight

The BRE guidelines recommend assessing the loss of sunlight to the main living rooms and conservatories if they have a window wall facing within 90° of due south. Kitchens and bedrooms are less important but care should be taken not to block too much sun. If the proposed development is fully north then sunlight need not be assessed.

The Annual Probable Sunlight Hours (APSH) is used to assess the quantity of sunlight for a given location. This is the total amount sunshine for a given location on an unobstructed horizontal surface taking cloud cover into account. Statistical data from the Irish Meteorological Service is used to assess the APSH and the Probable Sunlight Hours for winter. Table 1 shows the average sunlight hours for each month and the maximum possible without any cloud cover. This gives the factor of possible sunlight hours for each month.

| Met Eireann Sunlight Hours Data Set 1981-2010 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| Average Sunlight Hours/ Day | 1:54 | 2:45 | 3:36 | 5:32 | 6:44 | 6:40 | 5:17 | 5:13 | 4:16 | 3:17 | 2:10 | 1:44 | |
| Average Sunlight Hours/ Month | 58:54 | 77:00 | 111:36 | 166:00 | 208:44 | 200:00 | 163:47 | 161:43 | 128:00 | 101:47 | 65:00 | 53:44 | 1496.25 |
| Total Available Sunlight Hours | 252 | 265 | 358 | 412 | 488 | 485 | 496 | 451 | 375 | 320 | 250 | 248 | 4383 |
| Probable Sunlight Hours Ratio | 23.37% | 29.06% | 31.17% | 40.29% | 42.77% | 41.24% | 33.02% | 35.86% | 34.13% | 31.81% | 26.00% | 21.67% | 34.14% |

**Table 1: Average monthly sunlight hours recorded at Dublin Airport - Data set 1981-2010**

The BRE guidelines recommend that the centre of a window or 1.6m above ground for a door be assessed and receive at least 25% of the APSH and at least 5% during the period of 21st September to 21st March. If the available APSH is less than this then it should not be reduced below 0.8 times its former value or noticeable loss of sunlight may occur.

## 2.4 Sunlight to gardens and open spaces

For calculations of sunlight analysis it is general practice to use March 21 and the recommendations of the BRE guidance document (2011) “Site layout planning for daylight and sunlight”. P.J Littlefair, in relation to Gardens and open spaces section 3.3.17 state:

“*It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March*.”

## 2.5 Calculations of Trees & Hedges

Trees are not usually included in the assessments of impact, unless specified otherwise. In relation to the effects of trees and hedges the BRE guidelines states,

> *“It is generally more difficult to calculate the effects of trees on daylight because of their irregular shape and because some light will generally penetrate through the crown. Where the effects of a new building on existing buildings nearby is being analysed, it is usual to ignore the effects of existing trees. This is because daylight is at its scarcest and most valuable in winter when most trees will not be in leaf.”*

## 2.6 Daylight in the Proposed Development.

The rooms are assessed for Average Daylight Factor (ADF) and compliance with EN 17037 (2018). Table 2 contains the Input values for material used in the assessment model.

| Surface Reflectance | | | |
|---|---|---|---|
| Element | Reflectance | Transmissivity | Material Description |
| Internal walls | 84% | 0% | White Painted Walls |
| Internal ceiling | 88% | 0% | White Painted Ceiling |
| Floor | 52% | 0% | Light wood Flooring |
| External walls - proposed development | 58.3% | 0% | Light yellow Brick |
| External walls - outside site | 20% | 0% | CIBSE |
| External ground | 20% | 0% | CIBSE |
| Glass | 20.1% | 68.8% | Triple glazed clear glass |

**Table 2: Surface reflectance parameters for ADF calculation**

Additional assessment model input parameters:

- Sensor Grid spacing 0.6m
- Sensor grid inset 0.35m
- Minimum inset 0.3m
- Work plane offset 0.85

## 2.7 EN17037:2018

EN 17037 is a unified daylighting standard published by the European Committee for Standardization (CEN) in 2018 (CEN 17037:2018). It is applicable across all countries within the EU including Ireland with the Irish edition IS EN17037:2018. The assessment is carried out in addition to the assessment of the Average Daylight Factor as specified in the BRE guidelines and BS8206 Part 2:2008 Lighting for Buildings, Code of Practice for Daylighting.

The EN17037:2018 Standard was enacted prior to the publication of Sustainable Urban Housing: Design Standards for New Apartments in 2020 which has no reference to the new standard. Additionally to date it is not referenced in any planning guidance document by any local authority.

The standard deals exclusively with new developments and does not give guidance or metrics on loss of light or sunlight to existing properties. EN17037:2018 sets out values for Minimum and Target levels but does not give guidance on the number of units within a development that should achieve these values. Additionally it does not differentiate between room use and weighted targets for rooms which would have a lesser requirement and to date there are no guidelines or directives on the implementation of their use.

The compliance calculation is based on an annual, climate-based simulation of interior illuminance distributions. For each hour of the year, the percentage of the floor area achieving minimum and target illuminance thresholds is measured on a room-by-room basis. To meet the standard, a room must achieve both of the following criteria:

- Target Illuminance: 300 lux over 50% of floor area for at least 50% of daylight hours.
- Minimum Illuminance: 100 lux over 95% of floor area for at least 50% of daylight hours.

Daylight hours are defined as the 4380 hours with the most diffuse horizontal illuminance in the weather file. In addition to this baseline (Minimum) requirement, rooms can achieve Medium and High levels of compliance by meeting higher illuminance thresholds, as outlined in the table below:

| Minimum Illuminance | | | Target Illuminance | | |
|---|---|---|---|---|---|
| High | 500 lux | 95% | High | 750 lux | 50% |
| Medium | 300 lux | 95% | Medium | 500l ux | 50% |
| Minimum | 100 lux | 95% | Minimum | 300 lux | 50% |

**Table 3: EN 17037:2018 Compliance threshold levels.**

## 2.8 Environmental Impact Assessment (BRE Guidelines Appendix I)

The BRE guidelines sets out criteria for classification for assessment of impact where a new development affects a number of existing buildings or open spaces. The guide does not give a specific range or percentages but sets out parameters set out below.

*"Where the loss of skylight or sunlight fully meets the guidelines in this book, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.*

*Where the loss of skylight or sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:*

- *only a small number of windows or limited area of open space are affected*
- *the loss of light is only marginally outside the guidelines*
- *an affected room has other sources of skylight or sunlight*
- *the affected building or open space only has a low level requirement for skylight or sunlight*
- *there are particular reasons why an alternative, less stringent, guideline should be applied.*

*Factors tending towards a major adverse impact include:*

- *a large number of windows or large area of open space are affected*
- *the loss of light is substantially outside the guidelines*
- *all the windows in a particular property are affected*
- *the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, eg a living room in a dwelling or a children's playground.*

*Beneficial impacts occur when there is a significant increase in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space.*

*Beneficial impacts should be worked out using the same principles as adverse impacts. Thus a tiny increase in light would be classified as a negligible impact, not a minor beneficial impact."*

A flexible approach should be taken when assessing the impact with daylight and sunlight being one of many factors that influence the environment when planning a new development.

## 3: Daylight to adjacent buildings.

### 3.1 Site Overview

The site is located on the south side of Monastery Road in Clondalkin. The existing site contains a 4-5 storey office block over basement level car park. The site was originally part of a larger site from a large construction operation with material handling and equipment compounds to the west and south.

To the East is a surface car park separating the site from the The Orchard Housing estate which is connected to the Round Towers GAA club and playing fields to the South. To the North across Monastery Road there are residential houses at Monastery Heath Court and the ruins of a church.

The proposed development involves the redevelopment of the existing office block into residential apartment units and the development of a new block to the east of the existing development.


**Figure 1: Aerial view of site.**


**Figure 2: View of site from Monastery Road.**

### 3.1 Preliminary assessment of adjoining dwellings

The BRE guideline recommends that loss of light to existing windows need not be assessed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. The zone of influence 3 times the height of the proposal is plotted in Figure 3 in yellow.

Section planes perpendicular to the window wall of the properties facing the proposed development are indicated in blue. The planes at locations A & B extend and intersect the proposed development. Sections at these locations are plotted in Figure 4.

The document states that if part of a new building measured in a vertical section perpendicular to the main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25º to the horizontal, then the diffuse light of the existing building may be adversely affected. If a window falls within a 45° angle both in plan and elevation with a new development in place then the window may be affected and should be assessed.

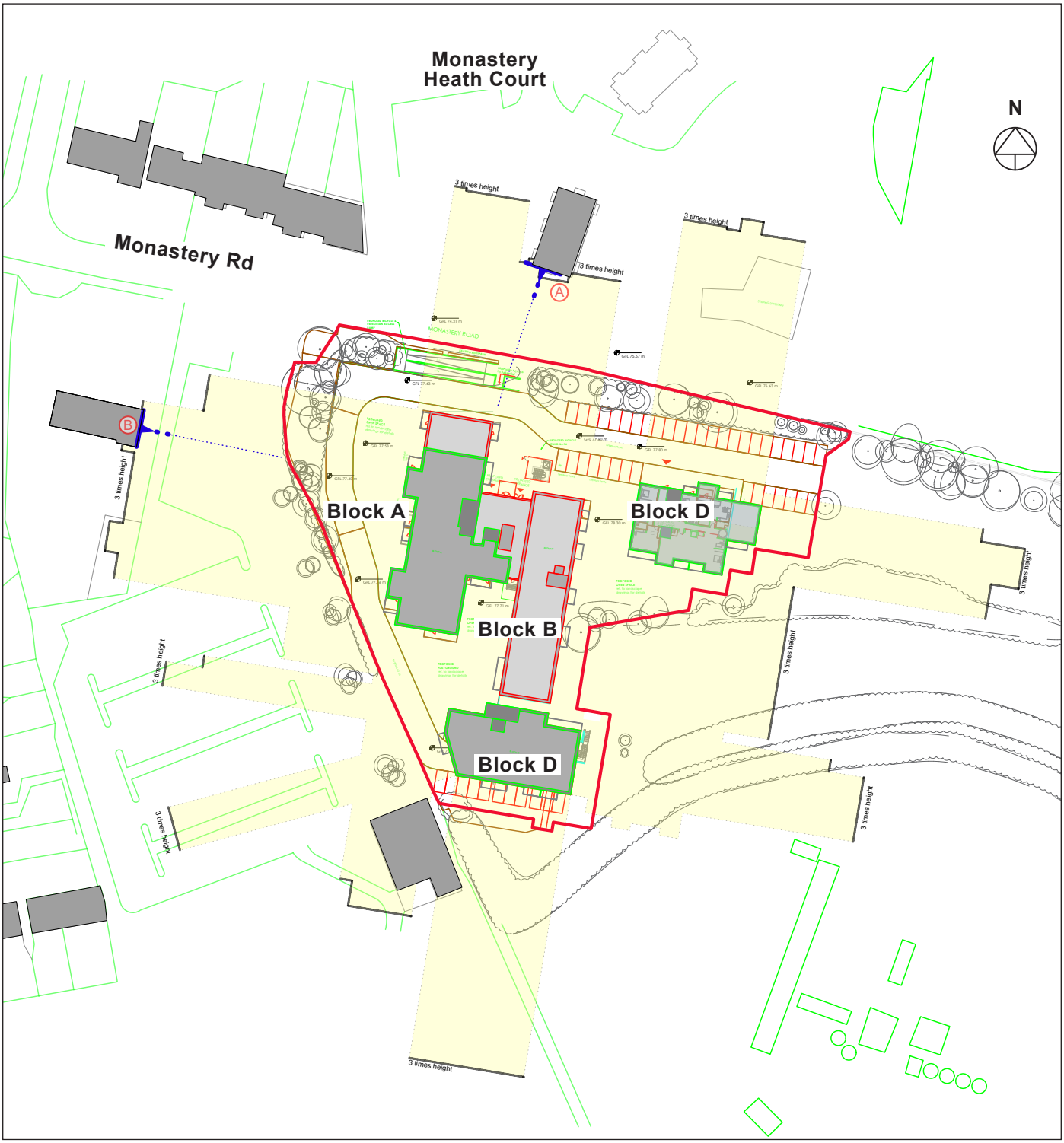
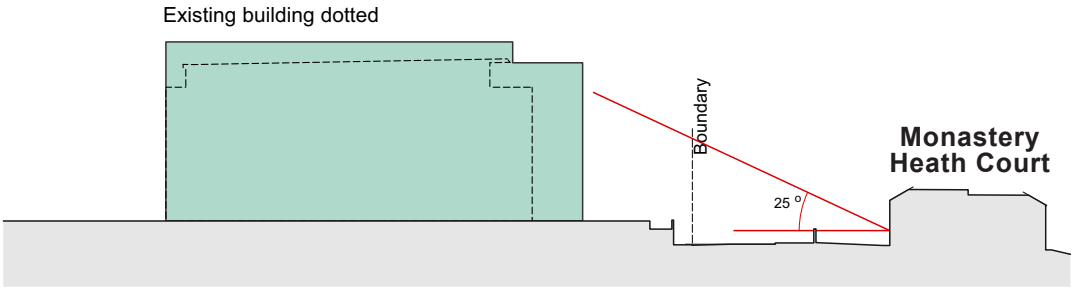
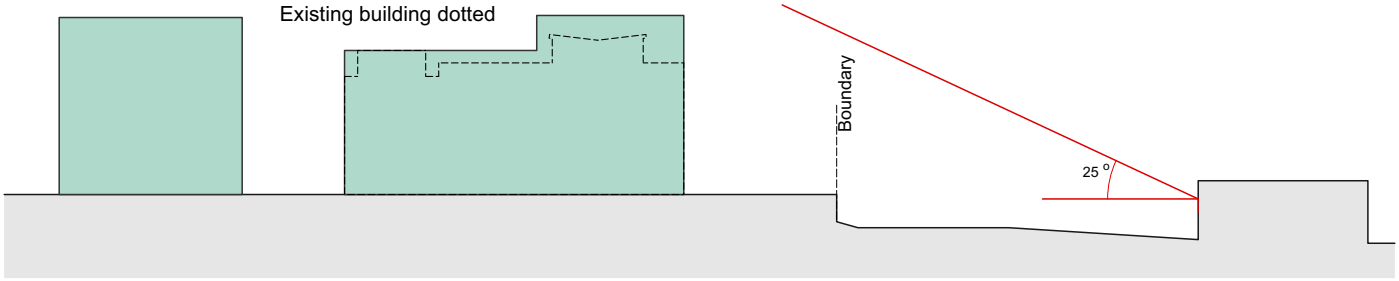



**Figure 3: Proposed site plan showing the zone of influence and sections through window wall of adjacent residential properties.**




Location A: Section through window wall at Monastry Heath Court




Location B: Section through window wall at the gable of The Orchard

**The Orchard**

**Figure 4: Sections through the window wall of the adjacent residential properties.**


**Figure 5: View of No.4 Monastery Heath Court.**


**Figure 6: Aerial view of The Orchard. Monastery road.**

Location A: The side elevation of No.4 Monastery Heath Court. The main elevations is perpendicular to the proposed development. There is a window in the side elevation at ground floor level which is a secondary window to the rooms facing front and back or to circulation space. While the 25º line would be subtended by the proposed development, the window has a similar relationship to the existing structure and there would be no additional reduction in available daylight.

Location B: The side elevation of The Orchard, Monastery road. The main elevations of this house are perpendicular to the proposed development. There is a single window at first floor/ dormer level. In a section through this window, the 25º line is not subtended by the proposed development, indicating any reduction in available daylight is negligible and no further assessment required.

### 3.2 Conclusion

The impact from the proposed development on the daylight of residential properties is negligible. The proposed development would meet the recommendations of the BRE guidelines.

# 4: Daylight to Proposed Development.

Daylight has been assessed for compliance with the BRE guide by calculation of Average Daylight Factor. Compliance is also demonstrated with a calculation of Daylight Provision under EN 17037:2018.

## 4.1 Assessment for Average Daylight Factor

The BRE guidelines recommend that the Average Daylight Factor (ADF) be assessed in habitable rooms of new developments. BS 8206-2 gives minimum values of ADF of 2% for kitchens and living rooms which include a kitchen, 1.5% for living rooms and 1% for bedrooms. An average daylight factor of 5% is a well 'daylit' space. Where there are two room uses within a space then the higher ADF value should be used. The assessment plane covers 100% of living space being considered.

The factors that affect ADF are room depth, aspect, window size relative to floor area and closeness to an adjacent obstruction. All habitable rooms throughout the development were assessed.

A full schedule of results and the associated false colour plans representing the analysis of ADF are shown in Appendix A. The room numbering follows the architectural drawings. A summary of the results are displayed in Table 4 below.

| Summary of results of the assessment of Average Daylight Factor | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ID | Total Units | Total Bedrooms | LKD > 2% ADF | % reaching 2% target | LKD > 1.5% ADF | % reaching 1.5% target | Bedroons > 1% ADF | % reaching target |
| Block A | 50 | 84 | 49 | 98% | 50 | 100% | 84 | 100% |
| Block B | 22 | 36 | 12 | 55% | 22 | 100% | 36 | 100% |
| Block C | 29 | 45 | 29 | 100% | 29 | 100% | 45 | 100% |
| Block D | 29 | 41 | 29 | 100% | 29 | 100% | 41 | 100% |
| Total | 130 | 206 | 119 | 92% | 130 | 100% | 206 | 100% |

**Table 4: Summary of ADF results. Individual room results can be viewed in Appendix A.**

Within the development the design was optimised for good quality daylight, where possible rooms are dual aspect. Main living spaces are located away from inner corners and projections to maximise daylight in preference over bedrooms, which have a lesser requirement for daylight. Most windows are large and full height.

The building is an existing structure and while being modified for the current proposed development there are constraints to the extent of the modifications. 92% of the main Living / Kitchen / Dining space to the apartments achieve at ADF level of 2% while 100% of the units achieve an ADF level of 1.5%. 100% of the Bedrooms achieve the target level of 1% ADF.

While a small number of units do not achieve an ADF level of 2% these units generally have very large windows covering the majority of the window wall and will be bright well daylit spaces.

## 4.2 Assessment for Daylight Provision EN17037:2018

The rooms were assessed for daylight provision in accordance with the criteria set out in EN17037:2018. A complete set of results are shown in Appendix B. A summary of the results are displayed here below.

| Fraction of rooms at each compliance level (area-weighted) | | | | |
|---|---|---|---|---|
| | Fail | Minimum | Medium | High |
| Target Illuminance | 5.7% | 25.8% | 37.6% | 30.9% |
| Minimum Illuminance | 4.2% | 40.7% | 35.9% | 19.2% |

**Table 5: Summary of room compliance with EN 17037:2018. Individual room results can be viewed in Appendix B**

## 4.3 Conclusion

All the rooms exceed the minimum recommendations set out in the BRE Guidelines and BS8206 Part 2:2008 Lighting for Buildings, Code of Practice for Daylighting. 95.8% of the rooms also exceed the Minimum illuminance levels values for EN17077:2018 daylight provision.

# 5: Sunlight to Habitable Rooms of Proposed Apartment Blocks

## 5.1 Annual Probable Sunlight Hours

The BRE guidelines recommends that living rooms with window that face within 90° of due South be assessed for Annual Probable Sunlight Hours (APSH) and Probable Sunlight Hours (PSH) for the winter period from September to March. It is recommended that the APSH be greater than 25% of the total sunlight hours possible and that the PSH in winter be greater than 5%.

All windows to living rooms in the apartment blocks have been assessed. Bedrooms need not be assessed. The table below shows a summary of the results. Appendix C show the results per block, indicating if this room has a relevant South facing window. The apartment numbering follows that of the architectural drawings.

| Annual Probable Sunlight Hours Summary Table | | | | | |
|---|---|---|---|---|---|
| | Total Units | No. of units with a livingroom window within 90° South | Ratio of units that have a window within 90° South | No. of units that meet criteria | Ratio that meet criteria |
| Block A | 50 | 14 | 28% | 40 | 80% |
| Block B | 22 | 18 | 81% | 17 | 77% |
| Block C | 29 | 18 | 62% | 24 | 83% |
| Block D | 29 | 23 | 79% | 23 | 79% |
| Total | 130 | 73 | 63% | 104 | 80% |

**Table 6: Summary of results of assessment of APSH & PSH.**

The BRE Guidelines recommend maximising the amount of units that have a window within 90° due South but does not have set ratios or numerical values. Additionally windows with an aspect of greater than 90° due South, like West or North East, will still receive sunlight, but it is likely to be lesser amounts especially in the winter period. The majority of apartments have a main living space with a window facing within 90° of due South. Many are dual aspect and the scheme is well designed with regard to access to sunlight.

## 5.2 Conclusion

The design and layout of the apartment blocks is optimised to receive the available sunlight and maximise the number of living spaces to the units with a window wall within 90° of due South. Of these apartments 80% of these exceed the target values set out for sunlight, which includes many windows with overhanging balconies. The proposed development meets the recommendations of the BRE guidelines for sunlight.

## 6: Sunlight to gardens and open spaces

The BRE document indicates that for an amenity area, such as a garden, to have good quality sunlight throughout the year, 50% should receive in excess of 2 hours sunlight on the 21st March. It also states that front gardens need not be assessed for sunlight.

The guidelines states that the 21 March should be used for the assessment and that “Sunlight at an altitude of 10° or less does not count, because it is likely to be blocked by low level planting anyway.” The amenity space is assessed for the amount of direct sunlight received by the space in 5 minute intervals between 8am and 6pm on the 21st March over an analysis grid with a 300mm grid size and the average is calculated.

### 6.1 Private amenity space to neighbouring properties.

There are no areas of private amenity in the neighbouring dwellings that would be impacted by the Proposed Development.

### 6.2 Sunlight to amenity within the proposed development

The areas of amenity within this proposal have been assessed with a calculation of Sun on the Ground on the 21st March. A location plan is shown in Figure 8, generated analysis in Figure 9 and the results are set out in Table 7 below.


**Figure 7: Landscape plan, locating areas of amenity assessed for direct sunlight.**


**Figure 8: Proposed Radiation map of amenity areas, showing available sunlight on 21st March. The scale represents the percentage of daylight received from 0 - 8 hours.**

| Sunlight on the ground - within development | | | |
|---|---|---|---|
| Location ID | Location | Proposed | Meets criteria if >50% area receiving 2 hours sunlight on 21st March |
| | | % Area receiving 2 hours sunlight on 21st March | |
| S1 | Ground level | 82.2% | Meets criteria |
| S2 | Ground level | 50.9% | Meets criteria |

**Table 7: Calculation of Sun on the Ground to amenity area within the proposed development.**

### 6.3 Conclusion

A variety of amenity spaces have been designed into this scheme, they are well oriented for sunlight and will have over 2 hours sunlight on the 21st March. The proposed development meets the recommendations of the BRE guidelines.

# 7: Shadow Diagrams

## 7.1 BRE Guidance on Shadow Studies

Shadow diagrams are a visual aid to understand where possible shading may occur. The BRE guidelines recommends using the March Equinox due the equal length of the day and night time. It states:

*"If a space is used all year round, the equinox (21 March) is the best date for which to prepare shadow plots as it gives an average level of shadowing. Lengths of shadows at the autumn equinox (21 September) will be the same as those for 21 March, so a separate set of plots for September is not required."*

June 21st and December 21st are provided below for information but it should be noted that the summer solstice is the best case scenario with shadows at their shortest. In Winter even low buildings will cast long shadows and it is common for large areas of the ground to be in shadow throughout the day especially in a built up area and sun barely rises above an altitude of 10° during the course of the day. The guidelines recommends that Sunlight at an altitude of 10° or less does not count. Below are the times for the Equinox and Solstice that the sun is above 10° altitude rounded to the nearest half hour.

Equinox: between 8:30 and 17:30
Summer Solstice: Between 6:30 and 20:00
Winter Solstice: Between 10:30 and 14:00

Section 7.2 shows the proposed shadow diagrams for the Equinox on the 21st March at 2 hourly intervals during the day between 09:00 and 17:00.
Section 7.3 shows the proposed shadow diagrams for the Summer Solstice on the 21st June at 2 hourly intervals during the day between 10:00 and 18:00.
Section 7.4 shows the proposed shadow diagrams for the Equinox on the 21st September at 2 hourly intervals during the day between 09:00 and 17:00.
Section 7.5 shows the proposed shadow diagrams for the Winter Solstice on the 21st December at 2 hourly intervals during the day between 10:00 and 16:00.

The shadows cast on the September equinox are the same as the March Equinox. They are included here with the Daylight Saving Time (DST) applied, as with the Summer Solstice diagrams.

The use of shadow diagrams as an assessment method should be taken over the course of the day and not a specific time due to the transient nature of the sun and the shade caused by obstructions.

In relation to the effects of trees and hedges the BRE guidelines states,

> *"It is generally more difficult to calculate the effects of trees on daylight because of their irregular shape and because some light will generally penetrate through the crown. Where the effects of a new building on existing buildings nearby is being analysed, it is usual to ignore the effects of existing trees. This is because daylight is at its scarcest and most valuable in winter when most trees will not be in leaf."*

The trees were not included because they are mostly deciduous and guidelines recommends only including trees where there are dense bands of evergreen trees.

## 7.2 Shadow Casting diagrams March Equinox

N


**Existing**

N


**Proposed**

**Figure 9: Shadow diagrams 21 March 09:00 GMT**

N


Existing

N


Proposed

**Figure 10: Shadow diagrams 21 March 11:00 GMT**

N


**Existing**

N


**Proposed**

**Figure 11: Shadow diagrams 21 March 13:00 GMT**

N


**Existing**

N


**Proposed**

**Figure 12: Shadow diagrams 21 March 15:00 GMT**

N


**Existing**

N


**Proposed**

**Figure 13: Shadow diagrams 21 March 17:00 GMT**

## 7.3 Shadow Casting diagrams June Solstice

N


**Existing**

N


**Proposed**

**Figure 14: Shadow diagrams 21 June 10:00 GMT +1 (DST)**

N


Existing

N


Proposed

**Figure 15: Shadow diagrams 21 June 12:00 GMT +1 (DST)**

N


Existing

N


Proposed

**Figure 16: Shadow diagrams 21 June 14:00 GMT +1 (DST)**

N


**Existing**

N


**Proposed**

**Figure 17: Shadow diagrams 21 June 16:00 GMT +1 (DST)**

N


Existing

N


Proposed

**Figure 18: Shadow diagrams 21 June 18:00 GMT +1 (DST)**

## 7.4 Shadow Casting diagrams September Equinox

N


**Existing**

N


**Proposed**

**Figure 19: Shadow diagrams 21 September 09:00 GMT +1 (DST)**

N


**Existing**

N


**Proposed**

**Figure 20: Shadow diagrams 21 September 11:00 GMT +1 (DST)**

N


Existing

N


Proposed

**Figure 21: Shadow diagrams 21 September 13:00 GMT +1 (DST)**

N


Existing

N


Proposed

**Figure 22: Shadow diagrams 21 September 15:00 GMT +1 (DST)**

N


Existing

N


Proposed

**Figure 23: Shadow diagrams 21 September 17:00 GMT +1 (DST)**

## 7.5 Shadow Casting diagrams December Solstice

N


Existing

N


Proposed

**Figure 24: Shadow diagrams 21 December 10:00 GMT**

N


Existing

N


Proposed

**Figure 25: Shadow diagrams 21 December 12:00 GMT**

N


Existing

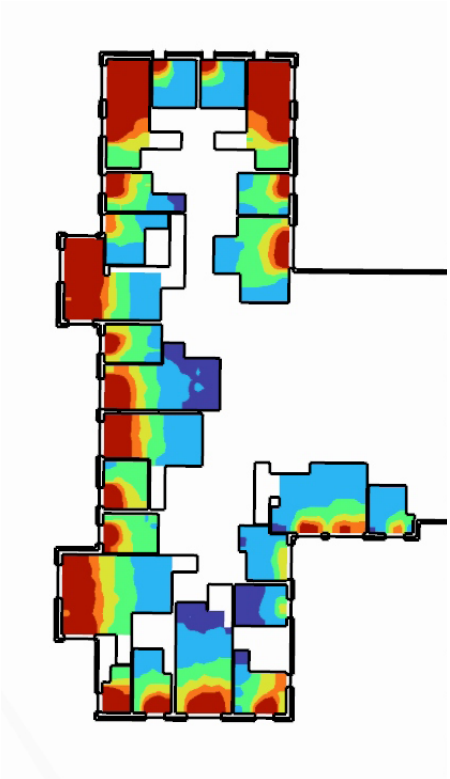
N


Proposed

**Figure 26: Shadow diagrams 21 December 14:00 GMT**

## Appendix A -
## Average Daylight Factor

### Block A



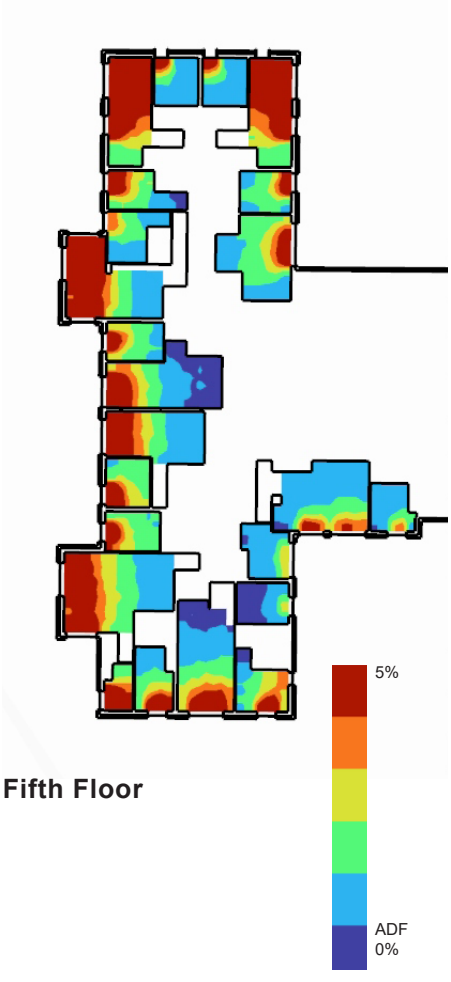
Ground Floor

First Floor

Second Floor

Third Floor

Fourth Floor




Fifth Floor

**Figure 27: Block A False Colour Plans of all floors indicating habitable rooms assessed for ADF. Scale is 0 - 5%**

| Average Daylight Factor - Block A | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum ADF | Meets Criteria |
| Ground Floor | | | | | | |
| A01-1 | LKD | 23.8 | 62 | 4.97% | 2% | Y |
| A01-2 | Bed | 11.3 | 30 | 1.77% | 1% | Y |
| A02-1 | LKD | 23.8 | 62 | 5.04% | 2% | Y |
| A02-2 | Bed | 11.4 | 30 | 1.74% | 1% | Y |
| A03-1 | LKD | 31.2 | 75 | 5.12% | 2% | Y |
| A03-2 | Bed | 12.6 | 27 | 1.89% | 1% | Y |
| A03-3 | Bed | 12.7 | 33 | 2.85% | 1% | Y |
| A04-1 | LKD | 27.5 | 65 | 2.35% | 2% | Y |
| A04-2 | Bed | 11.4 | 30 | 2.47% | 1% | Y |
| A05-1 | LKD | 31.3 | 78 | 2.21% | 2% | Y |
| A05-2 | Bed | 11.6 | 35 | 2.70% | 1% | Y |
| A06-1 | LKD | 25.4 | 66 | 3.05% | 2% | Y |
| A06-2 | Bed | 11.5 | 30 | 3.25% | 1% | Y |
| A07-1 | LKD | 41.5 | 115 | 3.48% | 2% | Y |
| A07-2 | Bed | 11.5 | 35 | 2.88% | 1% | Y |
| A07-3 | Bed | 12.0 | 36 | 2.94% | 1% | Y |
| A07-4 | Bed | 6.5 | 15 | 4.90% | 1% | Y |
| A08-1 | LKD | 31.3 | 85 | 2.24% | 2% | Y |
| A08-2 | Bed | 13.3 | 33 | 2.82% | 1% | Y |
| A08-3 | Bed | 11.4 | 30 | 1.01% | 1% | Y |
| A09-1 | LKD | 31.6 | 74 | 1.77% | 2% | N |
| A09-2 | Bed | 12.0 | 35 | 1.40% | 1% | Y |
| A09-3 | Bed | 10.3 | 26 | 1.42% | 1% | Y |
| First Floor | | | | | | |
| A10-1 | LKD | 23.8 | 62 | 5.93% | 2% | Y |
| A10-2 | Bed | 11.3 | 30 | 1.83% | 1% | Y |
| A11-1 | LKD | 23.8 | 62 | 4.55% | 2% | Y |
| A11-2 | Bed | 11.4 | 30 | 1.83% | 1% | Y |
| A12-1 | LKD | 31.2 | 75 | 5.37% | 2% | Y |
| A12-2 | Bed | 12.6 | 27 | 1.94% | 1% | Y |
| A12-3 | Bed | 12.7 | 33 | 3.05% | 1% | Y |
| A13-1 | LKD | 25.0 | 61 | 2.98% | 2% | Y |
| A13-2 | Bed | 11.1 | 30 | 2.00% | 1% | Y |
| A14-1 | LKD | 31.3 | 78 | 2.27% | 2% | Y |
| A14-2 | Bed | 11.6 | 35 | 2.94% | 1% | Y |
| A15-1 | LKD | 25.4 | 66 | 3.13% | 2% | Y |
| A15-2 | Bed | 11.5 | 30 | 3.50% | 1% | Y |
| A16-1 | LKD | 41.5 | 115 | 3.62% | 2% | Y |
| A16-2 | Bed | 11.5 | 35 | 3.09% | 1% | Y |
| A16-3 | Bed | 12.0 | 36 | 3.13% | 1% | Y |
| A16-4 | Bed | 6.5 | 15 | 5.28% | 1% | Y |
| A17-1 | LKD | 31.3 | 85 | 2.42% | 2% | Y |
| A17-2 | Bed | 13.3 | 33 | 3.27% | 1% | Y |
| A17-3 | Bed | 11.4 | 30 | 1.34% | 1% | Y |
| A18-1 | LKD | 31.1 | 74 | 2.24% | 2% | Y |
| A18-2 | Bed | 12.0 | 35 | 1.97% | 1% | Y |
| A18-3 | Bed | 10.3 | 26 | 1.70% | 1% | Y |
| Second Floor | | | | | | |
| A19-1 | LKD | 23.8 | 62 | 5.18% | 2% | Y |
| A19-2 | Bed | 11.3 | 30 | 1.84% | 1% | Y |
| A20-1 | LKD | 23.8 | 62 | 5.72% | 2% | Y |
| A20-2 | Bed | 11.4 | 30 | 1.82% | 1% | Y |

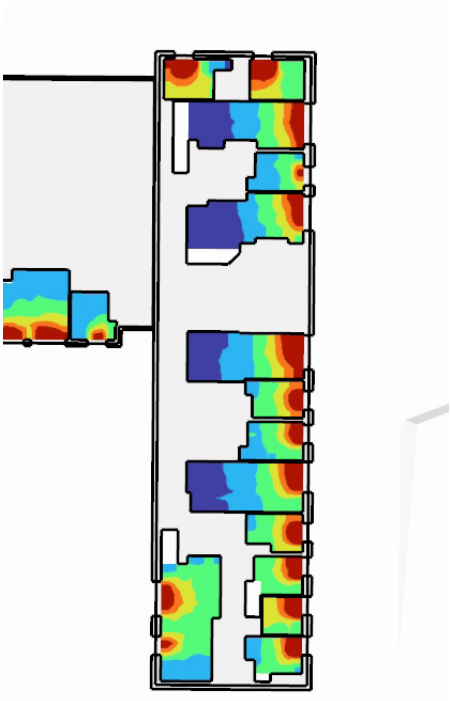
| Average Daylight Factor - Block A | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum ADF | Meets Criteria |
| A21-1 | LKD | 31.2 | 75 | 5.49% | 2% | Y |
| A21-2 | Bed | 12.6 | 27 | 1.98% | 1% | Y |
| A21-3 | Bed | 12.7 | 33 | 3.07% | 1% | Y |
| A22-1 | LKD | 25.0 | 61 | 3.28% | 2% | Y |
| A22-2 | Bed | 11.1 | 30 | 2.11% | 1% | Y |
| A23-1 | LKD | 31.3 | 78 | 2.30% | 2% | Y |
| A23-2 | Bed | 11.6 | 35 | 3.00% | 1% | Y |
| A24-1 | LKD | 25.4 | 66 | 3.20% | 2% | Y |
| A24-2 | Bed | 11.5 | 30 | 3.51% | 1% | Y |
| A25-1 | LKD | 41.5 | 115 | 3.71% | 2% | Y |
| A25-2 | Bed | 11.5 | 35 | 3.12% | 1% | Y |
| A25-2 | Bed | 6.5 | 15 | 5.40% | 1% | Y |
| A25-3 | Bed | 12.0 | 36 | 3.26% | 1% | Y |
| A26-1 | LKD | 31.3 | 85 | 2.56% | 2% | Y |
| A26-2 | Bed | 13.3 | 33 | 3.80% | 1% | Y |
| A26-3 | Bed | 11.4 | 30 | 1.94% | 1% | Y |
| A27-1 | LKD | 31.1 | 74 | 2.70% | 2% | Y |
| A27-2 | Bed | 12.0 | 35 | 2.72% | 1% | Y |
| A27-3 | Bed | 10.3 | 26 | 2.05% | 1% | Y |
| Third Floor | | | | | | |
| A28.1 | LKD | 32.0 | 88 | 4.20% | 2% | Y |
| A28.2 | Bed | 10.2 | 26 | 4.10% | 1% | Y |
| A28.3 | Bed | 10.5 | 24 | 8.07% | 1% | Y |
| A29.1 | LKD | 31.2 | 75 | 5.59% | 2% | Y |
| A29.2 | Bed | 12.6 | 27 | 2.00% | 1% | Y |
| A29.3 | Bed | 12.7 | 33 | 3.11% | 1% | Y |
| A30.1 | LKD | 28.5 | 75 | 3.50% | 2% | Y |
| A30.2 | Bed | 9.8 | 24 | 4.00% | 1% | Y |
| A30.3 | Bed | 12.1 | 32 | 2.12% | 1% | Y |
| A31.1 | LKD | 31.3 | 78 | 2.31% | 2% | Y |
| A31.2 | Bed | 11.6 | 35 | 3.07% | 1% | Y |
| A32.1 | LKD | 25.4 | 66 | 3.19% | 2% | Y |
| A32.2 | Bed | 11.5 | 30 | 3.54% | 1% | Y |
| A33.1 | LKD | 41.5 | 115 | 3.74% | 2% | Y |
| A33.2 | Bed | 11.5 | 35 | 3.18% | 1% | Y |
| A33.3 | Bed | 6.5 | 15 | 5.38% | 1% | Y |
| A33.4 | Bed | 12.0 | 36 | 3.43% | 1% | Y |
| A34.1 | LKD | 31.3 | 85 | 2.74% | 2% | Y |
| A34.2 | Bed | 13.3 | 33 | 4.36% | 1% | Y |
| A34.3 | Bed | 11.4 | 30 | 2.67% | 1% | Y |
| A35.1 | LKD | 31.1 | 74 | 3.33% | 2% | Y |
| A35.2 | Bed | 10.3 | 26 | 2.67% | 1% | Y |
| A35.3 | Bed | 12.0 | 35 | 3.62% | 1% | Y |
| Fourth Floor | | | | | | |
| A36.1 | LKD | 32.0 | 88 | 5.22% | 2% | Y |
| A36.2 | Bed | 10.2 | 26 | 4.35% | 1% | Y |
| A36.3 | Bed | 10.5 | 24 | 10.72% | 1% | Y |
| A37.1 | LKD | 31.2 | 75 | 5.76% | 2% | Y |
| A37.2 | Bed | 12.6 | 27 | 2.05% | 1% | Y |
| A37.3 | Bed | 12.7 | 33 | 3.15% | 1% | Y |
| A38.1 | LKD | 28.5 | 75 | 4.19% | 2% | Y |
| A38.2 | Bed | 9.8 | 24 | 4.42% | 1% | Y |
| A38.3 | Bed | 12.1 | 32 | 3.08% | 1% | Y |

| Average Daylight Factor - Block A | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum ADF | Meets Criteria |
| A39.1 | LKD | 31.3 | 78 | 2.35% | 2% | Y |
| A39.2 | Bed | 11.6 | 35 | 3.09% | 1% | Y |
| A40.1 | LKD | 25.4 | 66 | 3.23% | 2% | Y |
| A40.2 | Bed | 11.5 | 30 | 3.68% | 1% | Y |
| A41.1 | LKD | 41.5 | 115 | 3.75% | 2% | Y |
| A41.2 | Bed | 11.5 | 35 | 3.22% | 1% | Y |
| A41.3 | Bed | 6.5 | 15 | 5.41% | 1% | Y |
| A41.4 | Bed | 12.0 | 36 | 3.52% | 1% | Y |
| A42.1 | LKD | 31.3 | 85 | 2.91% | 2% | Y |
| A42.2 | Bed | 13.3 | 33 | 4.93% | 1% | Y |
| A42.3 | Bed | 11.4 | 30 | 3.37% | 1% | Y |
| A43.1 | LKD | 31.1 | 74 | 4.01% | 2% | Y |
| A43.2 | Bed | 10.3 | 26 | 3.52% | 1% | Y |
| A43.3 | Bed | 12.0 | 35 | 4.74% | 1% | Y |
| A44.1 | LKD | 31.2 | 75 | 7.03% | 2% | Y |
| A44.2 | Bed | 12.6 | 27 | 3.17% | 1% | Y |
| A44.3 | Bed | 12.7 | 33 | 3.58% | 1% | Y |
| A45.1 | LKD | 25.0 | 61 | 6.11% | 2% | Y |
| A45.2 | Bed | 11.1 | 30 | 3.90% | 1% | Y |
| A46.1 | LKD | 31.3 | 78 | 3.11% | 2% | Y |
| A46.2 | Bed | 11.6 | 35 | 3.47% | 1% | Y |
| A47.1 | LKD | 25.4 | 66 | 4.19% | 2% | Y |
| A47.2 | Bed | 11.5 | 30 | 3.76% | 1% | Y |
| A48.1 | LKD | 41.5 | 115 | 4.52% | 2% | Y |
| A48.2 | Bed | 11.5 | 35 | 3.30% | 1% | Y |
| A48.3 | Bed | 6.5 | 15 | 5.82% | 1% | Y |
| A48.4 | Bed | 12.0 | 36 | 3.76% | 1% | Y |
| A49.1 | LKD | 31.3 | 85 | 3.72% | 2% | Y |
| A49.2 | Bed | 13.3 | 33 | 5.54% | 1% | Y |
| A49.3 | Bed | 11.4 | 30 | 3.98% | 1% | Y |
| A50.1 | LKD | 31.1 | 74 | 5.69% | 2% | Y |
| A50.2 | Bed | 10.3 | 26 | 4.88% | 1% | Y |
| A50.3 | Bed | 12.0 | 35 | 6.24% | 1% | Y |

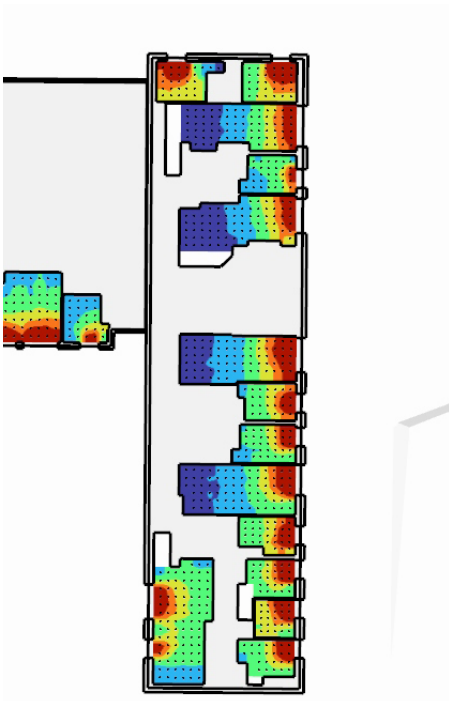
**Table 8: Block A - Average Daylight Factor of all habitable rooms.**

## Block B

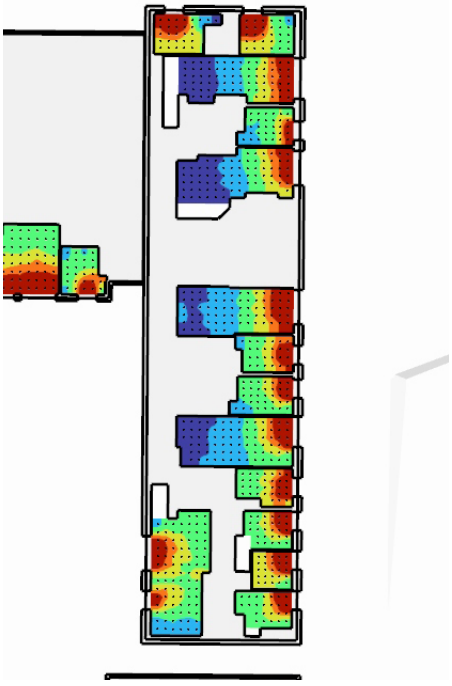
Ground Floor



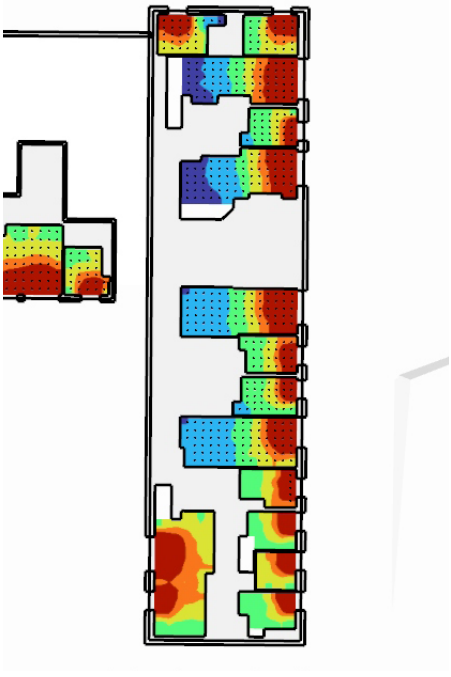
First Floor



Second Floor



Third Floor



Fourth Floor


**Figure 28: Block B False Colour Plans of all floors indicating habitable rooms assessed for ADF. Scale is 0-5%**

| Average Daylight Factor - Block B | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum Recommended ADF | Meets Criteria |
| Ground Floor | | | | | | |
| B01-1 | LKD | 26.8 | 78 | 1.78% | 2% | N |
| B01-2 | Bed | 11.6 | 30 | 3.47% | 1% | Y |
| B01-3 | Bed | 11.6 | 28 | 3.53% | 1% | Y |
| B02-1 | LKD | 28.6 | 74 | 1.63% | 2% | N |
| B02-2 | Bed | 10.4 | 31 | 1.88% | 1% | Y |
| First Floor | | | | | | |
| B03-1 | LKD | 26.8 | 78 | 1.73% | 2% | N |
| B03-2 | Bed | 11.6 | 30 | 3.53% | 1% | Y |
| B03-3 | Bed | 11.6 | 28 | 3.74% | 1% | Y |
| B04-1 | LKD | 28.6 | 74 | 1.55% | 2% | N |
| B04-2 | Bed | 10.4 | 31 | 1.89% | 1% | Y |
| B05-1 | LKD | 29.1 | 76 | 2.01% | 2% | Y |
| B05-2 | LKD | 10.6 | 25 | 3.01% | 2% | Y |
| B05-3 | Bed | 11.9 | 36 | 2.52% | 1% | Y |
| B06-1 | LKD | 30.4 | 81 | 1.75% | 2% | N |
| B06-2 | Bed | 10.4 | 31 | 3.16% | 1% | Y |
| B07-1 | LKD | 35.3 | 93 | 2.28% | 2% | Y |
| B07-2 | Bed | 10.4 | 24 | 2.91% | 1% | Y |
| B07-3 | Bed | 8.2 | 25 | 3.64% | 1% | Y |
| B07-4 | Bed | 9.4 | 28 | 3.13% | 1% | Y |
| Second Floor | | | | | | |
| B08-1 | LKD | 26.8 | 78 | 1.84% | 2% | N |
| B08-2 | Bed | 11.6 | 30 | 3.75% | 1% | Y |
| B08-3 | Bed | 11.6 | 28 | 3.79% | 1% | Y |
| B09-1 | LKD | 28.6 | 74 | 1.66% | 2% | N |
| B09-2 | Bed | 10.4 | 31 | 2.14% | 1% | Y |
| B10-1 | LKD | 29.1 | 76 | 2.11% | 2% | Y |
| B10-2 | Bed | 10.6 | 25 | 3.16% | 1% | Y |
| B11-1 | LKD | 30.4 | 81 | 1.90% | 2% | N |
| B11-2 | Bed | 10.4 | 31 | 3.36% | 1% | Y |
| B11-3 | Bed | 11.9 | 36 | 2.83% | 1% | Y |
| B12-1 | LKD | 35.3 | 93 | 2.43% | 2% | Y |
| B12-2 | Bed | 10.4 | 24 | 3.12% | 1% | Y |
| B12-3 | Bed | 8.2 | 25 | 3.89% | 1% | Y |
| B12-4 | Bed | 9.4 | 28 | 3.36% | 1% | Y |
| Third Floor | | | | | | |
| B13.1 | LKD | 26.8 | 78 | 2.02% | 2% | Y |
| B13.2 | Bed | 11.6 | 30 | 3.61% | 1% | Y |
| B13.3 | Bed | 11.6 | 28 | 3.91% | 1% | Y |
| B14.1 | LKD | 28.6 | 74 | 1.77% | 2% | N |
| B14.2 | Bed | 10.4 | 31 | 2.41% | 1% | Y |
| B15.1 | LKD | 29.1 | 76 | 2.21% | 2% | Y |
| B15.2 | Bed | 10.6 | 25 | 3.26% | 1% | Y |
| B16.1 | LKD | 30.4 | 81 | 1.92% | 2% | N |
| B16.2 | Bed | 11.9 | 36 | 2.89% | 1% | Y |
| B16.3 | Bed | 10.4 | 31 | 3.37% | 1% | Y |
| B17.1 | LKD | 35.3 | 93 | 2.57% | 2% | Y |
| B17.2 | Bed | 10.4 | 24 | 3.11% | 1% | Y |
| B17.3 | Bed | 8.2 | 25 | 3.89% | 1% | Y |
| B17.4 | Bed | 9.4 | 28 | 3.36% | 1% | Y |

| Average Daylight Factor - Block B | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum Recommended ADF | Meets Criteria |
| Fourth Floor | | | | | | |
| B18.1 | LKD | 26.8 | 78 | 3.43% | 2% | Y |
| B18.2 | Bed | 11.6 | 30 | 3.78% | 1% | Y |
| B18.3 | Bed | 11.6 | 28 | 3.97% | 1% | Y |
| B19.1 | LKD | 28.6 | 74 | 2.88% | 2% | Y |
| B19.2 | Bed | 10.4 | 31 | 3.08% | 1% | Y |
| B20.1 | LKD | 29.1 | 76 | 3.24% | 2% | Y |
| B20.2 | Bed | 10.6 | 25 | 3.50% | 1% | Y |
| B21.1 | LKD | 30.4 | 81 | 2.83% | 2% | Y |
| B21.2 | Bed | 11.9 | 36 | 3.14% | 1% | Y |
| B21.3 | Bed | 10.4 | 31 | 3.61% | 1% | Y |
| B22.1 | LKD | 35.3 | 93 | 4.08% | 2% | Y |
| B22.2 | Bed | 10.4 | 24 | 3.23% | 1% | Y |
| B22.3 | Bed | 8.2 | 25 | 4.04% | 1% | Y |
| B22.4 | Bed | 9.4 | 28 | 3.51% | 1% | Y |

**Table 9: Block B - Average Daylight Factor of all habitable rooms.**

## Block C

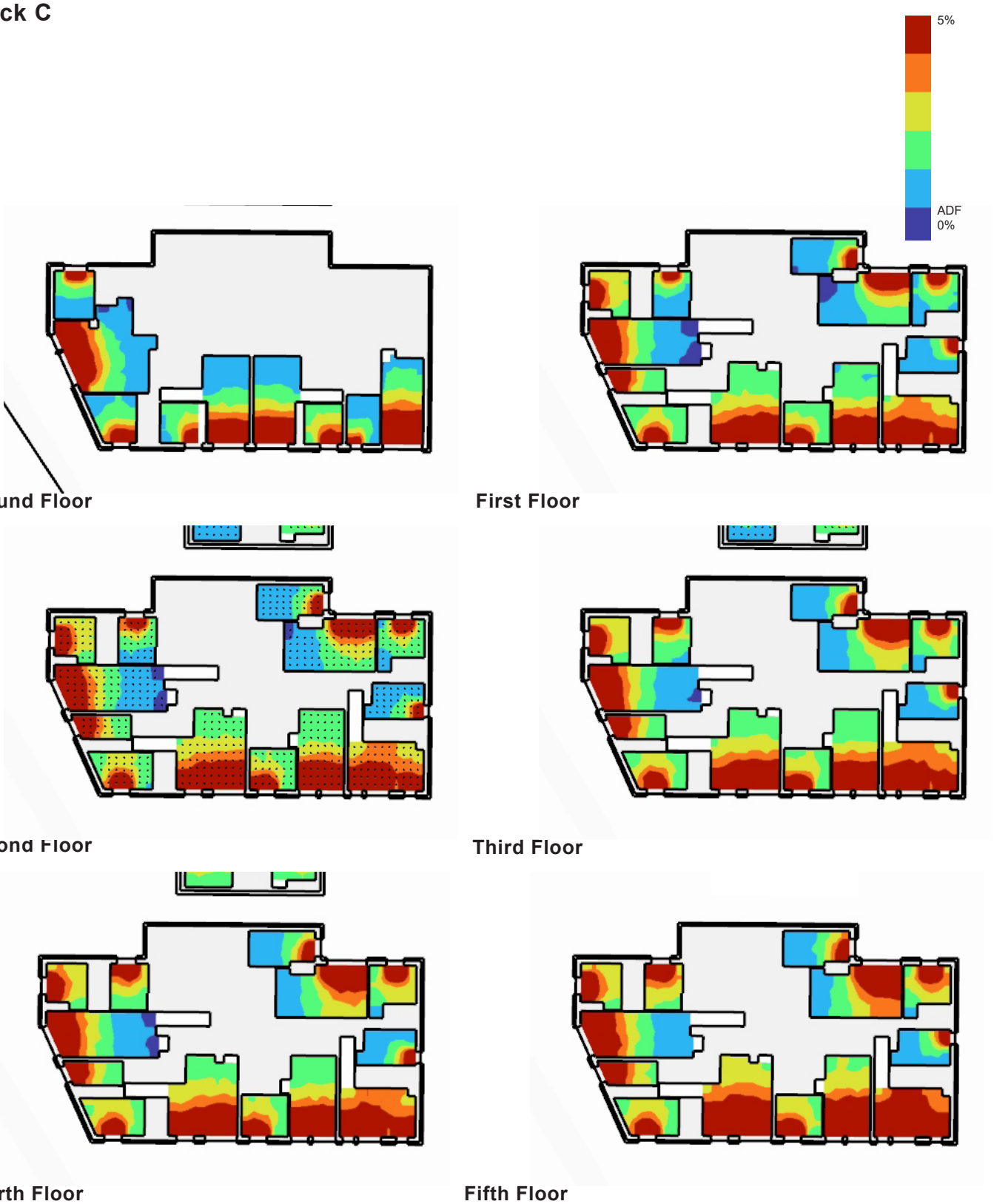


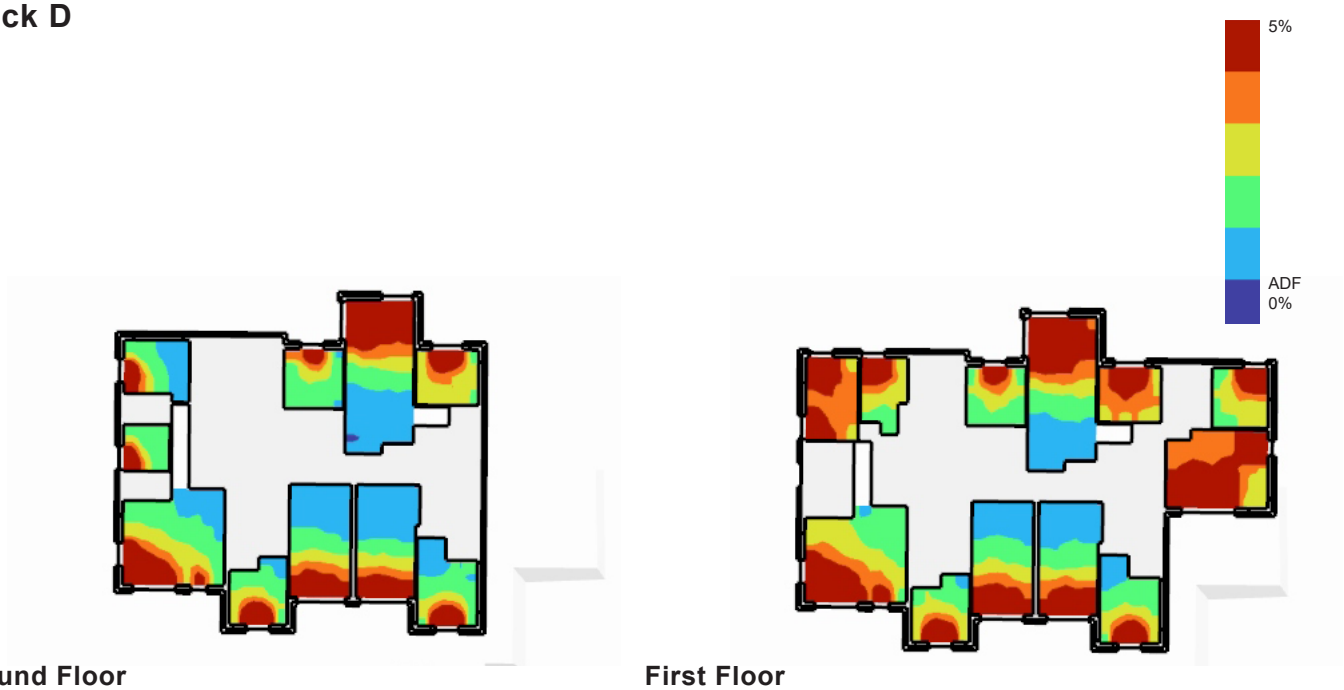

**Figure 29: Block C- False Colour Plans of all floors indicating habitable rooms assessed for ADF. Scale is 0-5%.**

| Average Daylight Factor - Block C | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum Recommended ADF | Meets Criteria |
| Ground Floor | | | | | | |
| C01-1 | LKD | 39.9 | 96 | 2.99% | 2% | Y |
| C01-2 | Bed | 12.0 | 30 | 2.22% | 1% | Y |
| C01-3 | Bed | 13.0 | 30 | 2.89% | 1% | Y |
| C02-1 | LKD | 24.1 | 60 | 2.97% | 2% | Y |
| C02-2 | Bed | 9.5 | 25 | 2.68% | 1% | Y |
| C03-1 | LKD | 24.1 | 60 | 3.53% | 2% | Y |
| C03-2 | Bed | 9.5 | 25 | 3.29% | 1% | Y |
| C04-1 | LKD | 24.3 | 63 | 4.20% | 2% | Y |
| C04-2 | Bed | 10.3 | 24 | 1.90% | 1% | Y |
| First Floor | | | | | | |
| C05-1 | LKD | 29.9 | 80 | 2.81% | 2% | Y |
| C05-2 | Bed | 10.8 | 30 | 2.09% | 1% | Y |
| C05-3 | Bed | 10.6 | 27 | 3.68% | 1% | Y |
| C06-1 | LKD | 30.4 | 75 | 3.99% | 2% | Y |
| C06-2 | Bed | 12.9 | 33 | 3.27% | 1% | Y |
| C06-3 | Bed | 8.2 | 21 | 3.77% | 1% | Y |
| C07-1 | LKD | 23.0 | 60 | 3.74% | 2% | Y |
| C07-2 | Bed | 11.9 | 30 | 3.30% | 1% | Y |
| C08-1 | LKD | 22.4 | 59 | 4.49% | 2% | Y |
| C08-2 | Bed | 12.1 | 36 | 1.89% | 1% | Y |
| C09-1 | LKD | 27.9 | 74 | 2.62% | 2% | Y |
| C09-2 | Bed | 12.3 | 32 | 2.47% | 1% | Y |
| C09-3 | Bed | 13.7 | 41 | 1.85% | 1% | Y |
| Second Floor | | | | | | |
| C10-1 | LKD | 29.9 | 80 | 2.87% | 2% | Y |
| C10-2 | Bed | 10.8 | 30 | 2.58% | 1% | Y |
| C10-3 | Bed | 10.6 | 27 | 3.81% | 1% | Y |
| C11-1 | LKD | 30.4 | 75 | 4.08% | 2% | Y |
| C11-2 | Bed | 13.0 | 33 | 3.33% | 1% | Y |
| C11-3 | Bed | 8.2 | 21 | 3.90% | 1% | Y |
| C12-1 | LKD | 23.0 | 60 | 3.90% | 2% | Y |
| C12-2 | Bed | 11.9 | 30 | 3.35% | 1% | Y |
| C13-1 | LKD | 22.4 | 59 | 4.63% | 2% | Y |
| C13-2 | Bed | 12.1 | 36 | 1.93% | 1% | Y |
| C14-1 | LKD | 27.9 | 74 | 2.89% | 2% | Y |
| C14-2 | Bed | 12.3 | 32 | 2.79% | 1% | Y |
| C14-3 | Bed | 13.7 | 41 | 1.92% | 1% | Y |
| Third Floor | | | | | | |
| C15.1 | LKD | 29.9 | 80 | 2.94% | 2% | Y |
| C15.2 | Bed | 10.6 | 27 | 3.88% | 1% | Y |
| C15.3 | Bed | 10.8 | 30 | 2.96% | 1% | Y |
| C16.1 | LKD | 30.4 | 75 | 4.18% | 2% | Y |
| C16.2 | Bed | 12.9 | 33 | 3.39% | 1% | Y |
| C16.3 | Bed | 8.2 | 21 | 3.91% | 1% | Y |
| C17.1 | LKD | 23.0 | 60 | 3.96% | 2% | Y |
| C17.2 | Bed | 11.9 | 30 | 3.42% | 1% | Y |
| C18.1 | LKD | 22.4 | 59 | 4.72% | 2% | Y |
| C18.2 | Bed | 12.1 | 36 | 2.06% | 1% | Y |
| C19.1 | LKD | 27.9 | 74 | 3.26% | 2% | Y |

| Average Daylight Factor - Block C | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum Recommended ADF | Meets Criteria |
| C19.2 | Bed | 12.3 | 32 | 3.16% | 1% | Y |
| C19.3 | Bed | 13.7 | 41 | 2.00% | 1% | Y |
| Fourth Floor | | | | | | |
| C20.1 | LKD | 29.9 | 80 | 2.97% | 2% | Y |
| C20.2 | Bed | 10.6 | 27 | 4.00% | 1% | Y |
| C20.3 | Bed | 10.8 | 30 | 3.47% | 1% | Y |
| C21.1 | LKD | 30.4 | 75 | 4.29% | 2% | Y |
| C21.2 | Bed | 12.9 | 33 | 3.50% | 1% | Y |
| C21.3 | Bed | 8.2 | 21 | 3.93% | 1% | Y |
| C22.1 | LKD | 23.0 | 60 | 4.07% | 2% | Y |
| C22.2 | Bed | 11.9 | 30 | 3.55% | 1% | Y |
| C23.1 | LKD | 22.4 | 59 | 4.83% | 2% | Y |
| C23.2 | Bed | 12.1 | 36 | 2.08% | 1% | Y |
| Fifth Floor | | | | | | |
| C24.1 | LKD | 27.9 | 74 | 3.69% | 2% | Y |
| C24.2 | Bed | 12.3 | 32 | 3.44% | 1% | Y |
| C24.3 | Bed | 13.7 | 41 | 2.10% | 1% | Y |
| C25.1 | LKD | 29.9 | 80 | 3.46% | 2% | Y |
| C25.2 | Bed | 10.6 | 27 | 4.06% | 1% | Y |
| C25.3 | Bed | 10.8 | 30 | 3.85% | 1% | Y |
| C26.1 | LKD | 30.4 | 75 | 5.49% | 2% | Y |
| C26.2 | Bed | 12.9 | 33 | 3.51% | 1% | Y |
| C26.3 | Bed | 8.2 | 21 | 4.74% | 1% | Y |
| C27.1 | LKD | 23.0 | 60 | 5.27% | 2% | Y |
| C27.2 | Bed | 11.9 | 30 | 3.74% | 1% | Y |
| C28.1 | LKD | 22.4 | 59 | 5.93% | 2% | Y |
| C28.2 | Bed | 12.1 | 36 | 2.09% | 1% | Y |
| C29.1 | LKD | 27.9 | 74 | 4.04% | 2% | Y |
| C29.2 | Bed | 12.3 | 32 | 3.68% | 1% | Y |
| C29.3 | Bed | 13.7 | 41 | 2.27% | 1% | Y |

**Table 10: Block C - Average Daylight Factor of all habitable rooms.**

## Block D




Ground Floor

First Floor

Second Floor

Third Floor

Fourth Floor

Fifth Floor

**Figure 30: Block D- False Colour Plans of all floors indicating habitable rooms assessed for ADF. Scale is 0-5%.**

| Average Daylight Factor - Block D | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum Recommended ADF | Meets Criteria |
| Ground Floor | | | | | | |
| D01-1 | LKD | 31.2 | 85 | 2.99% | 2% | Y |
| D01-2 | Bed | 12.4 | 31 | 2.45% | 1% | Y |
| D01-3 | Bed | 7.3 | 16 | 2.84% | 1% | Y |
| D02-1 | LKD | 23.5 | 66 | 2.65% | 2% | Y |
| D02-2 | Bed | 11.9 | 29 | 3.43% | 1% | Y |
| D03-1 | LKD | 23.2 | 58 | 2.43% | 2% | Y |
| D03-2 | Bed | 15.5 | 40 | 2.78% | 1% | Y |
| D04-1 | LKD | 34.4 | 101 | 3.36% | 2% | Y |
| D04-2 | Bed | 12.0 | 35 | 2.52% | 1% | Y |
| D04-3 | Bed | 11.7 | 30 | 3.59% | 1% | Y |
| First Floor | | | | | | |
| D05-1 | LKD | 31.2 | 85 | 3.73% | 2% | Y |
| D05-2 | Bed | 14.8 | 40 | 4.99% | 1% | Y |
| D05-3 | Bed | 10.4 | 29 | 4.00% | 1% | Y |
| D06-1 | LKD | 23.5 | 66 | 2.97% | 2% | Y |
| D06-2 | Bed | 11.9 | 29 | 3.60% | 1% | Y |
| D07-1 | LKD | 23.2 | 58 | 2.82% | 2% | Y |
| D07-2 | Bed | 15.5 | 40 | 3.05% | 1% | Y |
| D08-1 | LKD | 26.0 | 67 | 5.21% | 2% | Y |
| D08-2 | Bed | 11.4 | 30 | 3.81% | 1% | Y |
| D09-1 | LKD | 34.4 | 101 | 4.10% | 2% | Y |
| D09-2 | Bed | 12.0 | 36 | 3.02% | 1% | Y |
| D09-3 | Bed | 11.7 | 30 | 4.26% | 1% | Y |
| Second Floor | | | | | | |
| D10-1 | LKD | 31.2 | 85 | 4.17% | 2% | Y |
| D10-2 | Bed | 14.8 | 40 | 5.29% | 1% | Y |
| D10-3 | Bed | 10.4 | 29 | 4.04% | 1% | Y |
| D11-1 | LKD | 23.5 | 66 | 3.07% | 2% | Y |
| D11-2 | Bed | 11.9 | 29 | 3.84% | 1% | Y |
| D12-1 | LKD | 23.2 | 58 | 2.97% | 2% | Y |
| D12-2 | Bed | 15.5 | 40 | 3.17% | 1% | Y |
| D13-1 | LKD | 26.0 | 67 | 5.37% | 2% | Y |
| D13-2 | Bed | 11.4 | 30 | 3.85% | 1% | Y |
| D14-1 | LKD | 34.4 | 101 | 3.75% | 2% | Y |
| D14-2 | Bed | 12.0 | 36 | 2.97% | 1% | Y |
| D14-3 | Bed | 11.7 | 30 | 4.26% | 1% | Y |
| Third Floor | | | | | | |
| D15.1 | LKD | 31.2 | 85 | 4.69% | 2% | Y |
| D15.2 | Bed | 14.8 | 40 | 5.69% | 1% | Y |
| D15.3 | Bed | 10.4 | 29 | 4.07% | 1% | Y |
| D16.1 | LKD | 23.5 | 66 | 3.15% | 2% | Y |
| D16.2 | Bed | 11.9 | 29 | 4.02% | 1% | Y |
| D17.1 | LKD | 23.2 | 58 | 3.08% | 2% | Y |
| D17.2 | Bed | 15.5 | 40 | 3.22% | 1% | Y |
| D18.1 | LKD | 26.0 | 67 | 5.41% | 2% | Y |
| D18.2 | Bed | 11.4 | 30 | 3.87% | 1% | Y |
| D19.1 | LKD | 34.4 | 101 | 4.19% | 2% | Y |
| D19.2 | Bed | 11.7 | 30 | 4.25% | 1% | Y |
| D19.3 | Bed | 12.0 | 36 | 3.09% | 1% | Y |

| Average Daylight Factor - Block D | | | | | | |
|---|---|---|---|---|---|---|
| Space ID | Description | Area m2 | Sensor Count | ADF | Minimum Recommended ADF | Meets Criteria |
| Fourth Floor | | | | | | |
| D20.1 | LKD | 31.2 | 85 | 5.10% | 2% | Y |
| D20.2 | Bed | 14.8 | 40 | 5.93% | 1% | Y |
| D20.3 | Bed | 10.4 | 29 | 4.13% | 1% | Y |
| D21.1 | LKD | 23.5 | 66 | 3.20% | 2% | Y |
| D21.2 | Bed | 11.9 | 29 | 4.07% | 1% | Y |
| D22.1 | LKD | 23.2 | 58 | 3.12% | 2% | Y |
| D22.2 | Bed | 15.5 | 40 | 3.29% | 1% | Y |
| D23.1 | LKD | 26.0 | 67 | 5.58% | 2% | Y |
| D23.2 | Bed | 11.4 | 30 | 3.93% | 1% | Y |
| D24.1 | LKD | 34.4 | 101 | 3.78% | 2% | Y |
| D24.2 | Bed | 11.7 | 30 | 4.29% | 1% | Y |
| D24.3 | Bed | 12.0 | 36 | 2.99% | 1% | Y |
| Fifth Floor | | | | | | |
| D25.1 | LKD | 31.2 | 85 | 5.35% | 2% | Y |
| D25.2 | Bed | 14.8 | 40 | 6.14% | 1% | Y |
| D25.3 | Bed | 10.4 | 29 | 4.15% | 1% | Y |
| D26.1 | LKD | 23.5 | 66 | 3.26% | 2% | Y |
| D26.2 | Bed | 11.9 | 29 | 4.16% | 1% | Y |
| D27.1 | LKD | 23.2 | 58 | 3.14% | 2% | Y |
| D27.2 | Bed | 15.5 | 40 | 3.30% | 1% | Y |
| D28.1 | LKD | 26.0 | 67 | 5.89% | 2% | Y |
| D28.2 | Bed | 11.4 | 30 | 3.88% | 1% | Y |
| D29.1 | LKD | 34.4 | 101 | 4.26% | 2% | Y |
| D29.2 | Bed | 11.7 | 30 | 4.32% | 1% | Y |
| D29.3 | Bed | 12.0 | 36 | 3.07% | 1% | Y |

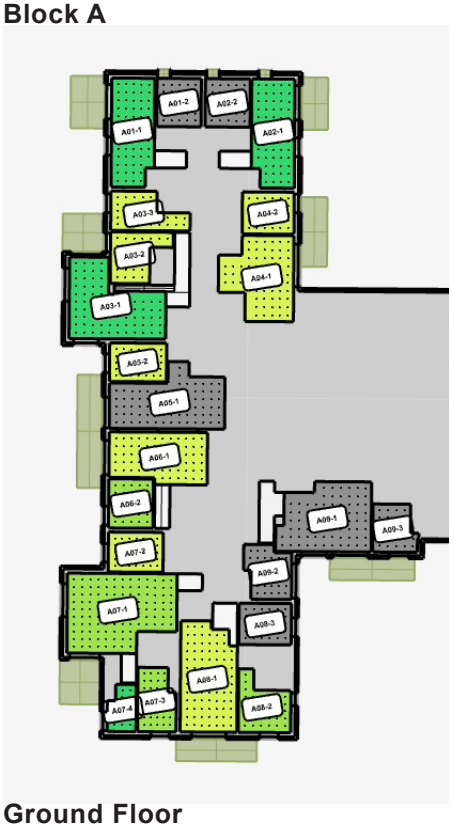
**Table 11: Block D - Average Daylight Factor of all habitable rooms.**

## Appendix B - EN17037:2018 Daylight Provision Room Compliance Complete Results

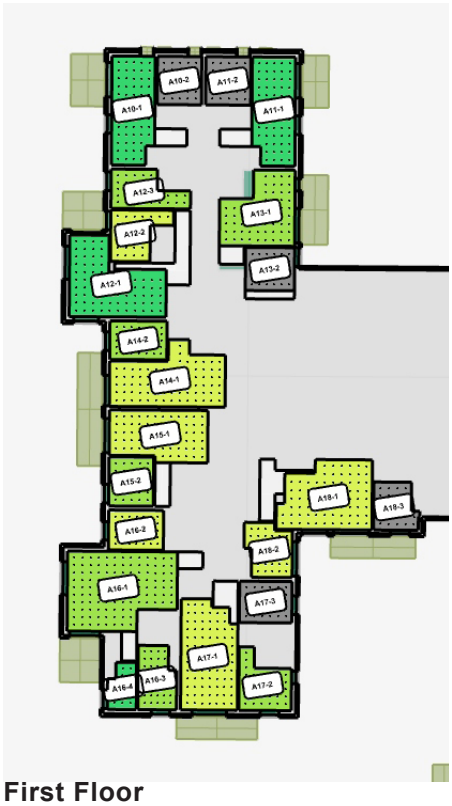
| Minimum Illuminance | | | Target Illuminance | | |
|---|---|---|---|---|---|
| High | 500 lux | 95% | High | 750 lux | 50% |
| Medium | 300 lux | 95% | Medium | 500l ux | 50% |
| Minimum | 100 lux | 95% | Minimum | 300 lux | 50% |

**EN 17037:2018 Compliance threshold levels.**

**Block A**



**Ground Floor**



**First Floor**

**Second Floor**

**Third Floor**

**Fourth Floor**

**Fifth Floor**

**Figure 31: Block A - Daylight provision per floor.**

| Block A - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| A01-1 | LKD | 23.83 | 62 | High | 82.6% | 74.8% | 64.0% | Medium | 84.4% | 61.2% | 39.0% |
| A01-2 | Bed | 11.25 | 30 | Fail | 38.3% | 4.2% | 0.0% | Minimum | 69.8% | 7.8% | 0.0% |
| A02-1 | LKD | 23.82 | 62 | High | 81.2% | 71.2% | 57.6% | Medium | 84.1% | 59.4% | 35.4% |
| A02-2 | Bed | 11.43 | 30 | Fail | 41.4% | 4.7% | 0.0% | Minimum | 68.8% | 7.3% | 0.0% |
| A03-1 | LKD | 31.22 | 75 | High | 80.7% | 71.7% | 59.0% | Minimum | 77.2% | 39.9% | 18.2% |
| A03-2 | Bed | 12.55 | 27 | Minimum | 56.8% | 30.6% | 12.0% | Minimum | 76.3% | 32.6% | 7.2% |
| A03-3 | Bed | 12.73 | 33 | Minimum | 68.0% | 48.3% | 27.5% | Minimum | 66.2% | 16.0% | 3.8% |
| A04-1 | LKD | 27.50 | 65 | Minimum | 58.9% | 34.1% | 13.2% | Minimum | 76.7% | 34.2% | 7.6% |
| A04-2 | Bed | 11.44 | 30 | Minimum | 60.8% | 36.6% | 17.1% | Minimum | 80.8% | 47.9% | 19.3% |
| A05-1 | LKD | 31.30 | 78 | Fail | 48.2% | 24.2% | 11.2% | Minimum | 62.5% | 13.3% | 4.1% |
| A05-2 | Bed | 11.59 | 35 | Minimum | 67.8% | 49.7% | 31.6% | Medium | 80.2% | 50.3% | 25.8% |
| A06-1 | LKD | 25.41 | 66 | Minimum | 65.8% | 45.9% | 26.5% | Minimum | 77.6% | 40.0% | 15.5% |
| A06-2 | Bed | 11.55 | 30 | Medium | 69.6% | 50.3% | 31.6% | Medium | 80.8% | 50.3% | 25.4% |
| A07-1 | LKD | 41.48 | 115 | Medium | 73.6% | 59.1% | 43.2% | Minimum | 77.7% | 45.6% | 22.4% |
| A07-2 | Bed | 11.52 | 35 | Minimum | 65.5% | 43.3% | 22.5% | Medium | 80.7% | 50.2% | 21.6% |
| A07-3 | Bed | 11.97 | 36 | Medium | 67.0% | 52.0% | 40.1% | Medium | 79.6% | 51.2% | 34.0% |
| A07-4 | Bed | 6.47 | 15 | High | 80.2% | 69.8% | 57.7% | Medium | 85.3% | 64.7% | 46.3% |
| A08-1 | LKD | 31.26 | 85 | Minimum | 60.2% | 43.9% | 31.2% | Minimum | 67.3% | 31.5% | 10.3% |
| A08-2 | Bed | 13.33 | 33 | Medium | 65.6% | 51.4% | 38.6% | Minimum | 65.2% | 31.1% | 13.8% |
| A08-3 | Bed | 11.40 | 30 | Fail | 28.9% | 10.9% | 6.4% | Fail | 48.3% | 5.4% | 0.4% |
| A09-1 | LKD | 31.57 | 74 | Fail | 49.7% | 32.9% | 18.8% | Minimum | 64.2% | 25.7% | 7.6% |
| A09-2 | Bed | 11.99 | 35 | Fail | 41.5% | 25.1% | 12.1% | Minimum | 61.3% | 24.7% | 6.7% |
| A09-3 | Bed | 10.28 | 26 | Fail | 42.9% | 25.5% | 13.0% | Minimum | 63.5% | 25.3% | 9.0% |
| A10-1 | LKD | 23.83 | 62 | High | 84.5% | 77.6% | 67.8% | Medium | 86.2% | 67.0% | 48.4% |
| A10-2 | Bed | 11.25 | 30 | Fail | 44.5% | 5.9% | 0.0% | Minimum | 71.5% | 16.8% | 0.0% |
| A11-1 | LKD | 23.82 | 62 | High | 79.3% | 67.2% | 53.8% | Medium | 83.7% | 58.3% | 36.0% |
| A11-2 | Bed | 11.43 | 30 | Fail | 44.0% | 8.3% | 0.0% | Minimum | 70.4% | 11.9% | 0.0% |
| A12-1 | LKD | 31.22 | 75 | High | 81.6% | 73.3% | 61.8% | Minimum | 78.2% | 46.2% | 21.8% |
| A12-2 | Bed | 12.55 | 27 | Minimum | 54.7% | 28.2% | 7.7% | Minimum | 71.6% | 22.8% | 3.1% |
| A12-3 | Bed | 12.73 | 33 | Medium | 69.7% | 52.0% | 33.0% | Minimum | 69.2% | 23.1% | 5.4% |
| A13-1 | LKD | 24.97 | 61 | Medium | 69.9% | 51.6% | 29.3% | Minimum | 79.4% | 45.6% | 17.0% |
| A13-2 | Bed | 11.12 | 30 | Fail | 49.1% | 20.5% | 4.3% | Minimum | 74.0% | 26.3% | 3.7% |
| A14-1 | LKD | 31.30 | 78 | Minimum | 50.2% | 25.4% | 10.4% | Minimum | 63.8% | 14.3% | 3.7% |
| A14-2 | Bed | 11.59 | 35 | Medium | 69.6% | 52.6% | 34.7% | Medium | 81.9% | 55.9% | 33.4% |
| A15-1 | LKD | 25.41 | 66 | Minimum | 66.0% | 47.0% | 26.3% | Minimum | 78.0% | 43.7% | 16.8% |
| A15-2 | Bed | 11.55 | 30 | Medium | 71.3% | 54.4% | 36.3% | Medium | 80.9% | 50.9% | 27.0% |
| A16-1 | LKD | 41.48 | 115 | Medium | 74.5% | 60.8% | 47.4% | Medium | 80.0% | 52.9% | 30.4% |
| A16-2 | Bed | 11.52 | 35 | Minimum | 65.8% | 46.4% | 26.5% | Medium | 82.4% | 55.6% | 29.8% |
| A16-3 | Bed | 11.97 | 36 | Medium | 71.1% | 57.8% | 45.0% | Medium | 81.3% | 57.1% | 40.9% |
| A16-4 | Bed | 6.47 | 15 | High | 81.2% | 72.3% | 60.9% | Medium | 86.1% | 67.3% | 49.7% |
| A17-1 | LKD | 31.26 | 85 | Minimum | 62.8% | 46.5% | 34.7% | Minimum | 70.3% | 36.0% | 14.2% |
| A17-2 | Bed | 13.33 | 33 | Medium | 74.0% | 60.5% | 47.5% | Minimum | 75.3% | 43.5% | 26.1% |
| A17-3 | Bed | 11.40 | 30 | Fail | 40.3% | 21.4% | 8.9% | Minimum | 60.0% | 23.2% | 2.5% |
| A18-1 | LKD | 31.14 | 74 | Minimum | 58.7% | 43.4% | 28.7% | Minimum | 73.8% | 41.2% | 21.9% |
| A18-2 | Bed | 11.99 | 35 | Minimum | 53.6% | 37.6% | 24.7% | Minimum | 71.9% | 37.8% | 20.3% |
| A18-3 | Bed | 10.28 | 26 | Fail | 48.3% | 31.4% | 17.0% | Minimum | 70.6% | 33.1% | 15.7% |
| A19-1 | LKD | 23.83 | 62 | High | 82.7% | 75.3% | 64.7% | Medium | 86.4% | 67.3% | 48.7% |
| A19-2 | Bed | 11.25 | 30 | Fail | 44.4% | 9.1% | 0.0% | Minimum | 69.8% | 11.6% | 0.0% |
| A20-1 | LKD | 23.82 | 62 | High | 83.3% | 75.6% | 64.4% | Medium | 85.5% | 64.8% | 46.6% |
| A20-2 | Bed | 11.43 | 30 | Fail | 41.6% | 6.8% | 0.0% | Minimum | 69.8% | 13.3% | 0.0% |

| Block A - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| A21-1 | LKD | 31.22 | 75 | High | 81.8% | 73.5% | 62.4% | Minimum | 77.9% | 45.4% | 20.5% |
| A21-2 | Bed | 12.55 | 27 | Minimum | 59.6% | 36.1% | 12.9% | Minimum | 73.5% | 27.6% | 3.3% |
| A21-3 | Bed | 12.73 | 33 | Medium | 69.7% | 52.4% | 32.5% | Minimum | 70.5% | 24.5% | 5.0% |
| A22-1 | LKD | 24.97 | 61 | Medium | 71.0% | 54.3% | 36.0% | Medium | 81.8% | 53.6% | 26.1% |
| A22-2 | Bed | 11.12 | 30 | Minimum | 53.7% | 27.6% | 7.8% | Minimum | 73.4% | 27.6% | 4.5% |
| A23-1 | LKD | 31.30 | 78 | Minimum | 52.1% | 26.5% | 11.2% | Minimum | 63.4% | 13.9% | 4.4% |
| A23-2 | Bed | 11.59 | 35 | Medium | 69.0% | 52.9% | 35.2% | Medium | 82.9% | 59.4% | 37.0% |
| A24-1 | LKD | 25.41 | 66 | Minimum | 65.9% | 49.1% | 29.0% | Minimum | 78.4% | 46.5% | 20.2% |
| A24-2 | Bed | 11.55 | 30 | Medium | 72.5% | 56.8% | 40.2% | Medium | 82.1% | 54.3% | 30.9% |
| A25-1 | LKD | 41.48 | 115 | Medium | 75.0% | 61.6% | 48.5% | Medium | 79.3% | 51.6% | 29.2% |
| A25-2 | Bed | 11.52 | 35 | Minimum | 68.1% | 49.7% | 29.7% | Medium | 81.7% | 53.9% | 30.2% |
| A25-2 | Bed | 6.47 | 15 | High | 82.4% | 74.3% | 63.8% | High | 86.1% | 67.0% | 50.8% |
| A25-3 | Bed | 11.97 | 36 | Medium | 72.3% | 58.8% | 46.5% | Medium | 81.8% | 58.0% | 40.3% |
| A26-1 | LKD | 31.26 | 85 | Medium | 66.5% | 51.9% | 38.9% | Minimum | 74.4% | 43.0% | 22.1% |
| A26-2 | Bed | 13.33 | 33 | High | 74.7% | 62.2% | 50.2% | Minimum | 75.4% | 45.6% | 28.0% |
| A26-3 | Bed | 11.40 | 30 | Fail | 48.5% | 33.0% | 14.6% | Minimum | 70.0% | 33.1% | 10.2% |
| A27-1 | LKD | 31.14 | 74 | Medium | 63.7% | 50.2% | 38.2% | Minimum | 76.5% | 47.4% | 30.0% |
| A27-2 | Bed | 11.99 | 35 | Minimum | 62.3% | 47.2% | 34.8% | Minimum | 75.4% | 45.6% | 26.6% |
| A27-3 | Bed | 10.28 | 26 | Minimum | 59.1% | 43.2% | 29.3% | Minimum | 73.4% | 40.3% | 22.4% |
| A28.1 | LKD | 32.01 | 88 | High | 77.6% | 65.0% | 51.0% | Medium | 82.1% | 56.3% | 32.4% |
| A28.2 | Bed | 10.15 | 26 | Medium | 77.4% | 64.8% | 49.3% | Medium | 85.7% | 65.1% | 46.8% |
| A28.3 | Bed | 10.52 | 24 | High | 86.6% | 81.3% | 74.9% | High | 92.2% | 83.2% | 75.6% |
| A29.1 | LKD | 31.22 | 75 | High | 81.3% | 72.9% | 61.4% | Minimum | 79.2% | 49.3% | 24.3% |
| A29.2 | Bed | 12.55 | 27 | Minimum | 58.6% | 35.8% | 13.0% | Minimum | 77.2% | 39.2% | 8.3% |
| A29.3 | Bed | 12.73 | 33 | Medium | 71.8% | 55.4% | 37.8% | Minimum | 70.0% | 25.0% | 5.0% |
| A30.1 | LKD | 28.47 | 75 | Medium | 71.6% | 55.4% | 36.9% | Medium | 83.9% | 59.0% | 36.7% |
| A30.2 | Bed | 9.80 | 24 | Medium | 75.9% | 62.4% | 47.9% | Medium | 84.5% | 62.5% | 42.7% |
| A30.3 | Bed | 12.06 | 32 | Minimum | 54.3% | 29.2% | 10.6% | Minimum | 70.7% | 24.5% | 4.9% |
| A31.1 | LKD | 31.30 | 78 | Minimum | 52.6% | 28.2% | 11.7% | Minimum | 64.6% | 16.0% | 4.0% |
| A31.2 | Bed | 11.59 | 35 | Medium | 69.7% | 54.0% | 37.2% | Medium | 83.5% | 61.4% | 40.6% |
| A32.1 | LKD | 25.41 | 66 | Minimum | 65.4% | 47.8% | 28.1% | Minimum | 79.1% | 48.0% | 21.8% |
| A32.2 | Bed | 11.55 | 30 | Medium | 73.5% | 57.6% | 42.4% | Medium | 83.5% | 59.2% | 37.3% |
| A33.1 | LKD | 41.48 | 115 | High | 75.7% | 62.9% | 50.6% | Medium | 79.8% | 52.8% | 30.0% |
| A33.2 | Bed | 11.52 | 35 | Medium | 69.1% | 51.2% | 31.3% | Medium | 80.5% | 52.0% | 27.0% |
| A33.3 | Bed | 6.47 | 15 | High | 82.6% | 75.1% | 64.2% | High | 86.8% | 69.2% | 52.4% |
| A33.4 | Bed | 11.97 | 36 | High | 74.2% | 61.9% | 50.1% | Medium | 82.8% | 61.3% | 43.8% |
| A34.1 | LKD | 31.26 | 85 | Medium | 66.8% | 52.5% | 41.7% | Minimum | 73.5% | 41.5% | 20.6% |
| A34.2 | Bed | 13.33 | 33 | High | 78.4% | 67.5% | 58.6% | Medium | 80.3% | 56.1% | 40.1% |
| A34.3 | Bed | 11.40 | 30 | Minimum | 63.7% | 49.3% | 33.8% | Minimum | 77.8% | 48.6% | 27.8% |
| A35.1 | LKD | 31.14 | 74 | Medium | 71.3% | 59.1% | 47.7% | Medium | 80.9% | 57.1% | 40.9% |
| A35.2 | Bed | 10.28 | 26 | Medium | 66.4% | 53.2% | 40.7% | Medium | 80.1% | 54.4% | 37.8% |
| A35.3 | Bed | 11.99 | 35 | High | 73.7% | 61.2% | 50.5% | Medium | 83.1% | 61.5% | 46.0% |
| A36.1 | LKD | 32.01 | 88 | High | 79.8% | 69.8% | 56.3% | Medium | 86.4% | 67.3% | 49.4% |
| A36.2 | Bed | 10.15 | 26 | Medium | 76.6% | 63.3% | 48.4% | Medium | 85.7% | 65.6% | 47.2% |
| A36.3 | Bed | 10.52 | 24 | High | 88.7% | 84.3% | 79.3% | High | 89.2% | 77.9% | 65.4% |
| A37.1 | LKD | 31.22 | 75 | High | 83.2% | 76.1% | 66.1% | Medium | 79.3% | 50.4% | 26.1% |
| A37.2 | Bed | 12.55 | 27 | Minimum | 61.1% | 38.9% | 14.4% | Minimum | 72.1% | 26.9% | 3.0% |
| A37.3 | Bed | 12.73 | 33 | Medium | 71.8% | 55.4% | 38.4% | Minimum | 67.6% | 21.8% | 4.0% |
| A38.1 | LKD | 28.47 | 75 | High | 78.6% | 66.8% | 53.8% | High | 86.3% | 68.8% | 52.3% |
| A38.2 | Bed | 9.80 | 24 | High | 79.3% | 67.8% | 55.3% | Medium | 85.4% | 66.1% | 48.8% |

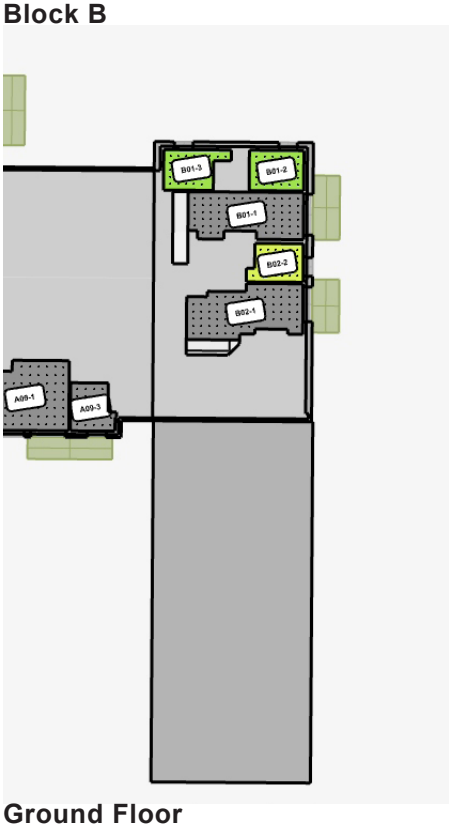
| Block A - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| A38.3 | Bed | 12.06 | 32 | Medium | 66.7% | 50.4% | 31.7% | Minimum | 79.3% | 47.5% | 24.8% |
| A39.1 | LKD | 31.30 | 78 | Minimum | 53.8% | 30.3% | 12.8% | Minimum | 66.7% | 19.1% | 5.5% |
| A39.2 | Bed | 11.59 | 35 | Medium | 71.8% | 57.0% | 40.0% | Medium | 82.8% | 59.5% | 38.4% |
| A40.1 | LKD | 25.41 | 66 | Medium | 68.0% | 51.1% | 32.3% | Minimum | 78.4% | 45.8% | 18.7% |
| A40.2 | Bed | 11.55 | 30 | Medium | 73.5% | 57.4% | 42.0% | Medium | 84.6% | 60.9% | 39.5% |
| A41.1 | LKD | 41.48 | 115 | Medium | 75.1% | 62.1% | 49.0% | Medium | 80.3% | 54.4% | 31.3% |
| A41.2 | Bed | 11.52 | 35 | Medium | 70.3% | 53.0% | 34.3% | Medium | 84.3% | 60.1% | 37.7% |
| A41.3 | Bed | 6.47 | 15 | High | 82.1% | 73.9% | 63.0% | High | 86.5% | 68.1% | 52.6% |
| A41.4 | Bed | 11.97 | 36 | High | 74.2% | 62.3% | 50.8% | Medium | 82.9% | 61.5% | 45.5% |
| A42.1 | LKD | 31.26 | 85 | Medium | 68.6% | 55.7% | 44.6% | Minimum | 75.4% | 44.5% | 25.6% |
| A42.2 | Bed | 13.33 | 33 | High | 80.8% | 71.6% | 62.5% | Medium | 81.8% | 60.3% | 46.2% |
| A42.3 | Bed | 11.40 | 30 | Medium | 74.8% | 61.3% | 48.1% | Medium | 83.7% | 61.9% | 45.6% |
| A43.1 | LKD | 31.14 | 74 | High | 77.1% | 66.7% | 56.3% | High | 84.8% | 66.3% | 52.1% |
| A43.2 | Bed | 10.28 | 26 | High | 75.3% | 64.1% | 53.1% | High | 84.3% | 64.7% | 50.5% |
| A43.3 | Bed | 11.99 | 35 | High | 79.7% | 70.1% | 60.0% | High | 87.4% | 74.6% | 61.0% |
| A44.1 | LKD | 31.22 | 75 | High | 85.5% | 78.7% | 71.3% | Medium | 81.0% | 54.6% | 33.1% |
| A44.2 | Bed | 12.55 | 27 | Minimum | 65.3% | 45.9% | 22.7% | Minimum | 80.2% | 48.8% | 19.4% |
| A44.3 | Bed | 12.73 | 33 | Medium | 72.6% | 56.6% | 40.8% | Minimum | 68.9% | 23.9% | 7.0% |
| A45.1 | LKD | 24.97 | 61 | High | 82.9% | 75.4% | 65.1% | High | 87.6% | 73.6% | 59.0% |
| A45.2 | Bed | 11.12 | 30 | Medium | 73.9% | 59.9% | 45.9% | Medium | 85.8% | 67.1% | 49.3% |
| A46.1 | LKD | 31.30 | 78 | Minimum | 57.7% | 37.3% | 20.3% | Minimum | 70.3% | 25.5% | 6.8% |
| A46.2 | Bed | 11.59 | 35 | Medium | 72.5% | 58.2% | 42.4% | Medium | 84.6% | 63.8% | 45.1% |
| A47.1 | LKD | 25.41 | 66 | Medium | 71.7% | 55.8% | 39.3% | Medium | 80.0% | 51.0% | 27.4% |
| A47.2 | Bed | 11.55 | 30 | Medium | 74.0% | 59.8% | 44.4% | Medium | 83.9% | 59.8% | 39.6% |
| A48.1 | LKD | 41.48 | 115 | High | 78.2% | 67.2% | 55.3% | Medium | 81.9% | 58.0% | 38.1% |
| A48.2 | Bed | 11.52 | 35 | Medium | 69.8% | 53.1% | 35.0% | Medium | 83.8% | 58.6% | 37.0% |
| A48.3 | Bed | 6.47 | 15 | High | 83.6% | 76.4% | 66.5% | High | 87.0% | 69.8% | 54.1% |
| A48.4 | Bed | 11.97 | 36 | High | 76.1% | 65.1% | 54.1% | Medium | 83.0% | 62.1% | 47.6% |
| A49.1 | LKD | 31.26 | 85 | Medium | 73.2% | 61.0% | 49.0% | Medium | 77.8% | 50.7% | 36.1% |
| A49.2 | Bed | 13.33 | 33 | High | 83.2% | 77.1% | 68.0% | Medium | 82.0% | 61.8% | 48.4% |
| A49.3 | Bed | 11.40 | 30 | High | 76.9% | 65.5% | 54.1% | High | 86.4% | 70.2% | 54.8% |
| A50.1 | LKD | 31.14 | 74 | High | 81.5% | 73.5% | 63.7% | High | 87.8% | 74.8% | 62.1% |
| A50.2 | Bed | 10.28 | 26 | High | 80.9% | 72.4% | 62.7% | High | 87.8% | 75.3% | 63.2% |
| A50.3 | Bed | 11.99 | 35 | High | 83.6% | 77.2% | 67.8% | High | 89.6% | 78.8% | 68.0% |

**Table 12: EN17037:2018 Daylight Provision individual room compliance values.**

| Minimum Illuminance | | | Target Illuminance | | |
|---|---|---|---|---|---|
| High | 500 lux | 95% | High | 750 lux | 50% |
| Medium | 300 lux | 95% | Medium | 500l ux | 50% |
| Minimum | 100 lux | 95% | Minimum | 300 lux | 50% |

**EN 17037:2018 Compliance threshold levels.**

**Block B**



**Ground Floor**

**First Floor**

**Second Floor**

**Third Floor**

**Fourth Floor**

**Figure 32: Block B - Daylight provision per floor.**

| Block B - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| B01-1 | LKD | 26.79 | 78 | Fail | 44.2% | 24.0% | 7.3% | Fail | 24.8% | 0.0% | 0.0% |
| B01-2 | Bed | 11.59 | 30 | Medium | 72.0% | 54.3% | 31.1% | Minimum | 80.9% | 48.8% | 12.6% |
| B01-3 | Bed | 11.62 | 28 | Medium | 73.1% | 55.7% | 33.2% | Minimum | 66.3% | 6.8% | 0.0% |
| B02-1 | LKD | 28.56 | 74 | Fail | 37.7% | 17.3% | 8.0% | Fail | 34.1% | 1.4% | 0.0% |
| B02-2 | Bed | 10.45 | 31 | Minimum | 58.6% | 41.1% | 22.7% | Minimum | 76.2% | 39.0% | 16.5% |
| B03-1 | LKD | 26.79 | 78 | Minimum | 50.8% | 30.7% | 7.9% | Fail | 35.8% | 0.0% | 0.0% |
| B03-2 | Bed | 11.59 | 30 | Medium | 71.6% | 53.4% | 31.4% | Medium | 81.9% | 52.8% | 20.9% |
| B03-3 | Bed | 11.62 | 28 | Medium | 73.6% | 56.4% | 35.9% | Minimum | 73.4% | 23.7% | 0.4% |
| B04-1 | LKD | 28.56 | 74 | Fail | 44.1% | 23.2% | 8.5% | Fail | 37.7% | 0.7% | 0.0% |
| B04-2 | Bed | 10.45 | 31 | Minimum | 60.0% | 42.9% | 23.9% | Minimum | 75.9% | 42.3% | 18.5% |
| B05-1 | LKD | 29.11 | 76 | Minimum | 52.3% | 32.3% | 13.7% | Minimum | 65.4% | 18.8% | 4.5% |
| B05-2 | BED | 10.64 | 25 | Medium | 71.6% | 55.9% | 40.7% | Medium | 81.6% | 55.0% | 33.9% |
| B06-1 | LKD | 30.36 | 81 | Minimum | 50.9% | 28.7% | 14.1% | Minimum | 62.3% | 14.1% | 4.8% |
| B06-2 | Bed | 10.40 | 31 | Medium | 73.4% | 58.0% | 41.1% | Medium | 81.5% | 54.5% | 31.7% |
| B06-3 | Bed | 11.89 | 36 | Minimum | 66.6% | 49.3% | 31.1% | Medium | 80.4% | 50.7% | 26.8% |
| B07-1 | LKD | 35.25 | 93 | Minimum | 66.0% | 47.2% | 28.3% | Minimum | 75.2% | 38.1% | 14.5% |
| B07-2 | Bed | 10.43 | 24 | Medium | 67.8% | 50.6% | 31.1% | Medium | 80.7% | 53.0% | 29.7% |
| B07-3 | Bed | 8.18 | 25 | Medium | 73.1% | 58.4% | 40.5% | Medium | 85.5% | 66.4% | 46.7% |
| B07-4 | Bed | 9.36 | 28 | Medium | 69.9% | 53.6% | 36.0% | Medium | 83.4% | 59.9% | 38.2% |
| B08-1 | LKD | 26.79 | 78 | Minimum | 53.3% | 34.7% | 10.1% | Fail | 40.0% | 0.0% | 0.0% |
| B08-2 | Bed | 11.59 | 30 | Medium | 72.4% | 55.3% | 36.2% | Medium | 81.2% | 51.3% | 19.7% |
| B08-3 | Bed | 11.62 | 28 | Medium | 74.3% | 57.9% | 40.2% | Minimum | 66.1% | 10.7% | 0.6% |
| B09-1 | LKD | 28.56 | 74 | Fail | 45.7% | 24.3% | 8.4% | Fail | 45.0% | 1.0% | 0.0% |
| B09-2 | Bed | 10.45 | 31 | Minimum | 61.6% | 45.4% | 27.3% | Minimum | 77.3% | 44.5% | 19.0% |
| B10-1 | LKD | 29.11 | 76 | Minimum | 55.5% | 36.7% | 17.9% | Minimum | 67.2% | 20.0% | 4.6% |
| B10-2 | Bed | 10.64 | 25 | Medium | 71.6% | 56.4% | 42.6% | Medium | 82.9% | 60.3% | 41.3% |
| B11-1 | LKD | 30.36 | 81 | Minimum | 55.0% | 33.2% | 16.3% | Minimum | 66.2% | 20.8% | 5.5% |
| B11-2 | Bed | 10.40 | 31 | Medium | 73.6% | 59.1% | 41.9% | Medium | 84.1% | 63.2% | 42.3% |
| B11-3 | Bed | 11.89 | 36 | Medium | 68.7% | 52.7% | 36.4% | Medium | 79.2% | 50.0% | 25.4% |
| B12-1 | LKD | 35.25 | 93 | Medium | 67.5% | 51.2% | 33.5% | Minimum | 78.4% | 47.2% | 23.1% |
| B12-2 | Bed | 10.43 | 24 | Medium | 69.1% | 53.6% | 35.0% | Medium | 81.9% | 54.6% | 31.5% |
| B12-3 | Bed | 8.18 | 25 | Medium | 75.7% | 62.2% | 47.2% | High | 86.3% | 68.3% | 51.0% |
| B12-4 | Bed | 9.36 | 28 | Medium | 71.0% | 55.8% | 39.8% | Medium | 84.2% | 62.7% | 42.5% |
| B13.1 | LKD | 26.79 | 78 | Minimum | 55.9% | 36.8% | 13.5% | Fail | 43.9% | 0.1% | 0.0% |
| B13.2 | Bed | 11.59 | 30 | Medium | 73.3% | 56.1% | 37.1% | Medium | 81.6% | 51.1% | 20.7% |
| B13.3 | Bed | 11.62 | 28 | Medium | 73.4% | 56.9% | 39.0% | Minimum | 74.1% | 27.8% | 1.3% |
| B14.1 | LKD | 28.56 | 74 | Minimum | 51.7% | 29.2% | 9.7% | Fail | 49.4% | 1.8% | 0.0% |
| B14.2 | Bed | 10.45 | 31 | Minimum | 62.6% | 47.2% | 28.7% | Medium | 79.6% | 51.2% | 26.8% |
| B15.1 | LKD | 29.11 | 76 | Minimum | 56.2% | 37.9% | 17.8% | Minimum | 66.5% | 21.3% | 4.6% |
| B15.2 | Bed | 10.64 | 25 | Medium | 73.9% | 59.6% | 45.5% | Medium | 83.9% | 62.7% | 45.5% |
| B16.1 | LKD | 30.36 | 81 | Minimum | 57.2% | 37.5% | 20.3% | Minimum | 66.1% | 21.6% | 5.5% |
| B16.2 | Bed | 11.89 | 36 | Medium | 68.7% | 53.8% | 36.8% | Medium | 79.9% | 52.4% | 28.2% |
| B16.3 | Bed | 10.40 | 31 | Medium | 75.1% | 61.5% | 47.1% | Medium | 84.2% | 63.4% | 43.6% |
| B17.1 | LKD | 35.25 | 93 | Medium | 68.7% | 52.6% | 35.8% | Medium | 79.8% | 50.9% | 26.3% |
| B17.2 | Bed | 10.43 | 24 | Medium | 69.6% | 53.3% | 37.2% | Medium | 83.1% | 59.6% | 36.5% |
| B17.3 | Bed | 8.18 | 25 | Medium | 75.7% | 62.4% | 47.6% | High | 86.1% | 68.4% | 51.3% |
| B17.4 | Bed | 9.36 | 28 | Medium | 71.5% | 57.0% | 41.6% | Medium | 84.2% | 63.1% | 44.5% |
| B18.1 | LKD | 26.79 | 78 | Medium | 66.6% | 52.4% | 36.7% | Minimum | 58.4% | 9.3% | 0.4% |
| B18.2 | Bed | 11.59 | 30 | Medium | 73.4% | 56.2% | 38.0% | Medium | 82.1% | 54.4% | 26.3% |
| B18.3 | Bed | 11.62 | 28 | Medium | 75.9% | 59.7% | 42.4% | Minimum | 76.1% | 33.3% | 4.4% |

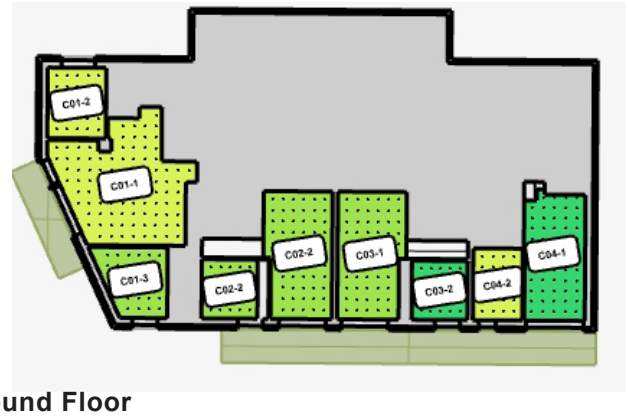
| Block B - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| B19.1 | LKD | 28.56 | 74 | Minimum | 58.3% | 40.8% | 22.2% | Minimum | 57.3% | 10.0% | 0.7% |
| B19.2 | Bed | 10.45 | 31 | Medium | 69.6% | 56.3% | 42.4% | Medium | 81.8% | 57.4% | 37.0% |
| B20.1 | LKD | 29.11 | 76 | Minimum | 62.2% | 45.8% | 28.2% | Minimum | 72.7% | 32.4% | 12.0% |
| B20.2 | Bed | 10.64 | 25 | Medium | 74.1% | 60.3% | 46.7% | Medium | 84.4% | 64.8% | 47.2% |
| B21.1 | LKD | 30.36 | 81 | Minimum | 63.0% | 46.0% | 28.7% | Minimum | 70.4% | 27.7% | 9.3% |
| B21.2 | Bed | 11.89 | 36 | Medium | 70.3% | 55.6% | 40.0% | Medium | 82.6% | 58.1% | 38.2% |
| B21.3 | Bed | 10.40 | 31 | Medium | 74.6% | 61.1% | 46.6% | Medium | 84.7% | 65.0% | 47.0% |
| B22.1 | LKD | 35.25 | 93 | Medium | 76.6% | 63.6% | 49.0% | Medium | 84.7% | 61.6% | 42.7% |
| B22.2 | Bed | 10.43 | 24 | Medium | 71.9% | 56.2% | 40.0% | Medium | 83.1% | 59.2% | 37.8% |
| B22.3 | Bed | 8.18 | 25 | Medium | 75.7% | 62.9% | 49.2% | High | 85.6% | 67.5% | 50.3% |
| B22.4 | Bed | 9.36 | 28 | Medium | 73.2% | 58.7% | 42.9% | Medium | 84.7% | 64.6% | 46.5% |

**Table 13: EN17037:2018 Daylight Provision individual room compliance values.**

| Minimum Illuminance | | | Target Illuminance | | |
|---|---|---|---|---|---|
| High | 500 lux | 95% | High | 750 lux | 50% |
| Medium | 300 lux | 95% | Medium | 500l ux | 50% |
| Minimum | 100 lux | 95% | Minimum | 300 lux | 50% |

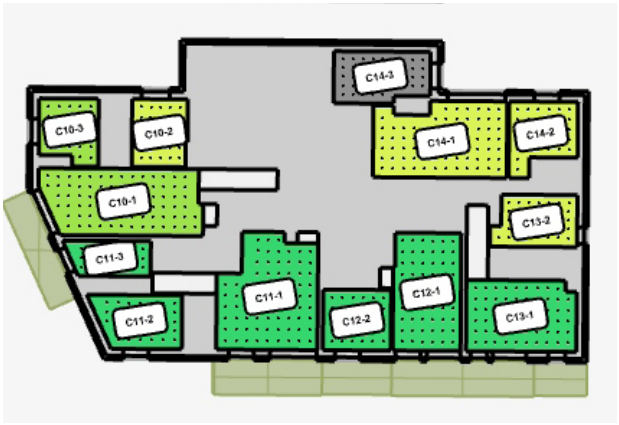
**EN 17037:2018 Compliance threshold levels.**

**Block B**

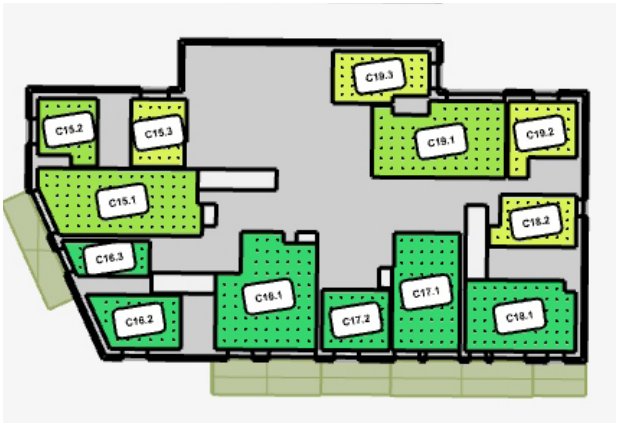



**Ground Floor**

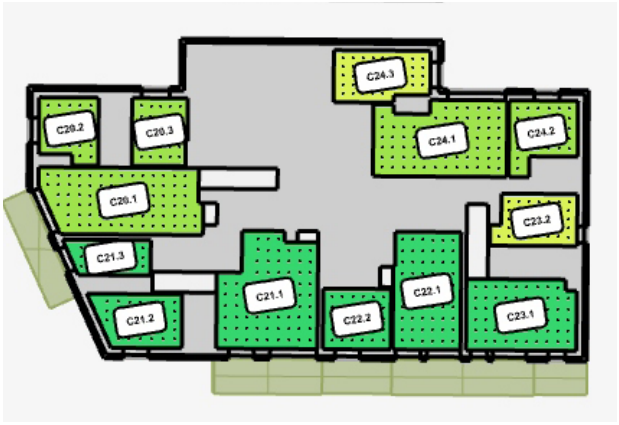

**First Floor**



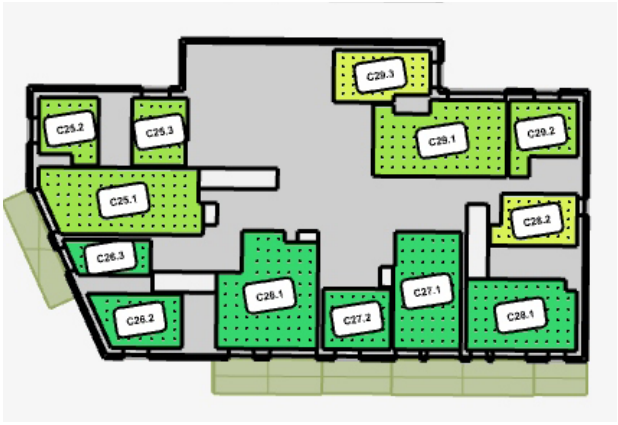

**Second Floor**




**Third Floor**




**Fourth Floor**




**Fifth Floor**

**Figure 33: Block B - Daylight provision per floor.**

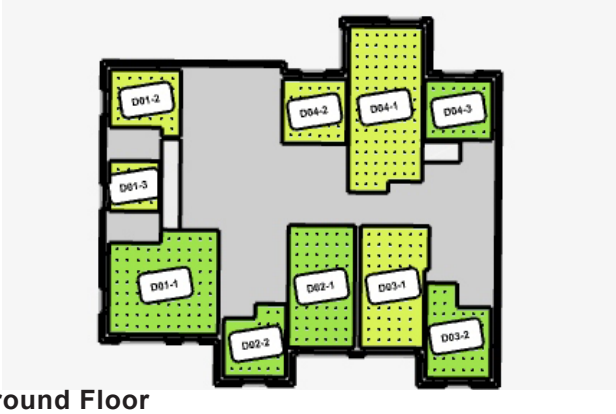
| Block C - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| C01-1 | LKD | 39.85 | 96 | Minimum | 65.5% | 48.6% | 32.3% | Minimum | 73.3% | 35.6% | 16.7% |
| C01-2 | Bed | 11.98 | 30 | Minimum | 53.1% | 30.4% | 9.2% | Minimum | 73.6% | 32.0% | 6.1% |
| C01-3 | Bed | 13.00 | 30 | Medium | 68.4% | 54.9% | 43.5% | Medium | 80.8% | 56.3% | 41.1% |
| C02-2 | LKD | 24.10 | 60 | Medium | 68.5% | 55.3% | 43.8% | Minimum | 76.6% | 49.3% | 33.4% |
| C02-2 | Bed | 9.54 | 25 | Medium | 69.0% | 55.7% | 45.5% | Medium | 82.3% | 60.0% | 45.5% |
| C03-1 | LKD | 24.10 | 60 | Medium | 69.6% | 57.0% | 46.0% | Medium | 77.7% | 50.4% | 34.7% |
| C03-2 | Bed | 9.54 | 25 | High | 75.8% | 64.8% | 53.8% | High | 85.8% | 69.3% | 55.6% |
| C04-1 | LKD | 24.26 | 63 | High | 76.2% | 65.4% | 54.3% | Fail | 0.0% | 0.0% | 0.0% |
| C04-2 | Bed | 10.29 | 24 | Minimum | 61.6% | 47.8% | 36.9% | Medium | 77.5% | 50.5% | 34.2% |
| C05-1 | LKD | 29.89 | 80 | Minimum | 64.9% | 47.4% | 28.8% | Minimum | 67.0% | 22.3% | 6.8% |
| C05-2 | Bed | 10.78 | 30 | Minimum | 51.2% | 26.9% | 6.2% | Minimum | 69.5% | 26.8% | 1.6% |
| C05-3 | Bed | 10.59 | 27 | Medium | 74.0% | 59.9% | 43.9% | Medium | 85.0% | 63.6% | 43.7% |
| C06.-2 | Bed | 12.95 | 33 | High | 74.5% | 61.8% | 50.6% | Medium | 83.2% | 63.7% | 49.0% |
| C06-1 | LKD | 30.38 | 75 | High | 80.2% | 70.4% | 60.8% | High | 84.2% | 66.6% | 51.5% |
| C06-3 | Bed | 8.22 | 21 | Medium | 75.0% | 61.3% | 47.5% | Medium | 84.8% | 64.7% | 46.8% |
| C07-1 | LKD | 22.95 | 60 | High | 77.7% | 67.4% | 56.3% | High | 83.5% | 64.7% | 50.0% |
| C07-2 | Bed | 11.90 | 30 | High | 75.8% | 64.5% | 53.2% | Medium | 84.0% | 65.0% | 49.6% |
| C08-1 | LKD | 22.37 | 59 | High | 81.6% | 73.7% | 64.1% | High | 88.2% | 77.1% | 66.2% |
| C08-2 | Bed | 12.10 | 36 | Minimum | 54.5% | 32.9% | 16.1% | Minimum | 74.2% | 33.9% | 12.3% |
| C09-1 | LKD | 27.90 | 74 | Minimum | 60.3% | 38.1% | 15.0% | Minimum | 61.3% | 9.1% | 0.8% |
| C09-2 | Bed | 12.33 | 32 | Minimum | 59.2% | 35.8% | 13.8% | Minimum | 71.8% | 27.8% | 2.0% |
| C09-3 | Bed | 13.74 | 41 | Fail | 43.0% | 16.9% | 5.0% | Minimum | 66.3% | 17.3% | 3.7% |
| C10-1 | LKD | 29.89 | 80 | Medium | 67.8% | 52.5% | 35.5% | Minimum | 70.8% | 30.4% | 10.8% |
| C10-2 | Bed | 10.78 | 30 | Minimum | 59.1% | 39.4% | 16.5% | Minimum | 75.8% | 35.9% | 7.2% |
| C10-3 | Bed | 10.59 | 27 | Medium | 76.3% | 63.4% | 48.2% | Medium | 86.3% | 67.0% | 49.3% |
| C11-1 | LKD | 30.38 | 75 | High | 80.2% | 70.4% | 60.9% | High | 86.0% | 69.9% | 56.5% |
| C11-2 | Bed | 12.96 | 33 | High | 75.0% | 63.5% | 52.2% | Medium | 83.7% | 63.7% | 49.6% |
| C11-3 | Bed | 8.22 | 21 | High | 76.7% | 64.4% | 51.5% | Medium | 85.1% | 65.3% | 48.7% |
| C12-1 | LKD | 22.95 | 60 | High | 78.0% | 67.8% | 57.2% | High | 84.4% | 66.5% | 51.8% |
| C12-2 | Bed | 11.90 | 30 | High | 75.5% | 63.9% | 52.7% | High | 83.7% | 65.0% | 50.3% |
| C13-1 | LKD | 22.37 | 59 | High | 81.8% | 74.1% | 65.0% | High | 87.8% | 76.1% | 64.8% |
| C13-2 | Bed | 12.10 | 36 | Minimum | 56.0% | 34.8% | 18.0% | Minimum | 75.0% | 35.4% | 14.5% |
| C14-1 | LKD | 27.90 | 74 | Minimum | 65.8% | 48.0% | 24.6% | Minimum | 68.9% | 19.9% | 1.2% |
| C14-2 | Bed | 12.33 | 32 | Minimum | 63.3% | 42.3% | 20.3% | Minimum | 73.7% | 30.8% | 1.5% |
| C14-3 | Bed | 13.74 | 41 | Fail | 49.7% | 23.7% | 6.1% | Minimum | 67.4% | 19.4% | 4.3% |
| C15.1 | LKD | 29.89 | 80 | Medium | 66.5% | 51.2% | 33.7% | Minimum | 72.7% | 32.6% | 10.8% |
| C15.2 | Bed | 10.59 | 27 | Medium | 75.3% | 61.8% | 47.3% | High | 86.4% | 67.3% | 50.0% |
| C15.3 | Bed | 10.78 | 30 | Minimum | 66.1% | 49.1% | 27.0% | Minimum | 78.1% | 44.7% | 15.7% |
| C16.1 | LKD | 30.38 | 75 | High | 80.2% | 70.0% | 60.7% | High | 86.2% | 70.7% | 57.2% |
| C16.2 | Bed | 12.95 | 33 | High | 75.5% | 63.8% | 52.7% | High | 84.5% | 66.1% | 52.0% |
| C16.3 | Bed | 8.22 | 21 | High | 77.7% | 66.1% | 53.7% | Medium | 85.5% | 65.9% | 48.9% |
| C17.1 | LKD | 22.95 | 60 | High | 78.2% | 68.0% | 57.4% | High | 84.3% | 66.4% | 51.7% |
| C17.2 | Bed | 11.90 | 30 | High | 75.9% | 64.6% | 53.5% | High | 84.3% | 66.3% | 52.6% |
| C18.1 | LKD | 22.37 | 59 | High | 82.1% | 74.7% | 65.5% | High | 88.2% | 77.0% | 66.1% |
| C18.2 | Bed | 12.10 | 36 | Minimum | 57.8% | 38.1% | 19.3% | Minimum | 75.6% | 37.6% | 15.7% |
| C19.1 | LKD | 27.90 | 74 | Medium | 67.9% | 50.3% | 28.7% | Minimum | 73.3% | 27.9% | 1.6% |
| C19.2 | Bed | 12.33 | 32 | Minimum | 65.6% | 47.1% | 23.7% | Minimum | 76.8% | 39.5% | 6.8% |
| C19.3 | Bed | 13.74 | 41 | Minimum | 52.4% | 25.8% | 8.3% | Minimum | 74.1% | 29.8% | 6.8% |
| C20.1 | LKD | 29.89 | 80 | Medium | 68.3% | 53.4% | 35.4% | Minimum | 70.1% | 28.7% | 9.9% |
| C20.2 | Bed | 10.59 | 27 | Medium | 76.4% | 63.2% | 48.9% | Medium | 84.4% | 63.1% | 44.4% |

| Block C - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| C20.3 | Bed | 10.78 | 30 | Medium | 71.6% | 55.9% | 36.9% | Medium | 83.7% | 58.2% | 34.8% |
| C21.1 | LKD | 30.38 | 75 | High | 81.0% | 72.4% | 63.0% | High | 85.8% | 69.3% | 55.5% |
| C21.2 | Bed | 12.95 | 33 | High | 75.8% | 64.7% | 53.5% | High | 84.4% | 65.9% | 51.9% |
| C21.3 | Bed | 8.22 | 21 | High | 77.0% | 64.7% | 52.0% | Medium | 85.0% | 65.8% | 49.5% |
| C22.1 | LKD | 22.95 | 60 | High | 78.1% | 67.8% | 57.1% | High | 84.7% | 67.7% | 53.5% |
| C22.2 | Bed | 11.90 | 30 | High | 75.5% | 64.3% | 53.3% | High | 83.9% | 65.2% | 51.0% |
| C23.1 | LKD | 22.37 | 59 | High | 82.1% | 74.6% | 65.4% | High | 88.7% | 78.1% | 67.2% |
| C23.2 | Bed | 12.10 | 36 | Minimum | 55.5% | 34.4% | 15.2% | Minimum | 76.8% | 40.5% | 14.9% |
| C24.1 | LKD | 27.90 | 74 | Medium | 72.8% | 57.2% | 39.9% | Minimum | 76.9% | 36.4% | 4.2% |
| C24.2 | Bed | 12.33 | 32 | Medium | 71.5% | 55.0% | 34.9% | Minimum | 79.5% | 48.8% | 19.1% |
| C24.3 | Bed | 13.74 | 41 | Minimum | 51.8% | 26.2% | 7.6% | Minimum | 72.4% | 26.8% | 5.5% |
| C25.1 | LKD | 29.89 | 80 | Medium | 69.2% | 54.7% | 38.5% | Minimum | 73.3% | 33.4% | 12.8% |
| C25.2 | Bed | 10.59 | 27 | Medium | 75.7% | 62.9% | 48.9% | High | 87.1% | 69.5% | 52.4% |
| C25.3 | Bed | 10.78 | 30 | Medium | 73.8% | 58.3% | 41.7% | Medium | 85.9% | 64.8% | 44.2% |
| C26.1 | LKD | 30.38 | 75 | High | 81.9% | 74.4% | 64.8% | High | 87.3% | 74.0% | 61.1% |
| C26.2 | Bed | 12.95 | 33 | High | 75.8% | 64.7% | 53.8% | High | 84.2% | 65.7% | 52.1% |
| C26.3 | Bed | 8.22 | 21 | High | 78.9% | 68.0% | 56.0% | High | 86.7% | 68.6% | 53.1% |
| C27.1 | LKD | 22.95 | 60 | High | 80.7% | 71.4% | 61.6% | High | 85.9% | 69.3% | 55.7% |
| C27.2 | Bed | 11.90 | 30 | High | 76.9% | 66.2% | 55.6% | High | 85.8% | 68.9% | 55.1% |
| C28.1 | LKD | 22.37 | 59 | High | 83.2% | 76.3% | 67.8% | High | 89.6% | 79.5% | 69.5% |
| C28.2 | Bed | 12.10 | 36 | Minimum | 57.0% | 37.1% | 19.2% | Minimum | 76.0% | 38.4% | 15.0% |
| C29.1 | LKD | 27.90 | 74 | Medium | 75.5% | 61.3% | 45.8% | Minimum | 78.1% | 42.2% | 9.2% |
| C29.2 | Bed | 12.33 | 32 | Medium | 74.8% | 58.7% | 41.2% | Medium | 82.2% | 55.4% | 30.0% |
| C29.3 | Bed | 13.74 | 41 | Minimum | 55.3% | 32.4% | 11.9% | Minimum | 72.6% | 30.5% | 7.0% |

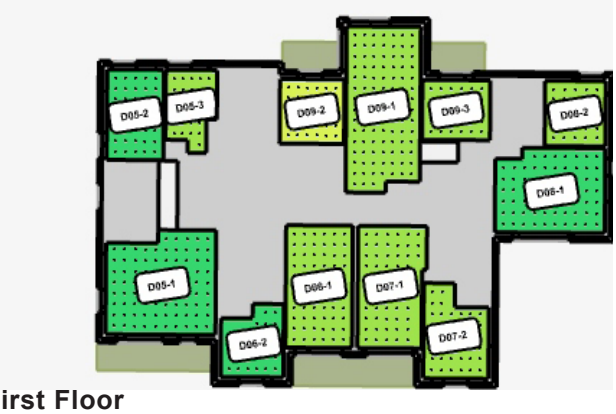
**Table 14: EN17037:2018 Daylight Provision individual room compliance values.**

| Minimum Illuminance | | | Target Illuminance | | |
|---|---|---|---|---|---|
| High | 500 lux | 95% | High | 750 lux | 50% |
| Medium | 300 lux | 95% | Medium | 500l ux | 50% |
| Minimum | 100 lux | 95% | Minimum | 300 lux | 50% |

**EN 17037:2018 Compliance threshold levels.**



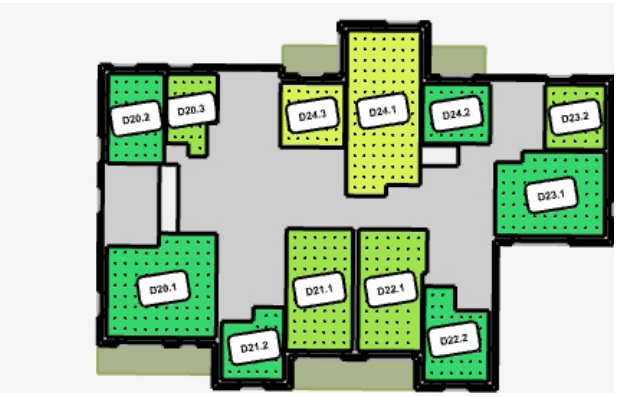

**Ground Floor**



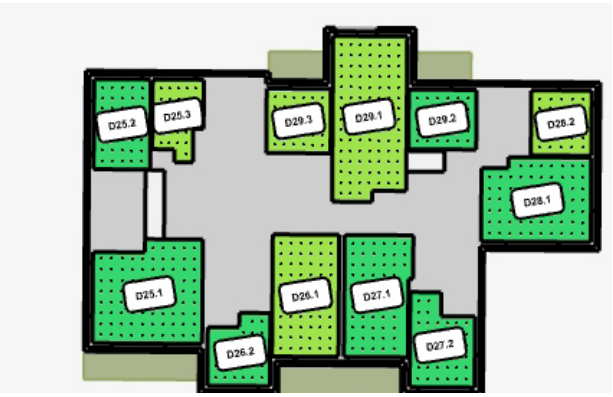

**First Floor**


**Second Floor**


**Third Floor**




**Fourth Floor**




**Fifth Floor**

**Figure 34: Block D - Daylight provision per floor.**

| Block D - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| D01-1 | LKD | 31.17 | 85 | Medium | 70.3% | 56.3% | 42.6% | Medium | 79.1% | 51.4% | 36.7% |
| D01-2 | Bed | 12.35 | 31 | Minimum | 55.3% | 33.7% | 10.0% | Minimum | 75.1% | 31.5% | 5.3% |
| D01-3 | Bed | 7.29 | 16 | Minimum | 63.4% | 46.5% | 26.9% | Medium | 80.7% | 51.6% | 24.6% |
| D02-1 | LKD | 23.48 | 66 | Medium | 66.8% | 52.7% | 41.3% | Medium | 78.2% | 50.4% | 34.6% |
| D02-2 | Bed | 11.92 | 29 | Medium | 71.9% | 58.6% | 46.6% | Medium | 81.1% | 56.9% | 40.9% |
| D03-1 | LKD | 23.22 | 58 | Minimum | 63.7% | 49.6% | 37.0% | Minimum | 75.0% | 45.5% | 28.3% |
| D03-2 | Bed | 15.52 | 40 | Medium | 68.9% | 55.6% | 44.6% | Minimum | 77.2% | 49.3% | 35.8% |
| D04-1 | LKD | 34.43 | 101 | Minimum | 62.7% | 39.7% | 7.3% | Minimum | 71.5% | 12.6% | 0.0% |
| D04-2 | Bed | 11.97 | 35 | Minimum | 61.9% | 36.7% | 4.2% | Medium | 81.7% | 51.4% | 14.0% |
| D04-3 | Bed | 11.72 | 30 | Medium | 75.0% | 58.7% | 38.9% | Medium | 85.7% | 63.7% | 42.4% |
| D05-1 | LKD | 31.17 | 85 | High | 75.2% | 63.1% | 51.0% | Medium | 82.2% | 60.5% | 44.5% |
| D05-2 | Bed | 14.79 | 40 | High | 77.8% | 66.0% | 51.8% | High | 87.4% | 71.0% | 53.0% |
| D05-3 | Bed | 10.43 | 29 | Medium | 70.8% | 52.6% | 30.6% | Medium | 84.7% | 59.5% | 35.5% |
| D06-1 | LKD | 23.48 | 66 | Medium | 72.6% | 59.6% | 47.5% | Medium | 81.0% | 55.3% | 39.4% |
| D06-2 | Bed | 11.92 | 29 | High | 75.2% | 63.1% | 51.8% | Medium | 82.8% | 61.6% | 46.0% |
| D07-1 | LKD | 23.22 | 58 | Medium | 69.1% | 55.7% | 43.8% | Medium | 80.1% | 53.4% | 35.0% |
| D07-2 | Bed | 15.52 | 40 | Medium | 72.6% | 60.0% | 48.5% | Medium | 81.2% | 57.3% | 41.6% |
| D08-1 | LKD | 26.02 | 67 | High | 81.6% | 73.9% | 63.6% | High | 88.3% | 76.6% | 63.9% |
| D08-2 | Bed | 11.41 | 30 | Medium | 70.8% | 53.1% | 31.7% | Medium | 85.2% | 61.6% | 39.0% |
| D09-1 | LKD | 34.43 | 101 | Medium | 68.6% | 50.0% | 27.3% | Minimum | 75.3% | 31.7% | 0.1% |
| D09-2 | Bed | 11.97 | 36 | Minimum | 68.2% | 48.8% | 21.8% | Medium | 83.4% | 54.8% | 26.3% |
| D09-3 | Bed | 11.72 | 30 | Medium | 77.6% | 63.7% | 48.3% | High | 86.9% | 69.1% | 50.3% |
| D10-1 | LKD | 31.17 | 85 | High | 77.4% | 66.2% | 56.3% | High | 84.5% | 65.3% | 50.5% |
| D10-2 | Bed | 14.79 | 40 | High | 79.2% | 69.0% | 55.0% | High | 88.7% | 75.8% | 59.2% |
| D10-3 | Bed | 10.43 | 29 | Medium | 71.4% | 53.7% | 33.8% | Medium | 84.2% | 58.3% | 33.7% |
| D11-1 | LKD | 23.48 | 66 | Medium | 71.5% | 59.0% | 46.4% | Medium | 81.8% | 58.2% | 41.6% |
| D11-2 | Bed | 11.92 | 29 | High | 76.8% | 65.3% | 54.5% | High | 84.4% | 65.2% | 50.9% |
| D12-1 | LKD | 23.22 | 58 | Medium | 71.2% | 58.4% | 46.2% | Medium | 80.6% | 54.4% | 37.9% |
| D12-2 | Bed | 15.52 | 40 | Medium | 70.8% | 58.8% | 46.7% | Medium | 78.9% | 53.5% | 37.8% |
| D13-1 | LKD | 26.02 | 67 | High | 81.7% | 74.6% | 64.0% | High | 88.1% | 76.1% | 63.3% |
| D13-2 | Bed | 11.41 | 30 | Medium | 72.3% | 54.9% | 35.3% | Medium | 85.1% | 61.1% | 38.5% |
| D14-1 | LKD | 34.43 | 101 | Minimum | 67.1% | 47.7% | 23.8% | Minimum | 73.8% | 27.0% | 0.0% |
| D14-2 | Bed | 11.97 | 36 | Minimum | 68.9% | 50.0% | 24.6% | Medium | 84.8% | 58.5% | 32.5% |
| D14-3 | Bed | 11.72 | 30 | Medium | 77.5% | 63.4% | 48.4% | High | 87.5% | 70.9% | 54.0% |
| D15.1 | LKD | 31.17 | 85 | High | 79.2% | 68.7% | 59.9% | High | 84.7% | 67.0% | 53.6% |
| D15.2 | Bed | 14.79 | 40 | High | 80.2% | 71.2% | 57.6% | High | 88.6% | 75.7% | 58.4% |
| D15.3 | Bed | 10.43 | 29 | Medium | 74.0% | 56.5% | 38.5% | Medium | 85.6% | 62.8% | 40.2% |
| D16.1 | LKD | 23.48 | 66 | Medium | 73.0% | 61.0% | 48.6% | Medium | 81.3% | 56.8% | 41.5% |
| D16.2 | Bed | 11.92 | 29 | High | 76.2% | 65.3% | 54.5% | High | 85.3% | 67.0% | 53.1% |
| D17.1 | LKD | 23.22 | 58 | Medium | 72.4% | 60.0% | 48.3% | Medium | 80.9% | 54.9% | 39.0% |
| D17.2 | Bed | 15.52 | 40 | High | 73.7% | 61.3% | 50.0% | Medium | 81.6% | 57.3% | 42.0% |
| D18.1 | LKD | 26.02 | 67 | High | 81.8% | 74.9% | 64.3% | High | 87.9% | 75.8% | 63.3% |
| D18.2 | Bed | 11.41 | 30 | Medium | 72.2% | 55.2% | 36.7% | Medium | 84.7% | 60.5% | 37.1% |
| D19.1 | LKD | 34.43 | 101 | Medium | 69.2% | 52.0% | 31.5% | Minimum | 75.7% | 32.9% | 0.3% |
| D19.2 | Bed | 11.72 | 30 | Medium | 77.1% | 62.6% | 46.9% | High | 87.9% | 71.5% | 54.1% |
| D19.3 | Bed | 11.97 | 36 | Minimum | 68.3% | 48.9% | 23.8% | Medium | 82.5% | 54.7% | 26.5% |
| D20.1 | LKD | 31.17 | 85 | High | 80.6% | 71.3% | 62.4% | High | 86.6% | 72.0% | 59.6% |
| D20.2 | Bed | 14.79 | 40 | High | 82.2% | 74.5% | 62.3% | High | 89.5% | 78.3% | 66.6% |
| D20.3 | Bed | 10.43 | 29 | Medium | 73.4% | 56.3% | 38.9% | Medium | 85.1% | 60.9% | 38.9% |
| D21.1 | LKD | 23.48 | 66 | Medium | 73.9% | 61.9% | 49.7% | Medium | 81.6% | 57.8% | 41.5% |

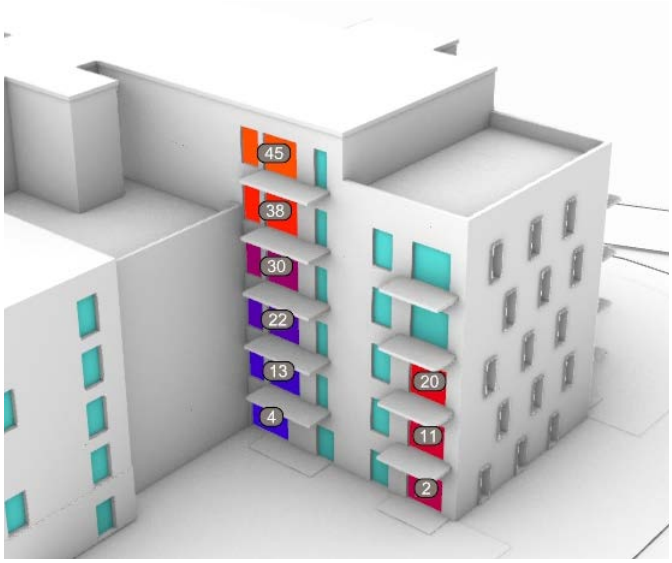
| Block D - EN17037:2018 Daylight Provision Room Compliance | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Space ID | Description | Area [m^2] | Sensor Count | Target Compliance | 300lux_50 | 500lux_50 | 750lux_50 | Minimum Compliance | 100lux_95 | 300lux_95 | 500lux_95 |
| D21.2 | Bed | 11.92 | 29 | High | 77.7% | 66.9% | 56.9% | High | 85.3% | 67.4% | 53.4% |
| D22.1 | LKD | 23.22 | 58 | Medium | 70.6% | 58.9% | 47.1% | Medium | 81.4% | 56.7% | 40.4% |
| D22.2 | Bed | 15.52 | 40 | High | 74.0% | 61.9% | 50.2% | Medium | 81.6% | 58.4% | 42.8% |
| D23.1 | LKD | 26.02 | 67 | High | 82.0% | 75.3% | 64.7% | High | 88.4% | 76.7% | 64.6% |
| D23.2 | Bed | 11.41 | 30 | Medium | 73.5% | 56.4% | 38.6% | Medium | 84.7% | 59.7% | 36.6% |
| D24.1 | LKD | 34.43 | 101 | Minimum | 68.0% | 49.3% | 27.7% | Minimum | 72.4% | 23.8% | 0.0% |
| D24.2 | Bed | 11.72 | 30 | High | 78.1% | 65.3% | 50.5% | High | 87.7% | 71.7% | 54.4% |
| D24.3 | Bed | 11.97 | 36 | Minimum | 68.4% | 49.7% | 24.8% | Medium | 83.8% | 56.6% | 30.1% |
| D25.1 | LKD | 31.17 | 85 | High | 82.2% | 75.0% | 65.4% | High | 87.1% | 74.3% | 61.8% |
| D25.2 | Bed | 14.79 | 40 | High | 83.0% | 76.0% | 65.5% | High | 89.3% | 78.0% | 65.6% |
| D25.3 | Bed | 10.43 | 29 | Medium | 73.9% | 56.6% | 39.2% | Medium | 84.9% | 60.2% | 39.2% |
| D26.1 | LKD | 23.48 | 66 | Medium | 73.5% | 61.2% | 49.5% | Medium | 82.6% | 60.7% | 44.7% |
| D26.2 | Bed | 11.92 | 29 | High | 78.5% | 68.4% | 58.6% | High | 86.7% | 72.8% | 59.5% |
| D27.1 | LKD | 23.22 | 58 | High | 74.4% | 62.2% | 50.6% | Medium | 81.6% | 57.8% | 41.0% |
| D27.2 | Bed | 15.52 | 40 | High | 74.6% | 62.9% | 51.5% | Medium | 80.1% | 55.5% | 41.4% |
| D28.1 | LKD | 26.02 | 67 | High | 82.9% | 76.3% | 66.7% | High | 88.9% | 77.7% | 66.4% |
| D28.2 | Bed | 11.41 | 30 | Medium | 73.4% | 57.0% | 38.9% | Medium | 85.8% | 64.0% | 43.4% |
| D29.1 | LKD | 34.43 | 101 | Medium | 69.7% | 52.4% | 32.3% | Minimum | 74.8% | 32.2% | 0.3% |
| D29.2 | Bed | 11.72 | 30 | High | 78.7% | 66.7% | 52.6% | High | 87.9% | 71.8% | 55.2% |
| D29.3 | Bed | 11.97 | 36 | Medium | 71.2% | 52.9% | 31.4% | Medium | 84.5% | 58.7% | 35.3% |

**Table 15: EN17037:2018 Daylight Provision individual room compliance values.**

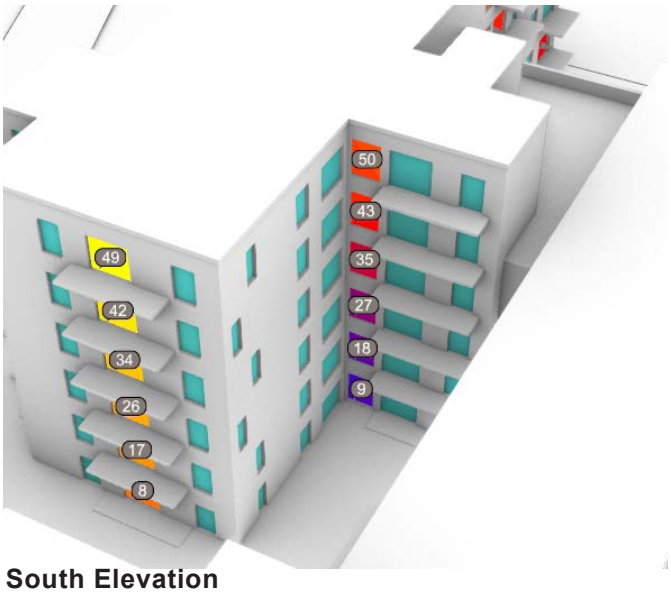
# Appendix C - Annual Probable Sunlight Hours

**Block A**


**North West Elevation**




**South East Elevation**



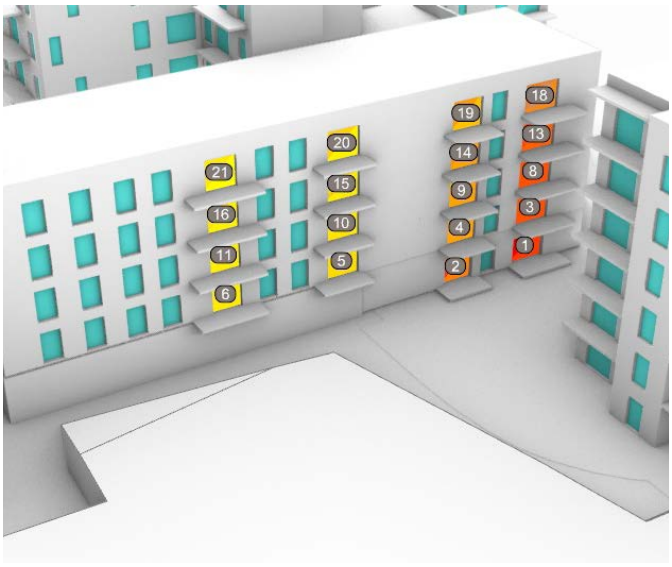

**South Elevation**

**Figure 35: View of model of Block A, locating livingroom windows assessed for APSH.**

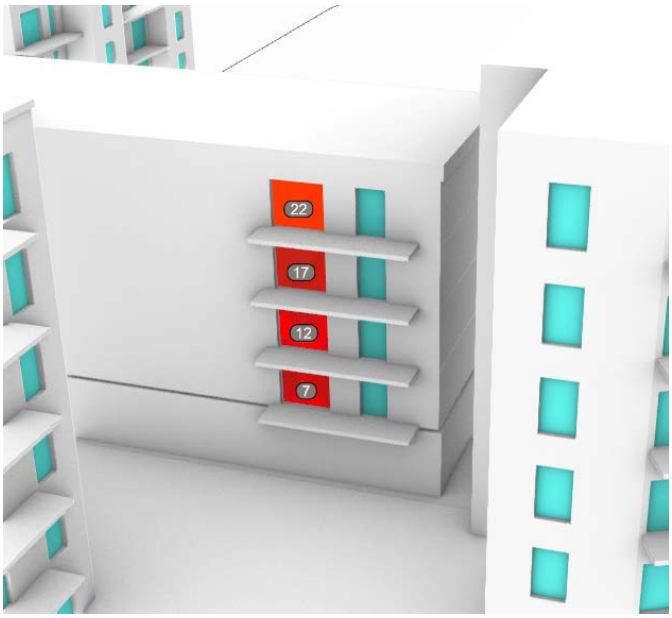
| Block A : Annual Probable Sunlight Hours | | | | | |
|---|---|---|---|---|---|
| ID | Within 90° South | % of APSH | % of PSH Sept 21 - Mar 21 | Meets Criteria | |
| | | | | APSH | PSH |
| 1 | N | 39.3% | 10.4% | Y | Y |
| 2 | Y | 25.7% | 0.8% | Y | N |
| 3 | N | 41.2% | 12.2% | Y | Y |
| 4 | Y | 10.6% | 0.0% | N | N |
| 5 | N | 38.9% | 10.3% | Y | Y |
| 6 | N | 36.7% | 8.7% | Y | Y |
| 7 | N | 40.6% | 11.7% | Y | Y |
| 8 | Y | 52.1% | 16.5% | Y | Y |
| 9 | Y | 11.0% | 2.1% | N | N |
| 10 | N | 40.1% | 10.5% | Y | Y |
| 11 | Y | 29.1% | 0.9% | Y | N |
| 12 | N | 41.2% | 12.2% | Y | Y |
| 13 | Y | 11.6% | 0.0% | N | N |
| 14 | N | 39.0% | 10.4% | Y | Y |
| 15 | N | 36.9% | 8.9% | Y | Y |
| 16 | N | 41.2% | 12.2% | Y | Y |
| 17 | Y | 57.1% | 18.1% | Y | Y |
| 18 | Y | 13.3% | 2.6% | N | N |
| 19 | N | 40.8% | 10.6% | Y | Y |
| 20 | Y | 32.3% | 1.3% | Y | N |
| 21 | N | 41.2% | 12.2% | Y | Y |
| 22 | Y | 11.6% | 0.0% | N | N |
| 23 | N | 39.0% | 10.4% | Y | Y |
| 24 | N | 36.9% | 8.9% | Y | Y |
| 25 | N | 41.2% | 12.2% | Y | Y |
| 26 | Y | 60.4% | 18.4% | Y | Y |
| 27 | Y | 17.6% | 3.7% | N | N |
| 28 | N | 41.4% | 10.6% | Y | Y |
| 29 | Y | 36.4% | 4.4% | Y | N |
| 30 | N | 41.2% | 12.2% | Y | Y |
| 31 | Y | 14.7% | 0.0% | N | N |
| 32 | N | 39.0% | 10.4% | Y | Y |
| 33 | N | 36.9% | 8.9% | Y | Y |
| 34 | N | 41.2% | 12.2% | Y | Y |
| 35 | Y | 63.8% | 20.1% | Y | Y |
| 36 | Y | 26.2% | 6.5% | Y | Y |
| 37 | N | 41.9% | 10.8% | Y | Y |
| 38 | Y | 43.3% | 10.2% | Y | Y |
| 39 | N | 41.2% | 12.2% | Y | Y |
| 40 | Y | 24.4% | 0.0% | N | N |
| 41 | N | 39.1% | 10.5% | Y | Y |
| 42 | N | 37.0% | 8.9% | Y | Y |
| 43 | N | 41.2% | 12.2% | Y | Y |
| 44 | Y | 69.0% | 23.6% | Y | Y |
| 45 | Y | 36.0% | 12.5% | Y | Y |
| 46 | N | 41.2% | 12.2% | Y | Y |
| 47 | N | 40.2% | 11.4% | Y | Y |
| 48 | N | 39.1% | 10.5% | Y | Y |
| 49 | N | 41.2% | 12.2% | Y | Y |
| 50 | Y | 76.1% | 29.5% | Y | Y |

**Table 16: Block A - Annual Probable Sunlight Hours**

## Block B




South East Elevation



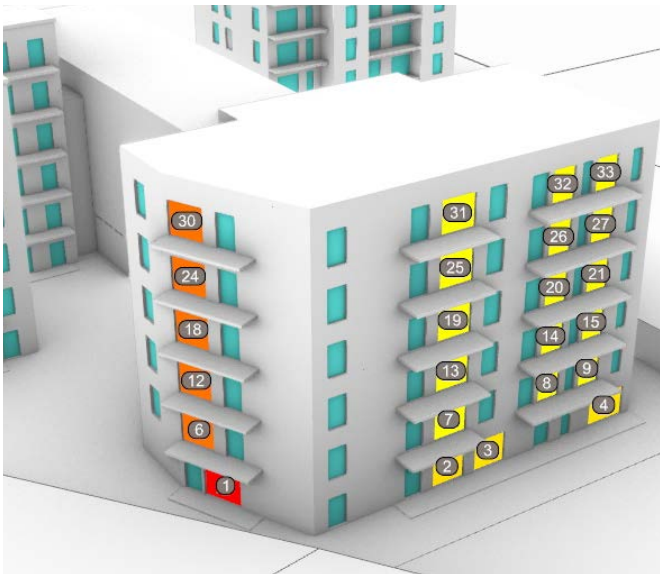

North West Elevation

**Figure 36: View of model of Block B, locating living room windows assessed for APSH.**

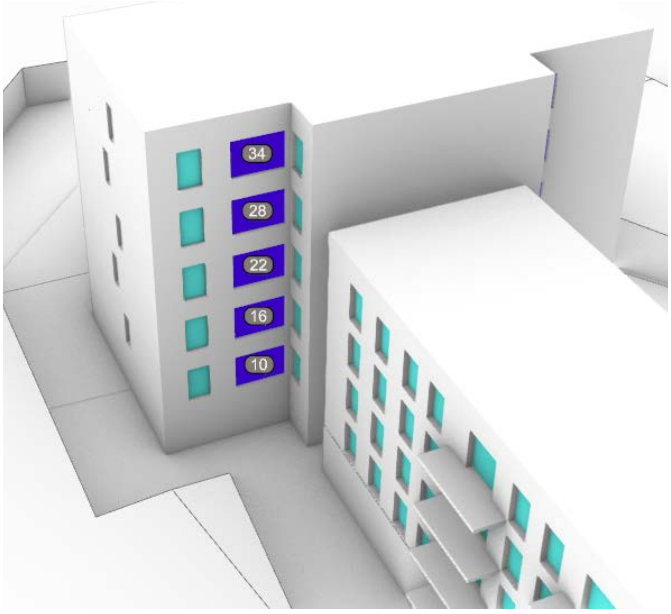
| Block B : Annual Probable Sunlight Hours | | | | | |
|---|---|---|---|---|---|
| ID | Within 90° South | % of APSH | % of PSH Sept 21 - Mar 21 | Meets Criteria | |
| | | | | APSH | PSH |
| 1 | Y | 22.4% | 10.7% | N | Y |
| 2 | Y | 27.0% | 10.7% | Y | Y |
| 3 | Y | 30.4% | 13.7% | Y | Y |
| 4 | Y | 37.1% | 15.8% | Y | Y |
| 5 | Y | 41.6% | 15.0% | Y | Y |
| 6 | Y | 43.4% | 12.9% | Y | Y |
| 7 | N | 18.0% | 2.0% | N | N |
| 8 | Y | 30.4% | 13.7% | Y | Y |
| 9 | Y | 37.1% | 15.8% | Y | Y |
| 10 | Y | 42.9% | 15.2% | Y | Y |
| 11 | Y | 44.0% | 13.4% | Y | Y |
| 12 | N | 18.6% | 2.0% | N | N |
| 13 | Y | 29.9% | 14.2% | Y | Y |
| 14 | Y | 36.0% | 14.7% | Y | Y |
| 15 | Y | 40.7% | 14.8% | Y | Y |
| 16 | Y | 42.7% | 13.5% | Y | Y |
| 17 | N | 22.1% | 2.3% | N | N |
| 18 | Y | 33.6% | 14.2% | Y | Y |
| 19 | Y | 36.4% | 14.7% | Y | Y |
| 20 | Y | 40.8% | 14.8% | Y | Y |
| 21 | Y | 43.3% | 13.9% | Y | Y |
| 22 | N | 23.6% | 2.3% | N | N |
| 23 | Y | 40.8% | 13.9% | Y | Y |
| 24 | Y | 42.4% | 15.8% | Y | Y |
| 25 | Y | 46.8% | 16.4% | Y | Y |
| 26 | Y | 48.5% | 16.4% | Y | Y |
| 27 | N | 27.1% | 2.5% | Y | N |

**Table 17: Block B - Annual Probable Sunlight Hours**

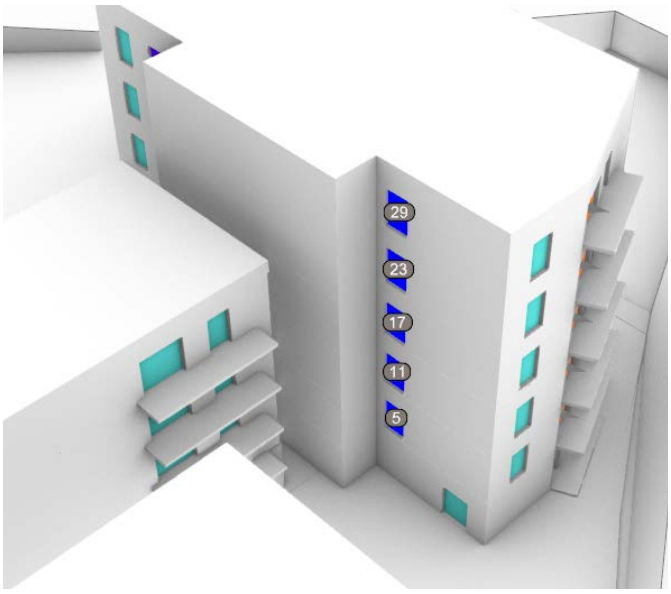
## Block C




South & West Elevations




North Elevation, East Wing



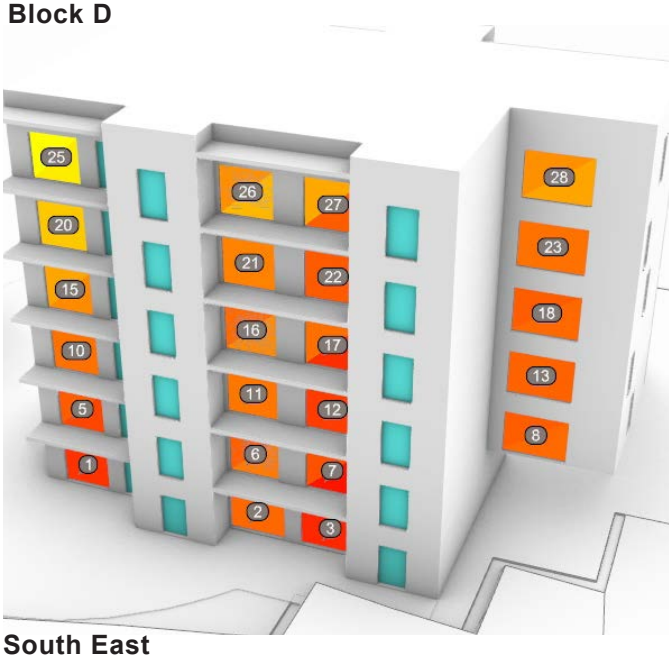

North Elevation, West Wing

**Figure 37: View of model of Block C, locating livingroom windows assessed for APSH.**

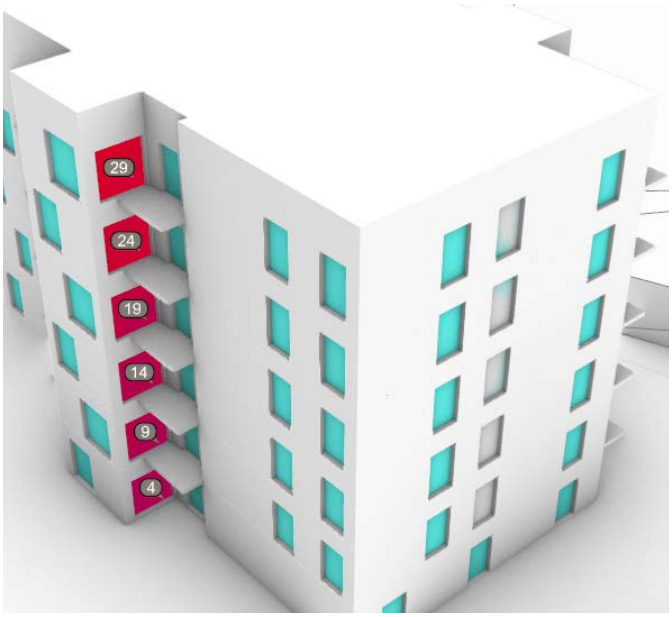
| Block C : Annual Probable Sunlight Hours | | | | | |
|---|---|---|---|---|---|
| ID | Within 90° South | % of APSH | % of PSH Sept 21 - Mar 21 | Meets Criteria | |
| | | | | APSH | PSH |
| 1 | N | 39.4% | 11% | Y | Y |
| 2 | Y | 70.2% | 25% | Y | Y |
| 3 | Y | 71.1% | 26% | Y | Y |
| 4 | Y | 70.8% | 25% | Y | Y |
| 5 | N | 4.1% | 0% | N | N |
| 6 | N | 55.2% | 19% | Y | Y |
| 7 | Y | 78.4% | 31% | Y | Y |
| 8 | Y | 77.5% | 31% | Y | Y |
| 9 | Y | 77.5% | 31% | Y | Y |
| 10 | N | 11.3% | 0% | N | N |
| 11 | N | 4.1% | 0% | N | N |
| 12 | N | 55.2% | 19% | Y | Y |
| 13 | Y | 78.4% | 31% | Y | Y |
| 14 | Y | 77.5% | 31% | Y | Y |
| 15 | Y | 77.5% | 31% | Y | Y |
| 16 | N | 11.3% | 0% | N | N |
| 17 | N | 4.1% | 0% | N | N |
| 18 | N | 55.2% | 19% | Y | Y |
| 19 | Y | 78.4% | 31% | Y | Y |
| 20 | Y | 77.5% | 31% | Y | Y |
| 21 | Y | 77.5% | 31% | Y | Y |
| 22 | N | 11.3% | 0% | N | N |
| 23 | N | 4.1% | 0% | N | N |
| 24 | N | 55.2% | 19% | Y | Y |
| 25 | Y | 78.4% | 31% | Y | Y |
| 26 | Y | 77.5% | 31% | Y | Y |
| 27 | Y | 77.5% | 31% | Y | Y |
| 28 | N | 11.3% | 0% | N | N |
| 29 | N | 4.1% | 0% | N | N |
| 30 | N | 55.2% | 19% | Y | Y |
| 31 | Y | 78.4% | 31% | Y | Y |
| 32 | Y | 77.5% | 31% | Y | Y |
| 33 | Y | 77.5% | 31% | Y | Y |
| 34 | N | 11.3% | 0% | N | N |

**Table 18: Block C - Annual Probable Sunlight Hours**

## Block D




South East




North East

**Figure 38: View of model of Block D, locating living room windows assessed for APSH.**

| Block D : Annual Probable Sunlight Hours | | | | | |
|---|---|---|---|---|---|
| ID | Within 90° South | % of APSH | % of PSH Sept 21 - Mar 21 | Meets Criteria | |
| | | | | APSH | PSH |
| 1 | Y | 37.9% | 14.5% | Y | Y |
| 2 | Y | 39.3% | 13.6% | Y | Y |
| 3 | Y | 31.7% | 8.5% | Y | Y |
| 4 | N | 3.5% | 0.0% | N | N |
| 5 | Y | 43.5% | 17.6% | Y | Y |
| 6 | Y | 47.3% | 21.2% | Y | Y |
| 7 | Y | 44.5% | 17.0% | Y | Y |
| 8 | Y | 46.8% | 20.5% | Y | Y |
| 9 | N | 5.3% | 0.0% | N | N |
| 10 | Y | 46.0% | 18.0% | Y | Y |
| 11 | Y | 50.1% | 22.7% | Y | Y |
| 12 | Y | 41.1% | 15.7% | Y | Y |
| 13 | Y | 47.7% | 21.3% | Y | Y |
| 14 | N | 5.4% | 0.0% | N | N |
| 15 | Y | 51.7% | 19.8% | Y | Y |
| 16 | Y | 48.6% | 22.2% | Y | Y |
| 17 | Y | 48.1% | 18.8% | Y | Y |
| 18 | Y | 46.8% | 20.5% | Y | Y |
| 19 | N | 6.5% | 0.1% | N | N |
| 20 | Y | 56.4% | 22.0% | Y | Y |
| 21 | Y | 51.5% | 23.8% | Y | Y |
| 22 | Y | 45.6% | 18.3% | Y | Y |
| 23 | Y | 49.3% | 21.3% | Y | Y |
| 24 | N | 6.6% | 0.0% | N | N |
| 25 | Y | 69.1% | 26.0% | Y | Y |
| 26 | Y | 53.3% | 23.5% | Y | Y |
| 27 | Y | 55.7% | 22.6% | Y | Y |
| 28 | Y | 53.2% | 21.3% | Y | Y |
| 29 | N | 12.6% | 0.0% | N | N |

**Table 19: Block D - Annual Probable Sunlight Hours**