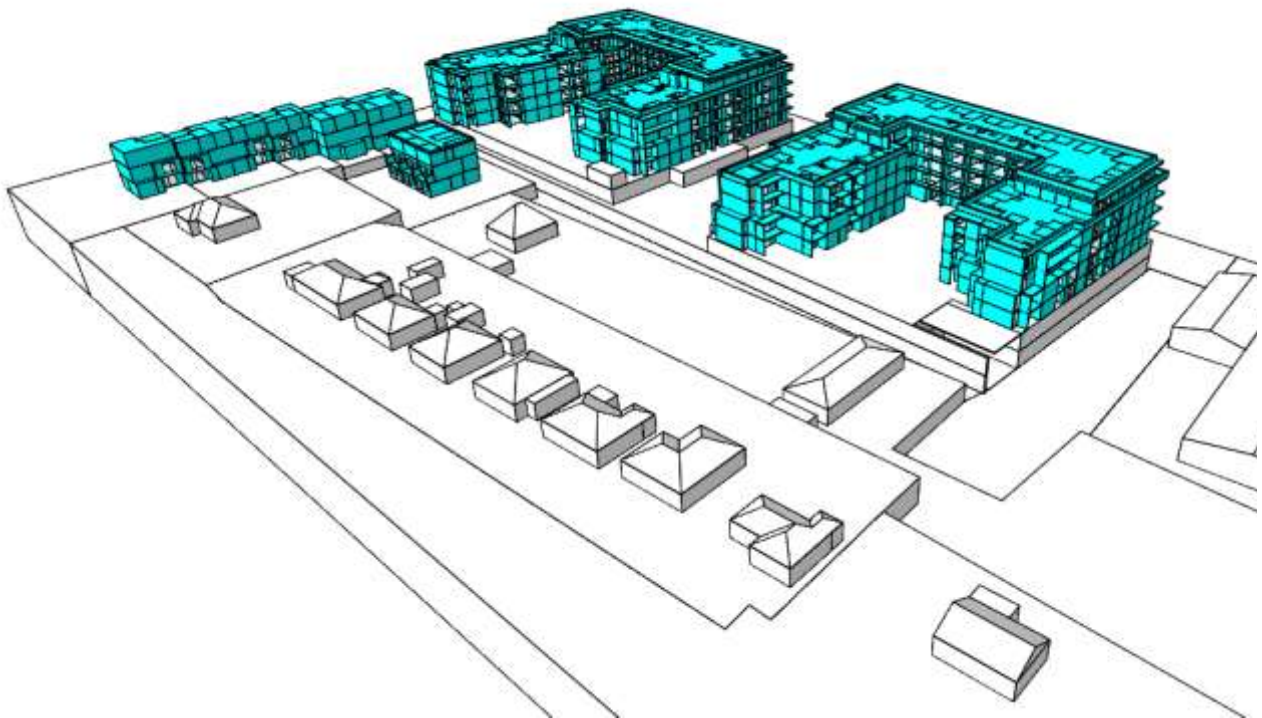


Project: Carrigaline Residential Development

Report Title: Daylight, Sunlight and Overshadowing Analysis



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EXECUTIVE SUMMARY

A comprehensive Daylight, Sunlight and Overshadowing Assessment for this proposed project is presented in this report. This assessment makes reference to the prescribed methodologies of the BRE guide and applied the specific daylight / sunlight quantitative performance standards contained therein. The BRE guidance refers to the BRE document 'Site Layout Planning for Sunlight and Daylight: A Guide to Good Practice' (2011) (herein referred to as the "BRE Guide") by P J Littlefair, which is based on the previous British daylighting standard (BS 8206-2:2008) and has been accepted as good practice by Planning Authorities.

The BRE Guide gives advice on site layout to achieve provision of daylight and sunlight both within buildings, and in the open spaces between them. In general, it aims to aid designers in considering the relationship between new and existing buildings to ensure that each retains the potential to achieve good daylighting and sunlight levels. This authoritative document is widely used to provide guidance during the planning and design stages of building development in the UK and Ireland.

It is noted that BS 8206-2:2008: Lighting for Buildings - Part 2: Code of practice for daylighting was recently replaced with EN 17037:2018 Daylight in Buildings. BRE is currently revising the BRE Guide (BR209) to align their guidance with the new EN 17037:2018 however, this updated guidance document has not yet been published. Until the new BRE Guide is released, the position of BRE can be summarised from a post by Dr. Littlefair on the LinkedIn Planning Daylight & Sunlight Group (BRE BR209):

"BR209 currently refers to the former British Standard BS 8206 Part 2. For the time being, until BR209 is rewritten, we are adopting a flexible approach to applying the two standards, for example in assessing the daylight and sunlight available in new buildings. So for example if we were reviewing a daylight report for a local authority, we would consider it reasonable to accept either average daylight factor tables calculated using BS8206 or median daylight factors/median illuminances calculated using EN17037, provided they were calculated and presented properly.

EN17037 does not deal with loss of daylight or sunlight to existing buildings, so the current BR209 methodology can be used here, until the revised version is published."

The British implementation of this standard (BS EN 17037) includes a "National Annex" with requirements for dwellings that mean it is comparable with the previous standard (BS8206). In Ireland, there is only IS EN 17037:2018. Unlike the British Standard (BS EN 17037), the Irish

implementation does not contain a National Annex. The ‘Sustainable Urban Housing: Design Standards for New Apartments’ (last revised 23 December 2020), the ‘Urban Development and Building Heights Guidelines for Planning Authorities’ (published December 2018) do not mention, address or require compliance with the European Standard (published 12 December 2018) or the Irish implementation (published 28 January 2019).

As a consequence of this, we have carried out a comprehensive daylighting analysis using both standards, providing daylighting results in terms of Average Daylight Factor (based on previous British Standard – BS 8206-2) and Spatial Daylight Autonomy (based on current European Standard – EN 17037) and the National Annex within the British implementation of the European Standard (BS EN 17037). The sunlight component of this assessment has been carried out in accordance with existing BRE guidance (BR209).

It is important that the guidelines that exist in relation to daylight and sunlight are read in the correct context and are not viewed as mandatory requirements. Requirements for daylight should be balanced against other elements of the design such as thermal performance (which is directly impacted by the size, shape and location of glazing) and the risk of overheating due to excessive glazing areas. This approach will ensure an optimal overall solution is reached for the development.

Impact of loss of daylight to neighbouring properties

The Vertical Sky Component (VSC) Analysis is covered in detail in *Section 7* of this report. A summary of the results are as follows;

A simulation was run to quantify any reduction in VSC of the surrounding buildings resulting from the proposed development massing. Where the VSC is greater than 27% reasonable daylighting levels are available according to the BRE Industry standard. Where the VSC is found to be less than 27% but the comparison between the “before and after scenarios” is less than a 20% reduction, daylighting is unlikely to be significantly affected / noticed.

Our simulation analyses the impact that the proposed development has on the windows of its surrounding buildings. The existing adjacent buildings are residential properties and so, and in keeping with the guidance protocols, the windows of these buildings were assessed for potential loss of daylight.

As there was no information available regarding the glazing positioning or areas within the adjacent existing properties, notional windows were modelled so that the VSC could be assessed for these buildings. These notional windows provide an indication of whether or not the daylighting within the existing adjacent buildings will be impacted by the proposed development.

The assessed surrounding buildings along Kilmoney Street Lower largely meet the recommended VSC value according to the BRE Guide. Of the 59 notional openings assessed, 58 openings (98.3%) achieve a VSC result that meets the recommendation outlined in the BRE Guide.

As a result of this analysis, it is our understanding that the vast majority of adjacent building openings achieve a VSC in line with the recommendation of the BRE Guide, with one opening (Surrounding Block 10, north-facing opening) experiencing a “minor adverse” impact (according to BRE guidance) due to the proposed development.

Consideration should be given to the fact that the comparison being made is between an under-utilised existing site and the proposed development, which is inevitably going to have some form of an impact given its proximity and relative height. The planning authority should consider applying flexibility with regard to BRE standards to balance the objective of achieving urban regeneration with any potential impacts.

Average Daylight Factor within the proposed apartments

Average Daylight Factor results are covered in detail in *Section 8* of this report. Daylight performance for this development has been assessed using BR209 (BRE guidance document based on the standards outlined in BS8206-2) and EN 17037 (latest European Standard which supersedes BS8206). A summary of the results are as follows;

Average Daylight Factor (BS8206-2: 2008)

Minimum recommended Average Daylight Factors (ADF) are:

- Bedrooms – 1.00 %
- Kitchen/Living– 2.00 %

Calculated ADF results for all rooms eligible for assessment are as follows:

- **98.0%** of Bedrooms achieve an ADF of $\geq 1.00\%$
- **94.6%** of the Kitchen/Living rooms achieve an ADF of $\geq 2.00\%$

The calculated ADF results for each space assessed are presented in *Section 8* and Appendix C of this report.

Spatial Daylight Autonomy (EN 17037:2018)

In order to comply with the daylighting standard set out in EN 17037, each space assessed must achieve the following:

- 300 Lux over at least 50% of its floor area for over 50% of annual daylit hours, and
- 100 Lux over at least 95% of its floor area for over 50% of annual daylit hours

The results of this spatial daylight autonomy assessment are summarised below and tabulated in detail in Appendix C of this report in accordance with EN 17037.

- **90.7%** of the total number of spaces assessed achieve the annual required illuminance according to EN 17037 (Bedrooms and Kitchen/Living spaces assessed using the EN17037 metric outlined above)

Spatial Daylight Autonomy using British National Annex Illuminance Targets (BS EN 17037:2018)

The spaces were also assessed for spatial daylight autonomy using the British National Annex illuminance targets shown below. This BS EN standard includes a national annex which provides adjusted illuminance targets for each room type as shown in *Table NA.1 — Values of target illuminance for room types in UK dwellings*, the minimum target daylight provisions for bedrooms and kitchen/living spaces are:

- Kitchen/Living – 200 Lux achieved over at least 50% of the reference plane (0.85m) and
- Bedrooms – 100 Lux achieved over at least 50% of the reference plane (0.85m)

Table NA.1 — Values of target illuminance for room types in UK dwellings

Room type	Target illuminance E_T (lx)
Bedroom	100
Living room	150
Kitchen	200

A summary of the results are as follows;

- 100.0% of bedrooms achieve the required annual illuminance according to BS EN 17037 (100 Lux test)
- 99.5% of kitchens/living/dining rooms achieve the required annual illuminance according to BS EN 17037 (200 Lux test)
- **99.8%** of the total number of spaces assessed achieve the annual required illuminance according to the National Annex within BS EN 17037.

The results of this spatial daylight autonomy assessment are summarised below and tabulated in detail in Appendix E of this report in accordance with EN 17037.

A number of compensatory factors exist within the spaces that do not meet the daylight performance criteria outlined above. These are described in *Section 10* of this report.

Sunlight availability – proposed living spaces

The BRE guidance document states that rooms will appear reasonably sunlit provided:

- at least one main window wall faces within 90° of due south and
 - the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21st September and 21st March.
1. All Kitchen/living room openings within the proposed development that face within 90° of due south were assessed for annual sunlight availability. While many of the assessed openings achieve the recommended level of annual sunlight hours, there are a number of windows assessed that do not achieve the BRE recommended levels of annual sunlight due to their location and proximity to other sections of the building and shading devices.
 2. All kitchen/living room openings within the proposed development that face within 90° of due south were assessed for sunlight availability during the winter months (September to March). While the majority of the assessed openings achieve the recommended level of winter sunlight hours, there are a number of windows assessed that do not achieve the BRE recommended levels of annual sunlight due to their location and proximity to other sections of the building and shading devices.

As the proposed development is located north of the neighbouring residential properties, the windows that are eligible for sunlight assessment in line with BRE guidance within the neighbouring properties will not be impacted by the proposed development. For this reason, the surrounding residential properties were not assessed for sunlight availability.

This information is presented in detail in Section 9 of this report.

Sunlight availability within amenity spaces

Sunlight availability results are covered in detail in Section 9 of this report. The proposed courtyards and neighbouring garden areas were assessed for sunlight availability.

BRE Guidelines recommend that for an amenity space to appear adequately sunlit throughout the year, at least half of the amenity space should receive at least two hours of sunlight on the design day, March 21st. If, as a result of a new development, an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on March 21st is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable.

The analysis confirms that the amenity areas of the proposed development achieve upward of 2 hours of sunlight on the design day (21st March) across the vast majority of their areas, therefore complying with the BRE Guidelines.

The gardens of the neighbouring properties were also assessed for sunlight availability. These areas receive sufficient levels of sunlight in line with the BRE guidance, achieving 2 hours of sunlight over the vast majority of their total area on the design day. The proposed development will not cause a significant impact to the level of sunlight in the neighbouring gardens as the development is located north of the gardens themselves.

Overshadowing Analysis

March 21st

No significant additional overshadowing of neighbouring properties resulting from the proposed development with any minor impact limited to short time periods in the late evening.

June 21st

No significant additional overshadowing of neighbouring properties resulting from the proposed development with any minor impact limited to short time periods in the late evening.

September 21st

No significant additional overshadowing of neighbouring properties resulting from the proposed development with any minor impact limited to short time periods in the late evening.

December 21st

No significant additional overshadowing of neighbouring properties resulting from the proposed development with any minor impact limited to short time periods in the late evening.

See Appendix A for Overshadowing Images.

1. INTRODUCTION

Passive Dynamics Sustainability Consultants has prepared this Daylight, Sunlight and Overshadowing report for and on behalf of Reside Investments Ltd. to accompany the planning application for the proposed Carrigaline residential development. The scope of the assessment was to determine the following:

- Impact of loss of daylight to neighbouring properties
- Average Daylight Factor within the proposed apartments
- Sunlight availability within the proposed development and proposed/neighbouring amenity spaces
- Overshadowing analysis and impact to neighbouring properties

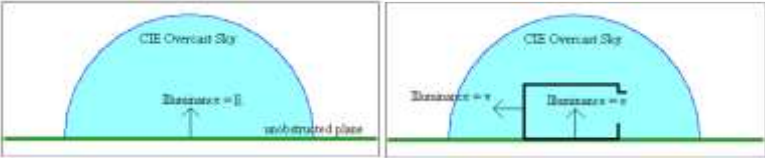
Daylight and Sunlight calculations have been carried out in accordance with BRE's 'Site Layout Planning for Sunlight and Daylight: A Guide to Good Practice' (2011) (herein referred to as the "BRE Guide") by P J Littlefair, which is accepted as good practice by Planning Authorities. The Design Standards for New Apartments - Guidelines for Planning Authorities (March 2018) were also considered as part of this study.

The BRE Guide gives advice on site layout to achieve provision of daylight and sunlight both within buildings, and in the open spaces between them. In general, it aims to aid designers in considering the relationship between new and existing buildings to ensure that each retains the potential to achieve good daylighting and sunlight levels.

The BRE Guide states in the introduction that: "The guide is intended for building designers and their clients, consultants and planning officials. **The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim 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.** In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings". **It is therefore important that the guidelines that exist in relation to daylight and sunlight are read in the correct context and are not viewed as mandatory requirements.**

2. DEFINITIONS

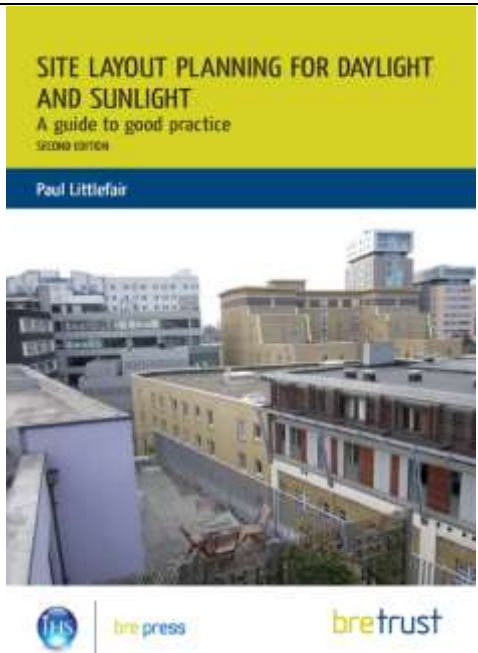

The technical definitions that are referred to in this report are explained below.

BRE	The Building Research Establishment (BRE) is a centre of building science in the United Kingdom, owned by charitable organisation the BRE Trust. It is a former UK government national laboratory that was privatised in 1997.
Vertical Sky Component (VSC)	<p>The Vertical Sky Component (VSC) measures the amount of skylight available to a window. This represents the amount of daylight available to the window. The BRE Guide describes the VSC as the “Ratio of that part of illuminance, at a point on a given vertical plane that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the “given vertical plane” is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings.”</p>  <p>E= illuminance on an unobstructed plane. (the amount of daylight available in an open space with no obstructions) v= illuminance at a point in the centre of a vertical opening (the amount of daylight available at a point in the centre of a vertical opening) Vertical Sky Component = v/E</p>
CIE Standard Overcast Sky	<p>CIE Standard Overcast Sky is a typical overcast sky used for daylight analysis. For this completely overcast sky, the ratio of its luminance L_y at an angle of elevation y above the horizontal to the luminance L_z at the zenith is given by:</p> $L_y = L_z \frac{(1 + 2 \sin y)}{3}$ <p>The CIE standard overcast sky is darkest at the horizon and brightest at the zenith (vertically overhead).</p>
Average Daylight Factor (ADF)	<p>This is a measure of the amount of daylight available to a space relative to the level of light outside. The ratio of total daylight flux incident on a reference area to total area of reference area, expressed as a percentage of outdoor illuminance on a horizontal plane due to an unobstructed hemisphere of sky of assumed or known luminance distribution. Thus a 1% ADF would mean that the average indoor illuminance would be one hundredth the outdoor unobstructed illuminance.</p>

Annual Probable Sunlight Hours (APSH)	Annual Probable Sun Hours (APSH) represents the sunlight that a given window may expect over a year period. APSH is expressed as the percentage of direct sunlight hours divided by number of hours when sky was clear with sun.
sDA	Spatial Daylight Autonomy (sDA) examines whether a space receives enough daylight during standard operating hours (8 a.m. to 6 p.m.) on an annual basis using hourly illuminance grids on the horizontal work plane. sDA is calculated virtually through computational simulation with precise parameters. It references a local climate file to run hourly illuminance maps in the lighting software package.
EN	European Norm (EN) abbreviation verifies that the technical standard referenced throughout this report (EN 17037) is drafted and maintained by the European Committee for Standardisation (CEN).

3. GUIDANCE DOCUMENTS REFERENCED DURING THIS STUDY

This Daylight, Sunlight and Overshadowing Assessment has been carried out in accordance with the following best practice standard as outlined by the BRE and cross referenced by the Department of Housing, Planning and Local Government.

 <p>SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT A guide to good practice SECOND EDITION Paul Littlefair</p> <p>ifs bre press bre trust</p>	<p>This document gives advice on site layout planning to achieve good sun lighting and daylighting, both within buildings and in the open spaces between them. This authoritative document is widely used to provide advice during the planning and design stages of building development in the UK and Ireland.</p> <p>Guidance is given on site layout for good sun lighting and daylighting; safeguarding of daylight and sunlight within existing buildings nearby; and the protection of daylighting of adjoining land for future development.</p>
 <p>An Roinn Tíreochta, Rialtais Aitiúil agus Oidhreachta Department of Housing, Local Government and Heritage</p> <p>Sustainable Urban Housing: Design Standards for New Apartments</p> <p>Guidelines for Planning Authorities issued under Section 28 of the Planning and Development Act, 2000 (as amended)</p> <p>December 2020</p>	<p>Design Standards for New Apartments - Guidelines for Planning Authorities (December 2020). This document outlines the design guides that should be used to assess daylight provision for new apartments.</p> <p>6.6 Planning authorities should 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 BS 8206-2: 2008 - 'Lighting for Buildings - Part 2: Code of Practice for Daylighting' when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision.</p>



EN 17037:2018

This European standard provides target illuminance levels to be achieved within a horizontal plane in a space in order for the space to be considered adequately daylight.

The standard “encourages building designers to assess and ensure successfully daylight spaces. It also allows building designers and developers to target ambitions with respect to daylighting, as well as addressing other issues related to daylight design”.

The document defines metrics used for the evaluation of daylighting conditions and gives principles of calculation and verification. These principles address the issue of variability of daylight over the days and the year.

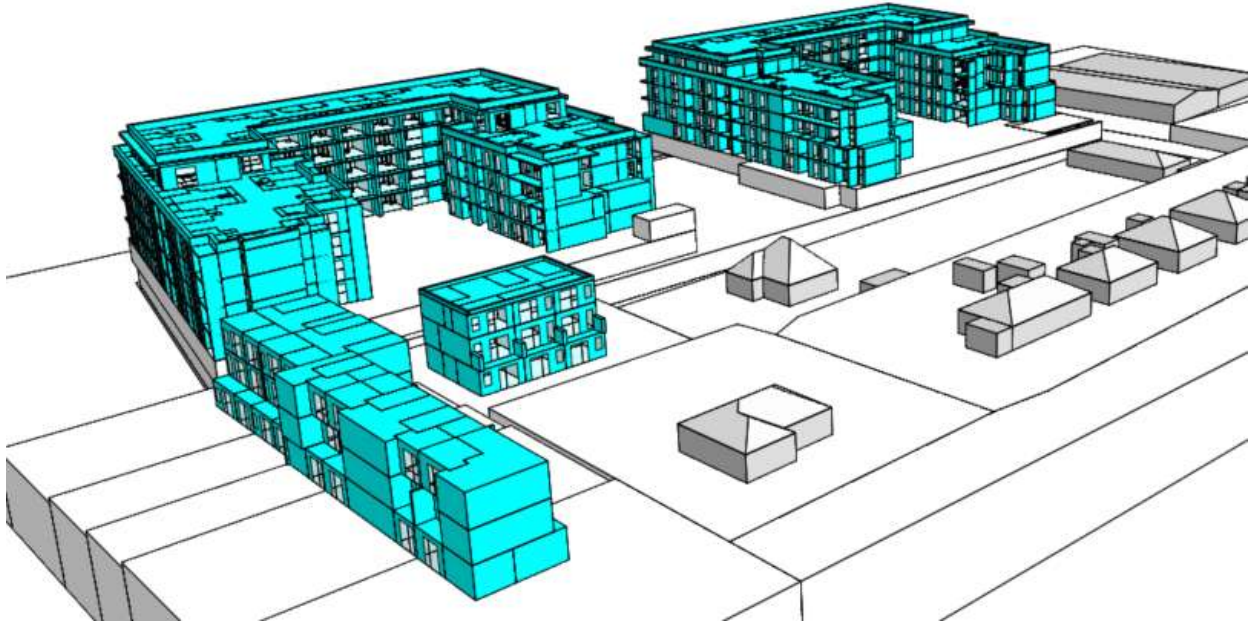
It is noted that BS 8206-2:2008: Lighting for buildings - Part 2: Code of practice for daylighting was recently replaced with BS EN 17037:2018 Daylight in Buildings. BRE is currently looking to update and re-publish BR209 to align their guidance with the new EN 17037:2018 in 2020. Until then, the position of BRE can be summarised from a post by Dr. Littlefair on the LinkedIn Planning Daylight & Sunlight Group (BRE BR209):

“BR209 currently refers to the former British Standard BS 8206 Part 2. For the time being, until BR209 is rewritten, we are adopting a flexible approach to applying the two standards, for example in assessing the daylight and sunlight available in new buildings. So for example if we were reviewing a daylight report for a local authority, we would consider it reasonable to accept either average daylight factor tables calculated using BS8206 or median daylight factors/median illuminances calculated using EN17037, provided they were calculated and presented properly.

EN17037 does not deal with loss of daylight or sunlight to existing buildings, so the current BR209 methodology can be used here, until the revised version is published.”

4. SIMULATION MODEL IMAGES

The following images show the simulation model that was constructed to analyse the daylight, sunlight, and overshadowing performance for this proposed scheme.



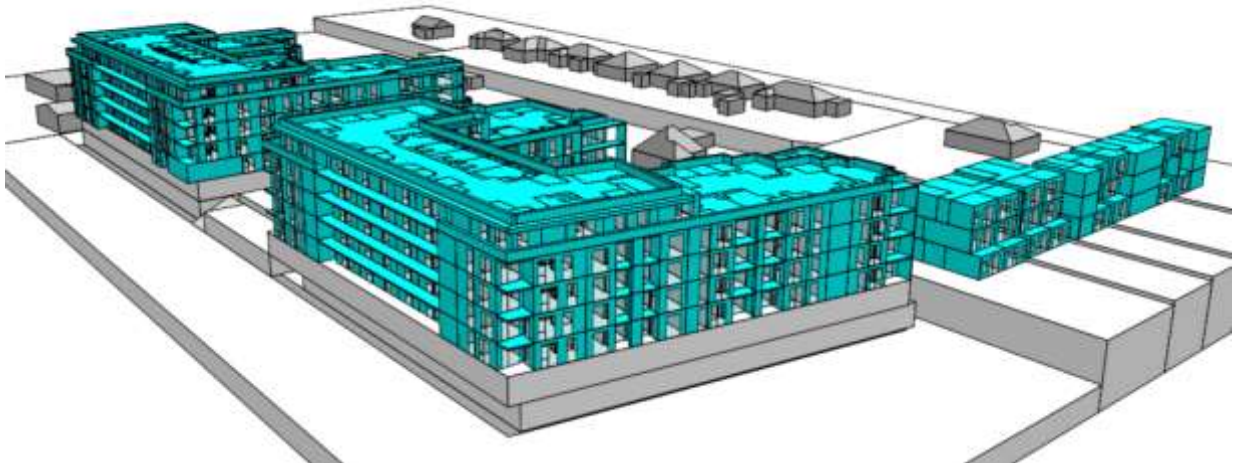
Above: Simulation model image of the proposed development from the Southwest



Above: Simulation model image of the proposed development from the Southeast.



Above: Simulation model image of the proposed development from the Northeast.



Above: Simulation model image of the proposed development from the Northwest.

5. SIMULATION SOFTWARE DESCRIPTION

IES VIRTUAL ENVIRONMENT

IES Virtual Environment is the world's leading building performance analysis tool. The software provides an in-depth suite of integrated analysis tools which allow an integrated design approach and highly detailed results.

IES VIRTUAL ENVIRONMENT - RADIANCE

Radiance is a software package developed by the Lighting Systems Research group at the Lawrence Berkeley Laboratory in California, USA. Radiance was developed as a research tool for predicting the distribution of visible radiation in illuminated spaces.

IES VIRTUAL ENVIRONMENT - SUNCAST

SunCast enables engineers to perform shading and solar insolation analysis studies and can generate images and animations. SunCast generates shadows and internal solar insolation from any sun position defined by date, time, orientation, site latitude and longitude. SunCast can be used at any stage of the design process from a model created by the IES Model Builder.

LIGHTSTANZA

LightStanza is a web-based application used for daylighting and glare simulations. The application runs on the validated Radiance engine to provide accurate daylighting results in terms of Average Daylight Factor (ADF) and Spatial Daylight Autonomy (sDA).

6. ASSESSMENT METHODOLOGY

DAYLIGHT ASSESSMENT – NEIGHBOURING PROPERTIES

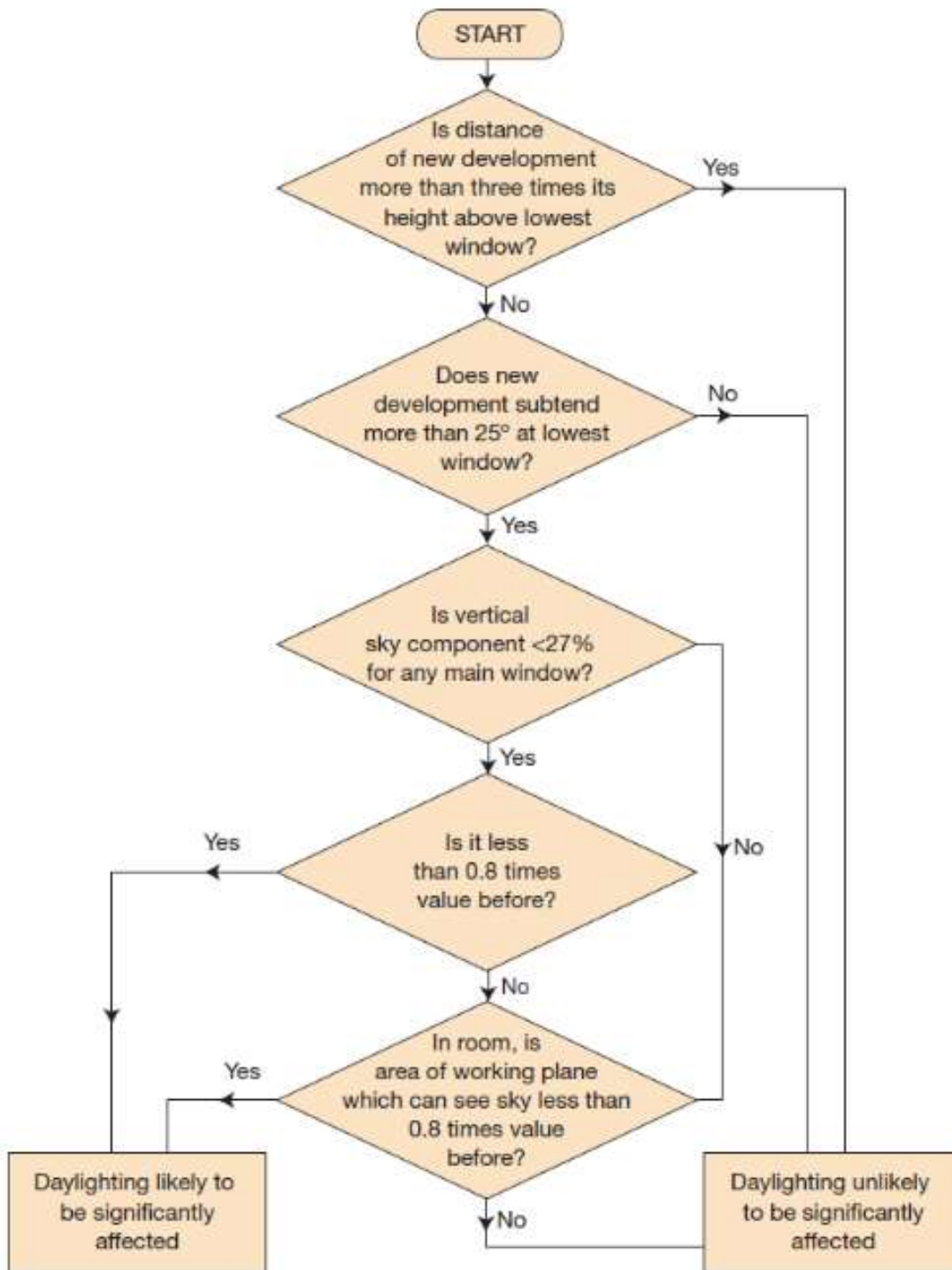
The guidelines given within the BRE Guide are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms and circulation areas need not be analysed.

To analyse the effects of the proposed development on the adjacent applicable buildings in the immediate surrounding area, a Vertical Sky Component (VSC) simulation was carried out using the IES Radiance software package. For the VSC definition refer to Section 2.0 of this report. The VSC was calculated with the proposed development in place using a simulation model. In accordance with Section 2.2 of the BRE Guide, where a VSC of 27% or greater is achieved, “enough skylight should still be reaching the existing building” and therefore daylighting will not be significantly affected. The BRE Methodology is summarised on page 14 of this report. Where a VSC less than 27% is achieved, further analysis is required to determine the likely daylight levels that will be achieved in affected spaces. Any reductions in VSC should be limited to 20%.

The surrounding residential buildings are numbered below so that they could be easily referenced during the analysis.



Methodology (as referenced in Section 2.2 of the BRE Guide)



Above: Decision chart / methodology used to quantify the impact of a new development on daylight levels of nearby buildings / dwellings.

DAYLIGHT ASSESSMENT – PROPOSED DEVELOPMENT

The assessment methodology used for this analysis is taken from the BRE Guidance document (BR209) based on the standards set out in the British Standard BS8206:2. This analysis also refers to the standards outlined in European Standard EN 17037:2018 and the British national annex provided in the BS EN 17037 standard for additional information.

Average Daylight Factor (ADF) Using BS 8206-2:2008 / BR209)

BRE's 2011 guidance document Site Layout Planning for Daylight and Sunlight states the following with respect to Average Daylight Factors (ADF).

C4 If a predominantly daylight appearance is required, then the ADF should be 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary electric lighting is provided. There are additional recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. These additional recommendations are minimum values of ADF which should be attained even if a predominantly daylight appearance is not achievable.

Above: From BRE's 2011 guidance document Site Layout Planning for Daylight and Sunlight
Therefore, in line with this guidance, minimum recommended average daylight factors are:

- **Bedrooms – 1.00 %**
- **Kitchen/Living – 2.00 %**

The following assumptions have been applied in this study:

- Sky Conditions: Standard CIE overcast sky
- Time (24hr): 12:00
- Date: 21 September
- Working Plane: 0.85m

Spatial Daylight Autonomy (sDA) Using EN 17037:2018

EN 17037:2018 – *Daylight in Buildings* states the following with respect to daylight provision within a space:

5.1.2 Criteria for daylight provision

A space is considered to provide adequate daylight if a target illuminance level is achieved across a fraction of the reference plane within a space for at least half of the daylight hours.

In addition, for spaces with vertical or inclined daylight openings, a minimum target illuminance level is also to be achieved across the reference plane.

The reference plane of the space is located 0,85 m above the floor, unless otherwise specified. A small fraction of the reference plane may be disregarded to account for singularities.

Values for target illuminances, minimum target illuminances and fractions of reference plane are given in Table A.1.

This assessment was carried out in accordance with *Method 2* which is described below:

Method 2) Calculation method of illuminance levels on the reference plane using climatic data for the given site and an adequate time step. Annex A gives values for target illuminances and minimum target illuminances to be achieved.

Table A.1 – Recommendations of daylight provision by daylight openings in vertical and inclined surfaces provides target illuminance values which are required to meet the minimum level of recommendation for daylight provision.

In line with the European standard, the following targets were adopted for all spaces assessed during this analysis:

- **300 Lux achieved over at least 50% of the reference plane (0.85m) and**
- **100 Lux achieved over at least 95% of the reference plane (0.85m)**

A space is considered to provide adequate daylight if both target illuminance levels above are achieved across the specified fraction of the space (as per above) for at least 50% of the daylight hours.

Table A.1 — Recommendations of daylight provision by daylight openings in vertical and inclined surface

Level of recommendation for vertical and inclined daylight opening	Target illuminance E_T lx	Fraction of space for target level $F_{plane, \%}$	Minimum target illuminance E_{TM} lx	Fraction of space for minimum target level $F_{plane, \%}$	Fraction of daylight hours $F_{time, \%}$
Minimum	300	50 %	100	95 %	50 %
Medium	500	50 %	300	95 %	50 %
High	750	50 %	500	95 %	50 %

NOTE Table A.3 gives target daylight factor (D_T) and minimum target daylight factor (D_{TM}) corresponding to target illuminance level and minimum target illuminance, respectively, for the CEN capital cities.

Above: Table A.1 – Recommendations of daylight provision by daylight openings in vertical and inclined surfaces taken from EN 17037:2018

The working plane has been set at 0.85m in accordance with EN17037.

Spatial Daylight Autonomy (sDA) Using BS EN 17037:2018

This study also assessed the daylight performance of the scheme using the British national annex within BS EN 17037. This National Annex recommends that the target illuminance values provided in *Table NA.1* are achieved over at least 50% of the area of the working plane (0.85m from floor level).

Table NA.1 — Values of target illuminance for room types in UK dwellings

Room type	Target illuminance E_T (lx)
Bedroom	100
Living room	150
Kitchen	200

Where one room in a UK dwelling serves more than a single purpose, the UK committee recommends that the target illuminance is that for the room type with the highest value – for example, in a space that combines a living room and a kitchen the target illuminance is recommended to be 200 lx.

In line with the recommendation of the British National Annex, an additional spatial daylight autonomy assessment was carried out to assess the number of Bedrooms that achieve the target illuminance of 100 lux over 50% of their areas, as well as the percentage of Kitchen/Living spaces achieving 200 lux over at least 50% of the areas. Following the recommendation of the British national annex above, an illuminance test for 95% of the floor area of each space was not conducted. If the analysed rooms achieve the specified illuminance level over at least 50% of their area, they are deemed to be adequately daylight according to the British national annex.

The following surface reflectance's were applied in this study:

Material Surface	Reflectance Value	Glass/Window Details
External Wall	0.82	-
Internal Partition	0.82	-
Floor/Ceiling (Floor)	0.40	-
Floor/Ceiling (Ceiling)	0.88	-
Glass Light Transmittance	-	70%

SUNLIGHT ASSESSMENT – AMENITY SPACES

BRE Guidelines recommend that in order for an amenity space to appear adequately sunlit throughout the year, at least half of the amenity space should receive at least two hours of sunlight on the design day, March 21st. If, as a result of a new development, an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on March 21st is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable.

Summary

3.3.17 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.

Above: BRE Guidance in relation to protecting Sunlight in Gardens, Open Spaces and Amenity spaces.

The amount of sunlight available to proposed and surrounding amenity spaces is assessed as part of this analysis. The results are outlined in Section 9 of this report.

SUNLIGHT ASSESSMENT – PROPOSED AND SURROUNDING BUILDINGS

According to the BRE guide, living spaces will appear reasonably sunlit if they receive 25% or more of their annual probable sunlight hours for the year, and 5% or more of their annual probable sunlight hours during the winter months. Analysis was carried out in line with BRE 209 guidance, ensuring that the proposed development receives adequate levels of sunlight and no substantial loss of sunlight is incurred in the surrounding buildings.

Summary (new buildings)

3.1.15 In general a dwelling, or non-domestic building which has a particular requirement for sunlight, will appear reasonably sunlit provided:

- at least one main window wall faces within 90° of due south and
- the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.

Above: BRE Guidance in relation to achieving adequate levels of sunlight in new buildings.

Summary

3.2.11 If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- receives less than 0.8 times its former sunlight hours during either period and
- has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

Above: BRE Guidance in relation to maintaining adequate levels of sunlight in existing buildings

Results for this assessment are shown in Section 9 of this report.

7. VSC RESULTS

The surrounding buildings are numbered below so that they can be referenced throughout this analysis. For the BRE Guidance on Vertical Sky Component refer to Section 6 of this report.

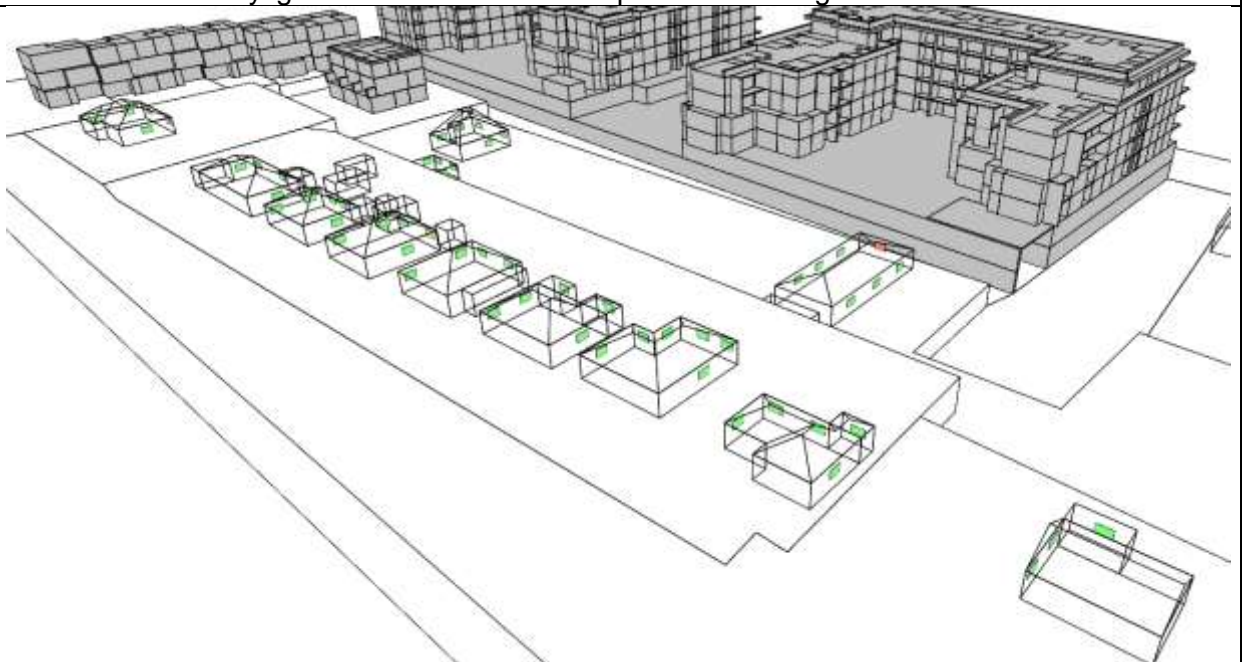
As there was no information available regarding the glazing positioning or areas within the adjacent existing properties, notional windows were modelled so that the VSC could be assessed for these buildings. These notional windows will provide an indication of whether or not the daylighting within the existing adjacent buildings will be impacted by the proposed development.



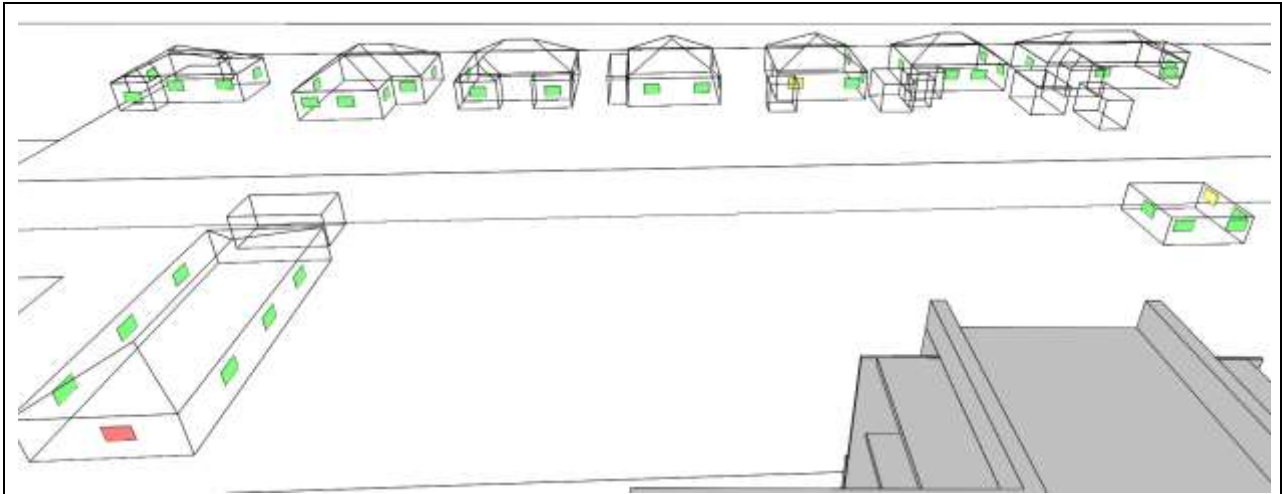
The vertical sky component results are detailed for each of the assessed surrounding buildings below and tabulated in Appendix B of this report.



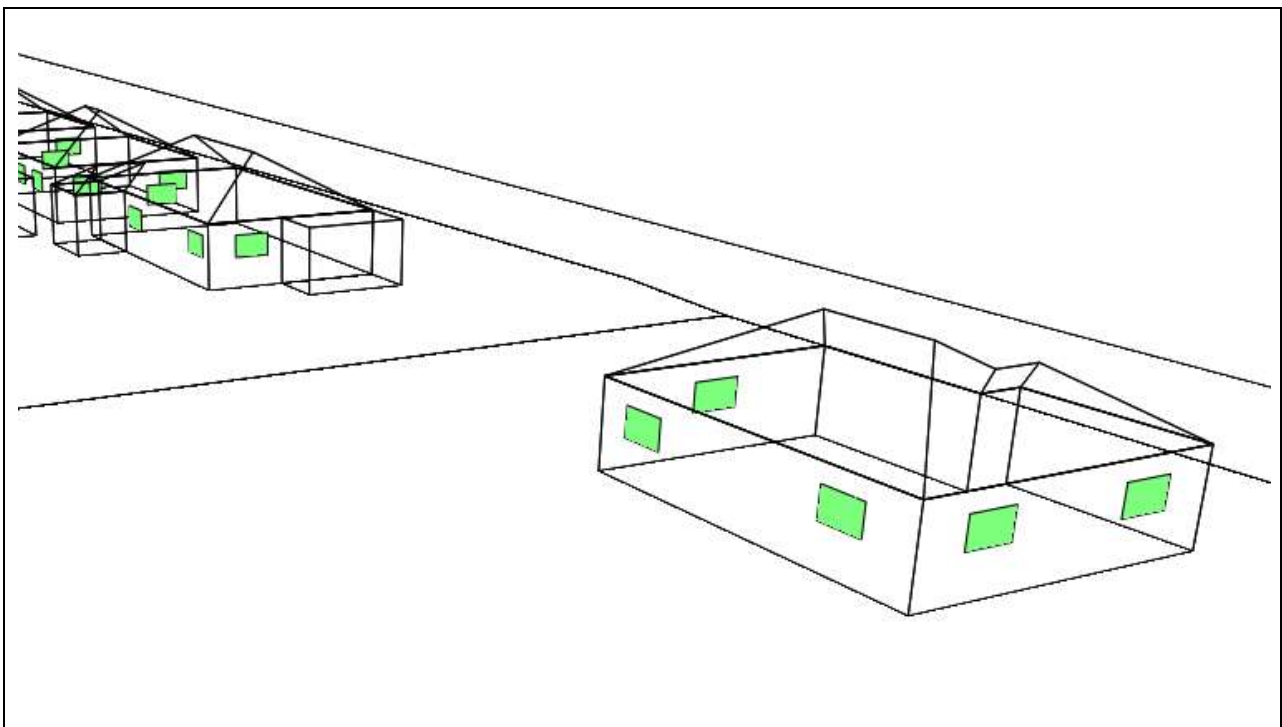
Above: Image from the southwest. Windows shown in green have achieved a VSC of $\geq 27\%$ complying with the BRE Criteria. Windows shown in yellow above are still meeting the BRE criteria due to the fact that any reduction in daylight is less than 20% compared to the original baseline. The windows in red above fall outside the BRE Guidelines as the VSC is $\leq 27\%$ and the reduction in daylight is more than 20% compared to the original baseline.



Above: Image from the southeast. Windows shown in green have achieved a VSC of $\geq 27\%$ complying with the BRE Criteria. Windows shown in yellow above are still meeting the BRE criteria due to the fact that any reduction in daylight is less than 20% compared to the original baseline. The windows in red above fall outside the BRE Guidelines as the VSC is $\leq 27\%$ and the reduction in daylight is more than 20% compared to the original baseline.



Above: Surrounding Blocks 2, 4, 5, 6, 7, 8, 9, 10 and 11 from the north. Windows shown in green have achieved a VSC of $\geq 27\%$. If the VSC is greater than 27% then enough skylight should be reaching the window of the existing buildings. Windows shown in yellow above are still meeting the BRE criteria due to the fact that any reduction in daylight is less than 20% compared to the original baseline. The windows in red above fall outside the BRE Guidelines as the VSC is $\leq 27\%$ and the reduction in daylight is more than 20% compared to the original baseline value.



Above: Surrounding Blocks 1 and 2 from the northwest. Windows shown in green have achieved a VSC of $\geq 27\%$.

A full breakdown of the VSC results for each opening analysed can be found in Appendix B of this report.

Our simulation analyses the impact that the proposed development has on the windows of its surrounding buildings. The existing adjacent buildings are residential properties and so, and in keeping with the guidance protocols, the windows of these buildings were assessed for potential loss of daylight. The assessed surrounding buildings along Kilmoney Road Lower largely meet the recommended VSC value according to the BRE Guide.

Of the 59 notional openings assessed, 58 openings (98.3%) achieve a VSC result that meets the recommendation outlined in the BRE Guide.

The VSC reduction experienced in the north facing opening of Surrounding Block 10 would be classed as a “minor adverse” impact according to BRE Guidance where “only a small number of windows or limited area of open space are affected”. Here, there is 1 window that has had its VSC reduced to less than 80% of their pre-development value (65.72%). This VSC impact is due to the proximity and relative height of the proposed development. All other assessed windows within this adjacent property meet the recommendations of the BRE Guide.

As a result of this analysis, it is our understanding that the vast majority of adjacent building openings achieve a VSC in line with the recommendation of the BRE Guide, with one opening (Surrounding Block 10, north-facing) experiencing a minor adverse impact due to the proposed development.

Consideration should be given to the fact that the comparison being made is between an under-utilised existing site and the proposed development, which is inevitably going to have some form of an impact given its proximity and relative height. The planning authority should consider applying flexibility with regard to BRE standards to balance the objective of achieving urban regeneration with any potential impacts.

8. AVERAGE DAYLIGHT FACTOR RESULTS – PROPOSED SCHEME

As this development consists of combined kitchen/living spaces, the Minimum recommended Average Daylight Factors (ADF) according to BRE Guidance are:

- Bedrooms – 1.00 %
- Kitchen/Living Rooms – 2.00 %

An iterative design process was carried out to increase the daylight performance of the regularly occupied spaces within this development. Further design developments such as increased window sizes, additional windows, reduced balcony overhangs and reduced side screens have enabled more units to reach their target ADF performance in line with BRE guidance. The average daylight factor (ADF) for the bedrooms and kitchen/living spaces have been assessed as per the methodology outlined in Section 6 of this report.

ADF Results Summary

The calculated ADF results are summarised below:

% of Bedrooms with an ADF \geq 1.00	% of Living/Kitchen with an ADF \geq 2.00
98.0	94.6

A detailed breakdown of the ADF result achieved in each space can be seen in Appendix C of this report.

sDA Results Summary (EN17037 and BS EN17037)

This scheme was also assessed using the latest European Standard EN17037 as well as the British national annex provided in BS EN17037.

Spatial Daylight Autonomy - EN17037	
All spaces recommended to achieve 300 lux over 50% of area and 100 Lux over 95% of area for at least 50% of daylight hours	
Room Type	Passing (%)
Bedroom	88.9
KLD	94.0
Overall	90.7

Spatial Daylight Autonomy – BS EN17037 British National Annex	
KLD recommended to achieve 200 lux over 50% area for at least 50% of daylight hours Bedrooms recommended to achieve 100 lux over 50% area for at least 50% of daylight hours	
Room Type	Passing (%)
Bedroom	100.0
KLD	99.5
Overall	99.8

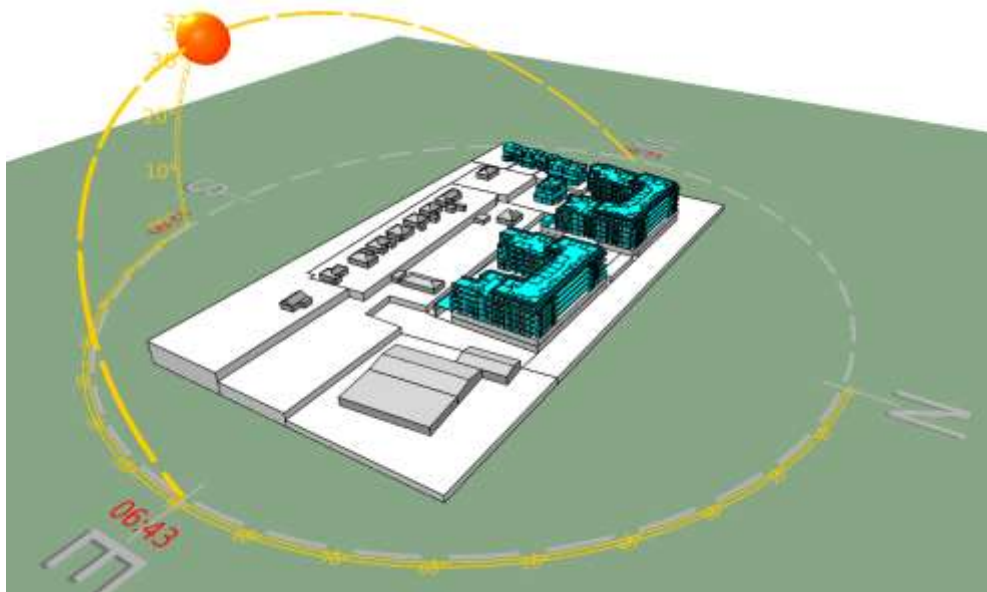
The results of these assessments are tabulated in detail in Appendix D and Appendix E of this document.

9. SUNLIGHT RESULTS

For the BRE Guidance on sunlight refer to Section 6 of this report.

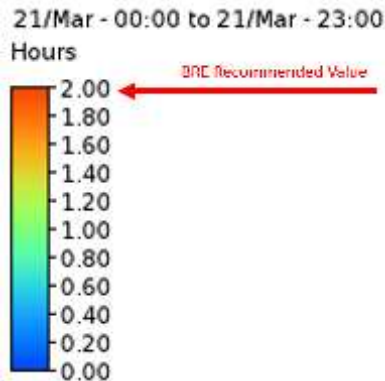


Above: Google Earth Image of the existing site.



Above: Sun path over the proposed development on the 21st March.

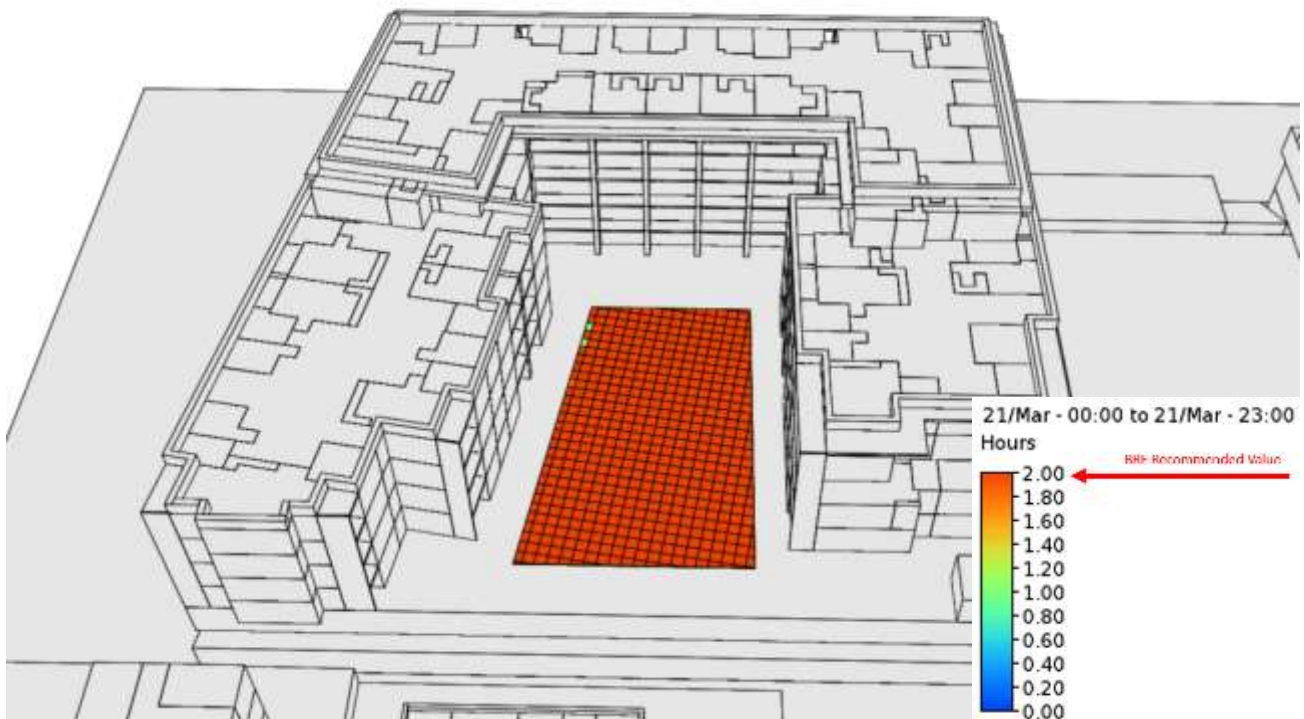
Annual Probable Sunlight Hours – Amenity Spaces



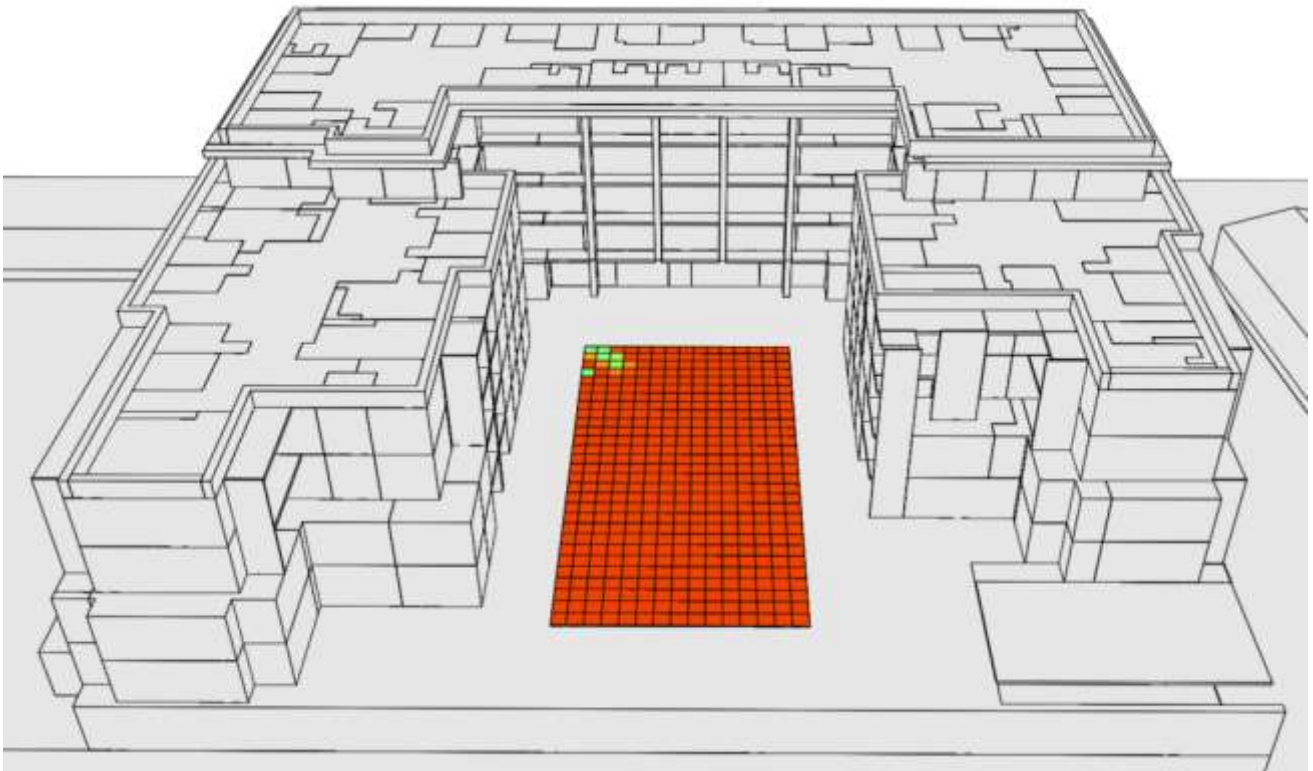
Above: Probable sunlight hours on March 21st (hours) legend

Amenity Areas – Proposed Development

BRE Guidelines recommend that in order for an amenity space to appear adequately sunlit throughout the year, at least half of the amenity space should receive at least two hours of sunlight on the design day, March 21st.



Above: The amenity area within Block 1. Areas that meet the recommended level of sunlight on the design day (March 21st) are shown in red. This area receives sufficient levels of sunlight in line with the BRE guidance, achieving 2 hours of sunlight over the vast majority of its total area on the design day.



Above: The amenity area within Block 2. Areas that meet the recommended level of sunlight on the design day (March 21st) are shown in red. This area receives sufficient levels of sunlight in line with the BRE guidance, achieving 2 hours of sunlight over the vast majority of its total area on the design day.

Amenity Areas – Neighbouring Properties

BRE Guidelines recommend that in order for an amenity space to appear adequately sunlit throughout the year, at least half of the amenity space should receive at least two hours of sunlight on the design day, March 21st.



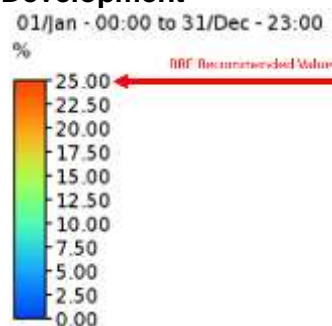
Above: The garden areas of neighbouring properties. Areas that meet the recommended level of sunlight on the design day (March 21st) are shown in red. These areas receive sufficient levels of sunlight in line with the BRE guidance, achieving 2 hours of sunlight over the vast majority of their total area on the design day. The proposed development will not cause a significant impact to the level of sunlight in the neighbouring gardens as the development is located north of the gardens themselves. Localised areas that do not achieve the recommended level of sunlight are shading by the neighbouring properties themselves rather than the proposed development.

Annual Probable Sunlight Hours – Proposed Development

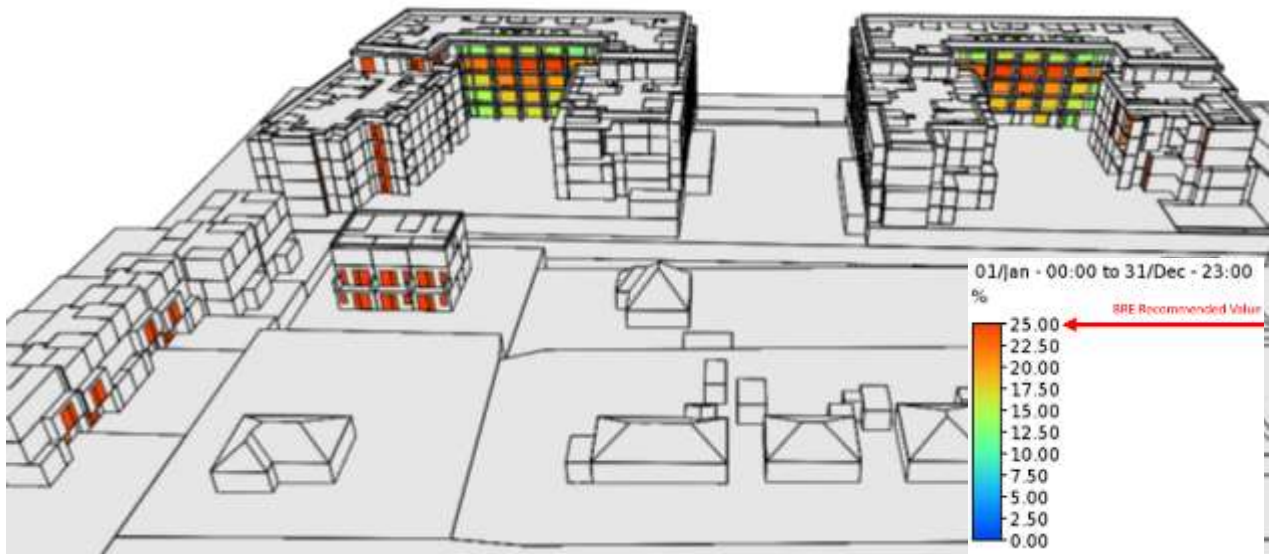
As outlined in *Section 7* of this report, the living spaces of these developments will appear adequately sunlit provided they receive 25% of their annual probable sunlight hours during the year and 5% of their probable sunlight hours during the winter months. If a living room of an existing dwelling has a **main window facing within 90° of due south**, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. . The results of this assessment are represented below for all relevant areas.

As windows that are more than 90° from due south are not expected to achieve the criteria outlined in the BRE Guide any such windows have not been considered as part of the annual probable sunlight analysis.

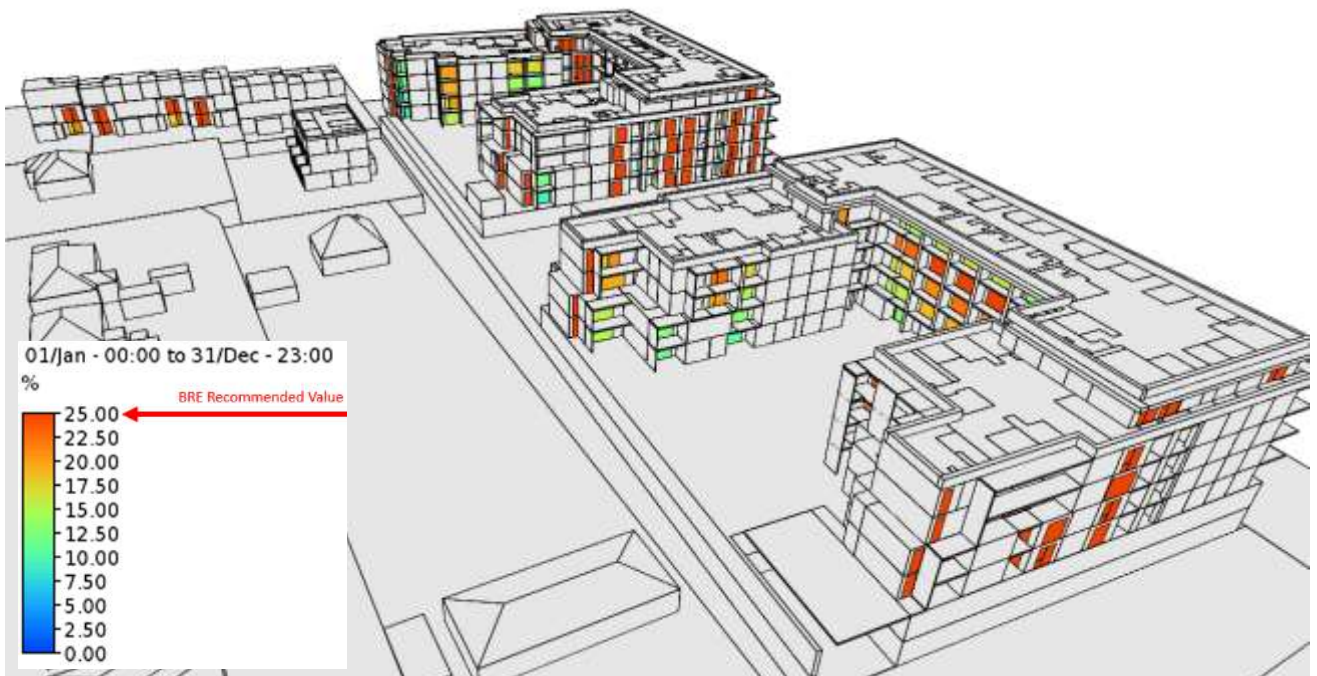
Annual Assessment – Proposed Development



Above: Annual probable sunlight hours (%) legend



Above: The image above (taken from the south) shows the living spaces of the proposed development. As shown, openings that achieve at least 25% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance. Other openings (shown in orange, yellow and green) do not achieve the BRE recommended annual probable sunlight hours value.

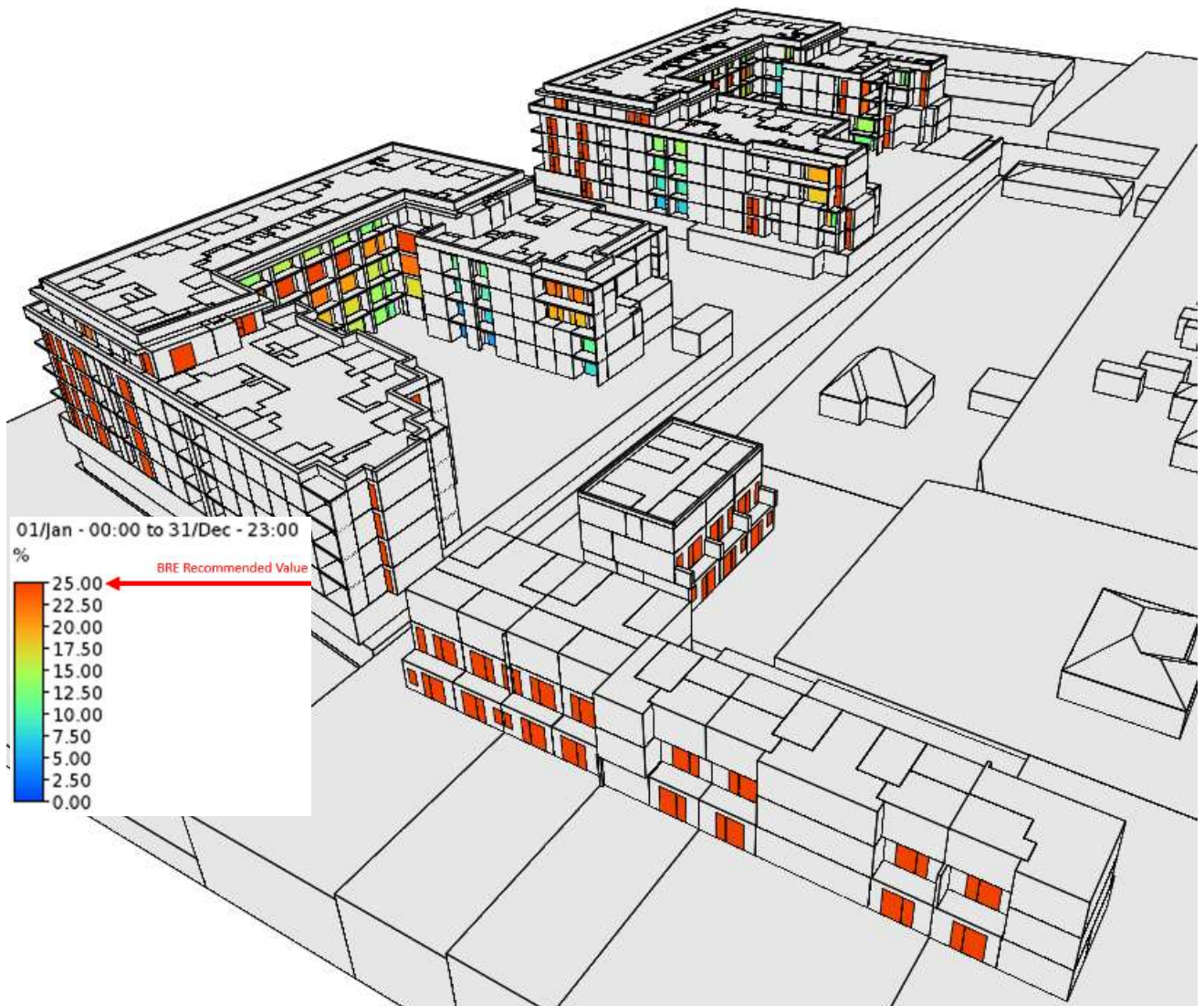


Above: The image above (taken from the southeast) shows the living spaces of the proposed development. As shown, openings that achieve at least 25% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance.

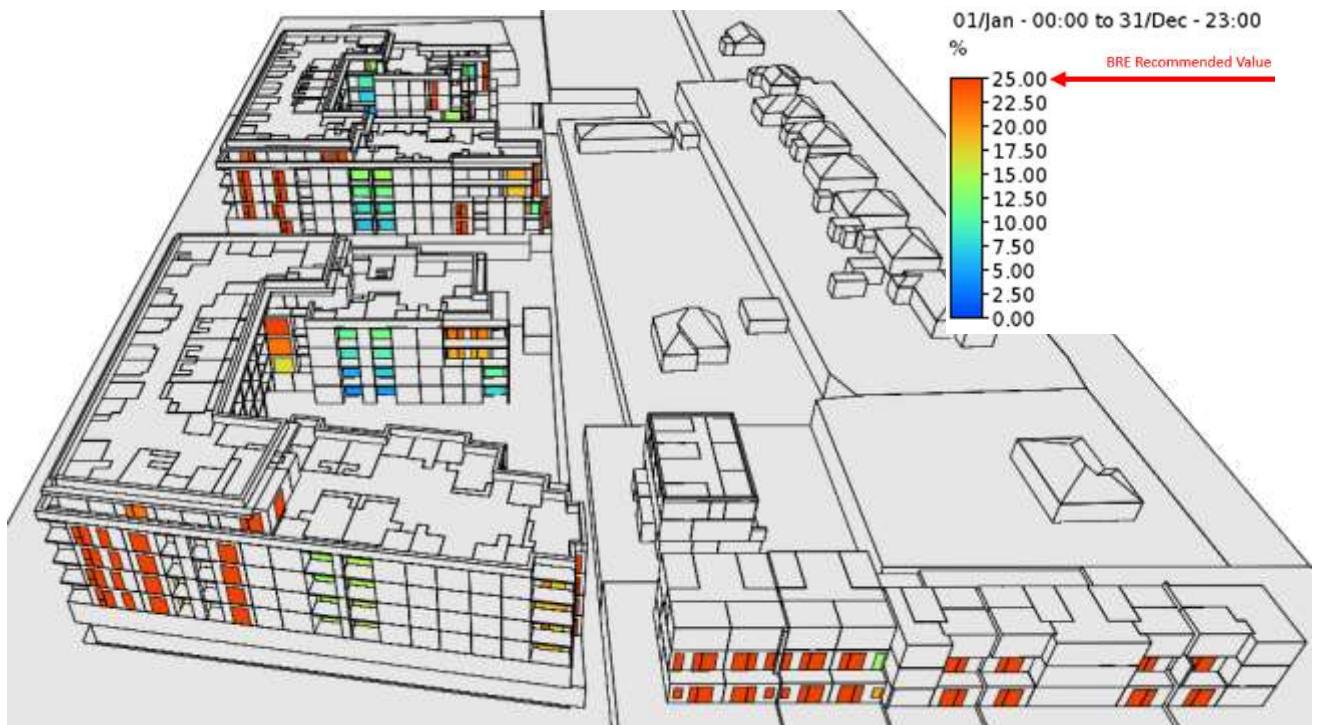
Other openings (shown in orange, yellow and green) do not achieve the BRE recommended annual probable sunlight hours value.



Above: The image above (taken from the east) shows the living spaces of the proposed development. As shown, openings that achieve at least 25% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance. Other openings (shown in orange, yellow and green) do not achieve the BRE recommended annual probable sunlight hours value.



Above: The image above (taken from the southwest) shows the living spaces of the proposed development. As shown, openings that achieve at least 25% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance. Other openings (shown in orange, yellow and green) do not achieve the BRE recommended annual probable sunlight hours value.

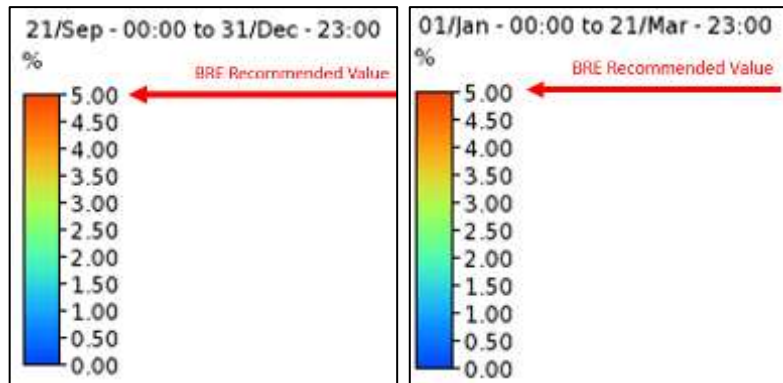


Above: The image above (taken from the west) shows the living spaces of the proposed development. As shown, openings that achieve at least 25% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance. Other openings (shown in orange, yellow and green) do not achieve the BRE recommended annual probable sunlight hours value.

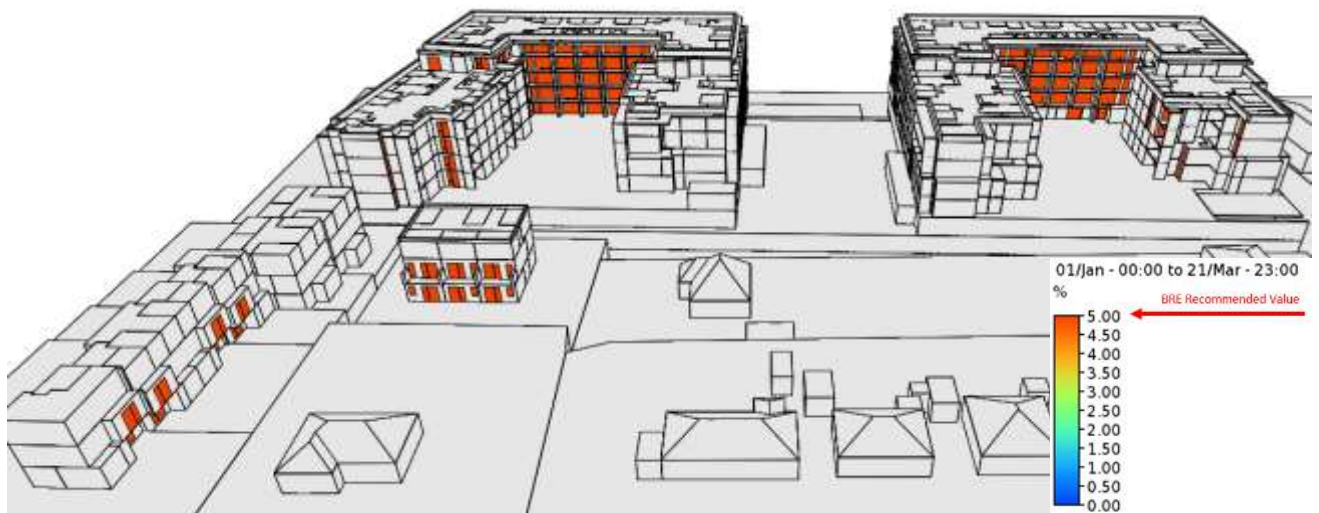
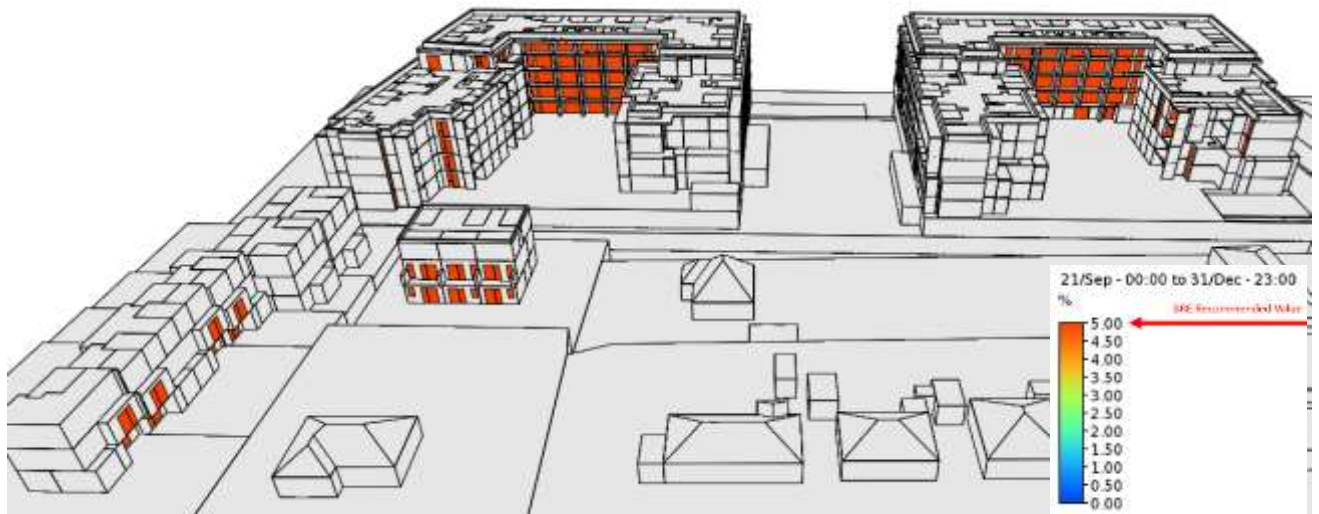
The graphics above shows the living spaces within the proposed development that achieve 25% of their annual probable sunlight hours (highlighted in red) meaning these spaces will appear adequately sunlit in line with BRE 209 guidance. As shown, there are a number of windows assessed that do not achieve the BRE recommended levels of annual sunlight due to their location and proximity to other sections of the building and shading devices.

It should be noted that windows that are more than 90° from due south are not expected to achieve the criteria outlined in the BRE Guide and so should not be considered as part of the annual probable sunlight analysis.

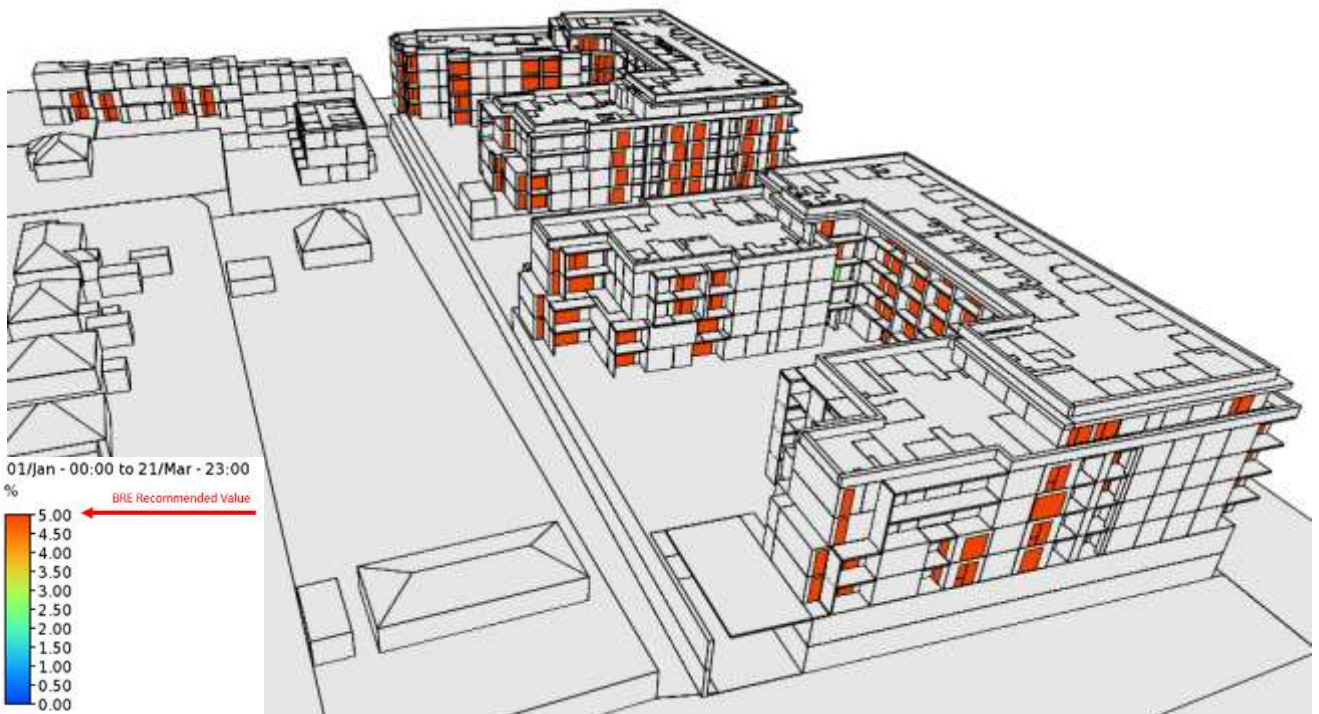
Annual Probable Sunlight Hours – Proposed Development: Winter Assessment



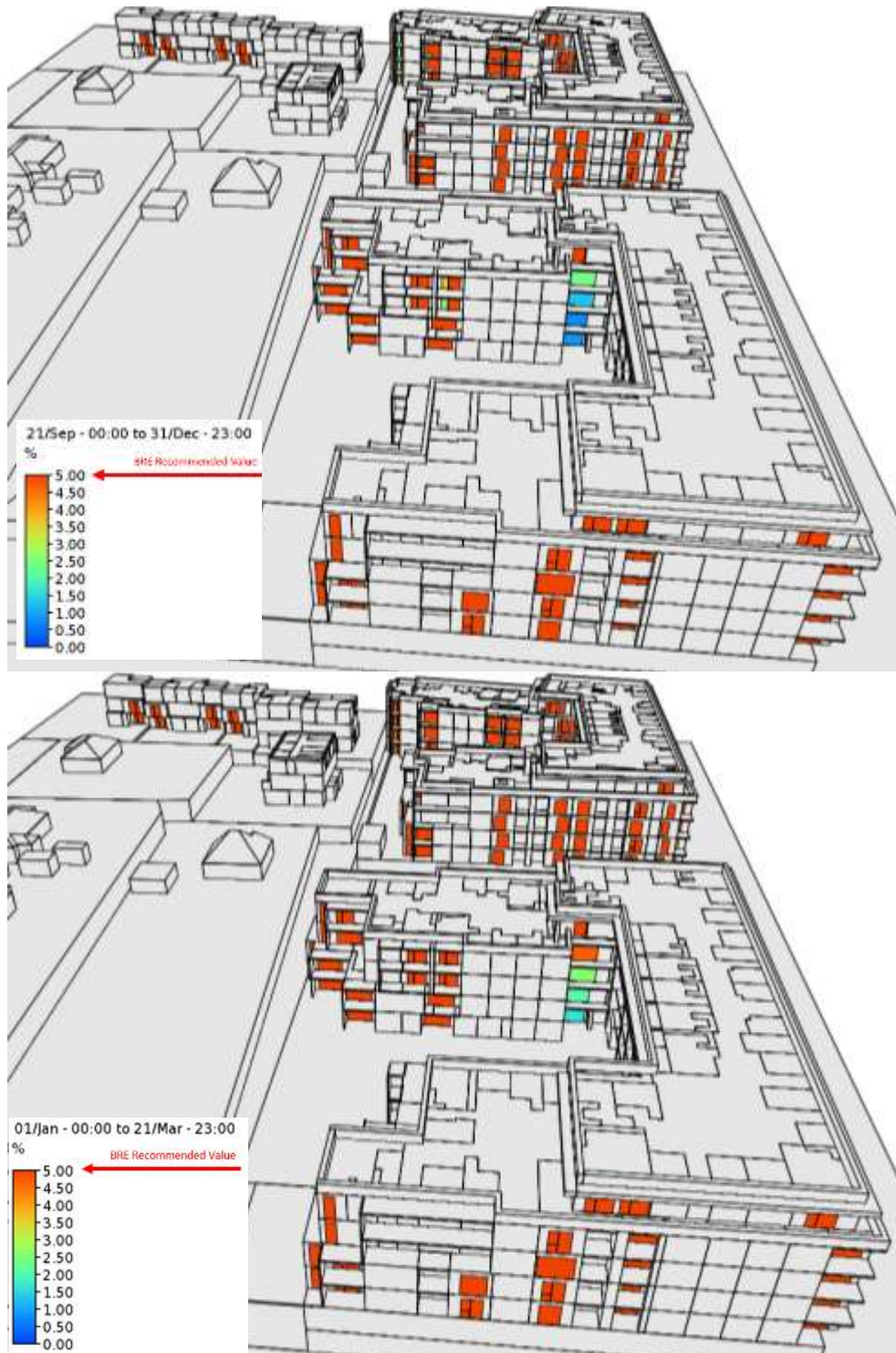
Above: Probable sunlight hours from September 21st to March 21st (%) legend



Above: The images above (taken from the south) show the living spaces of the proposed development. As shown, openings that achieve at least 5% of their probable sunlight hours during winter months are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance.



Above: The images above (taken from the southeast) show the living spaces of the proposed development. As shown, openings that achieve at least 5% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance. Other openings (shown in yellow, green and blue) do not achieve the BRE recommended annual probable sunlight hours value.

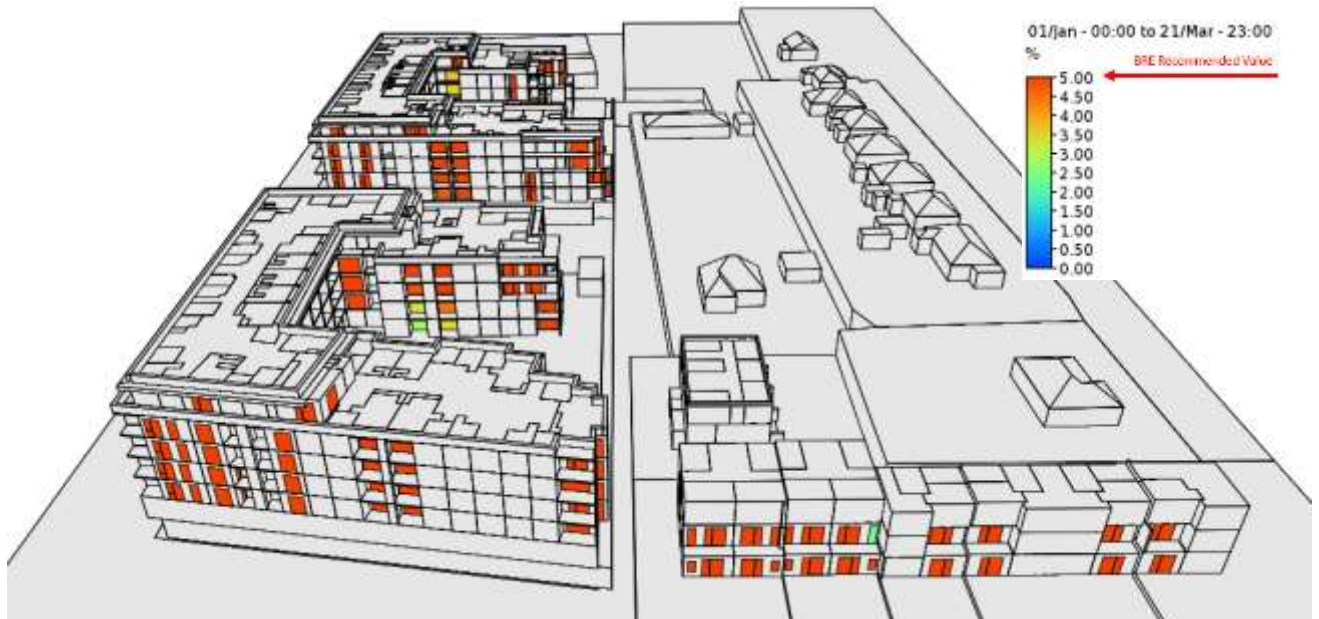
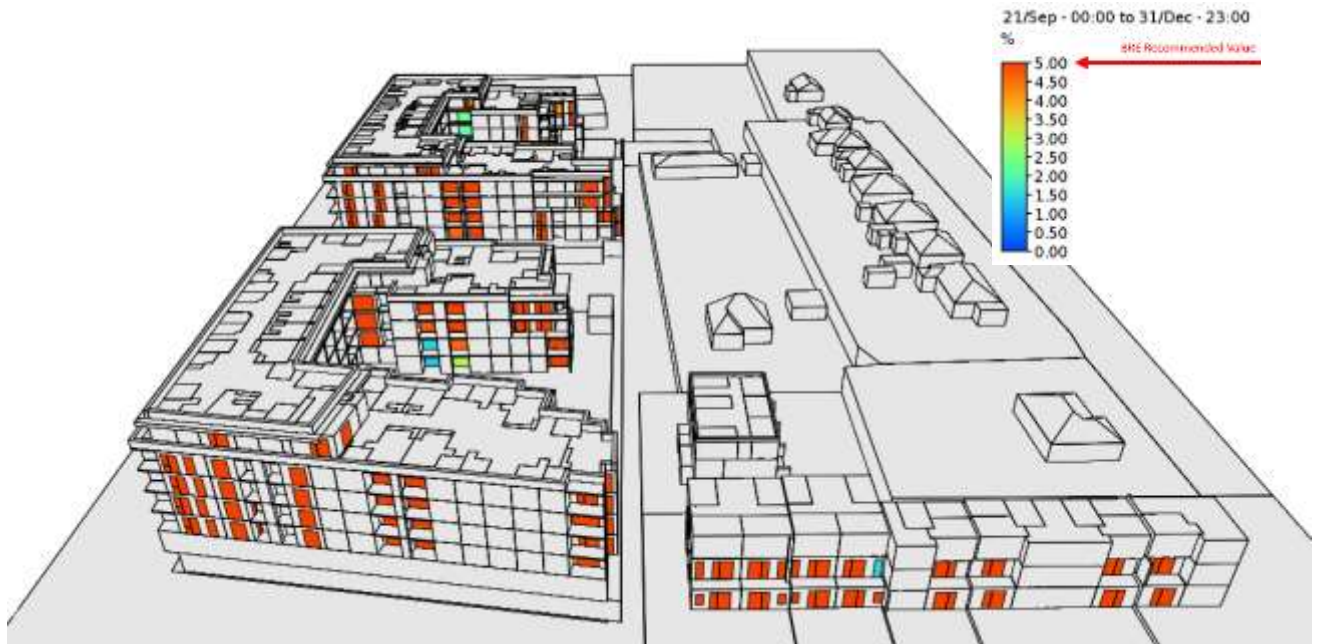


Above: The images above (taken from the east) show the living spaces of the proposed development. As shown, openings that achieve at least 5% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance. Other openings (shown in yellow, green and blue) do not achieve the BRE recommended annual probable sunlight hours value.



Above: The images above (taken from the southwest) show the living spaces of the proposed development. As shown, openings that achieve at least 5% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance.

Other openings (shown in yellow, green and blue) do not achieve the BRE recommended annual probable sunlight hours value.



Above: The images above (taken from the west) show the living spaces of the proposed development. As shown, openings that achieve at least 5% of their annual probable sunlight hours are highlighted in red. These openings will appear adequately sunlit in line with BRE 209 guidance. Other openings (shown in yellow, green and blue) do not achieve the BRE recommended annual probable sunlight hours value.

The graphics above show the living spaces within the proposed development that achieve 5% of their annual probable sunlight hours (highlighted in red) meaning these spaces will appear adequately sunlit in line with BRE 209 guidance. As shown, there are a number of windows assessed that do not achieve the BRE recommended levels of winter sunlight due to their location and proximity to other sections of the building and shading devices.

It should be noted that windows that are more than 90° from due south are not expected to achieve the criteria outlined in the BRE Guide and so should not be considered as part of the annual probable sunlight analysis.

As the proposed development is located north of the neighbouring residential properties, the windows that are eligible for sunlight assessment in line with BRE guidance will not be impacted by the proposed development. For this reason, the surrounding residential properties were not assessed for sunlight availability.

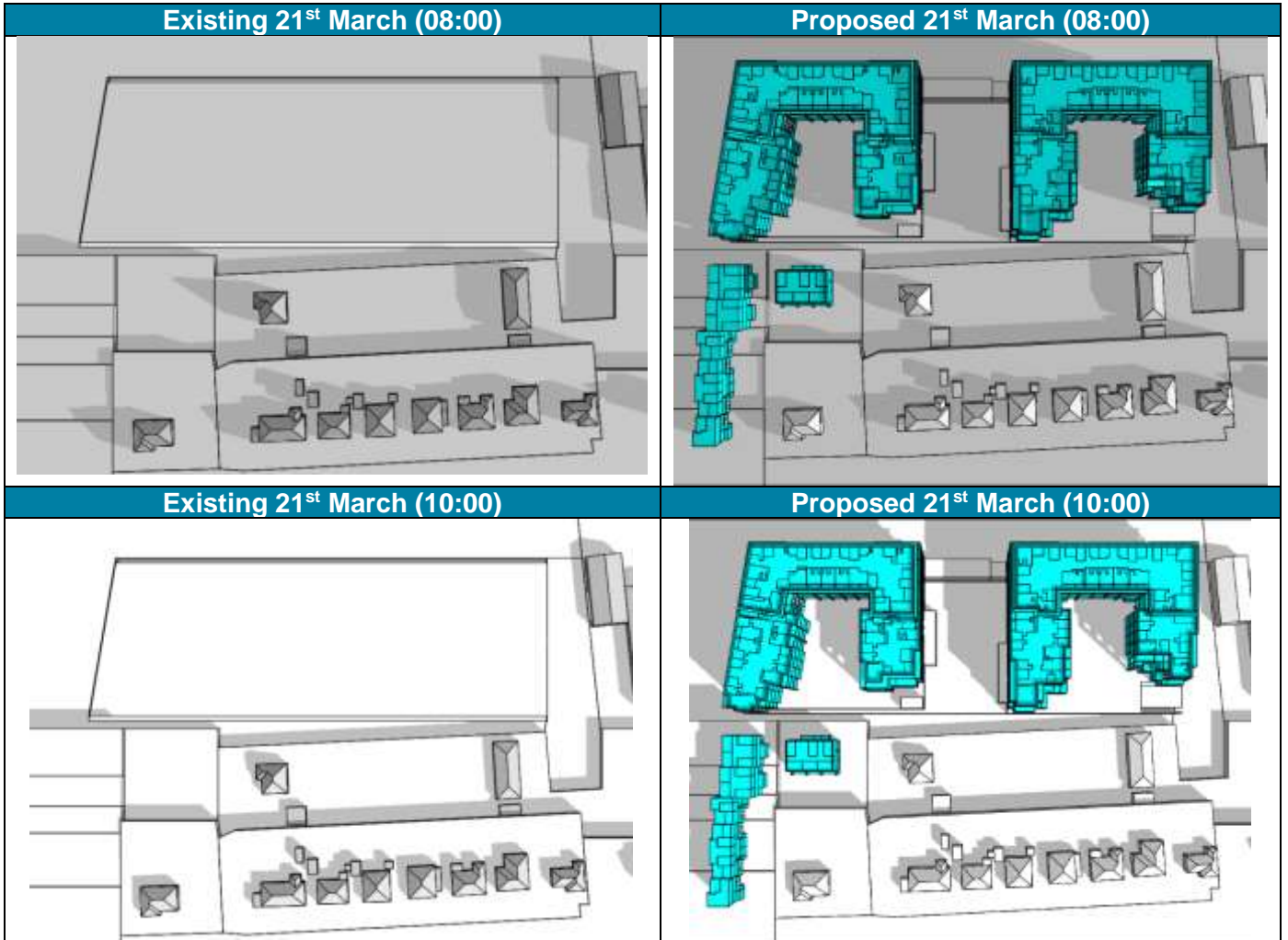
10. COMPENSATORY MEASURES

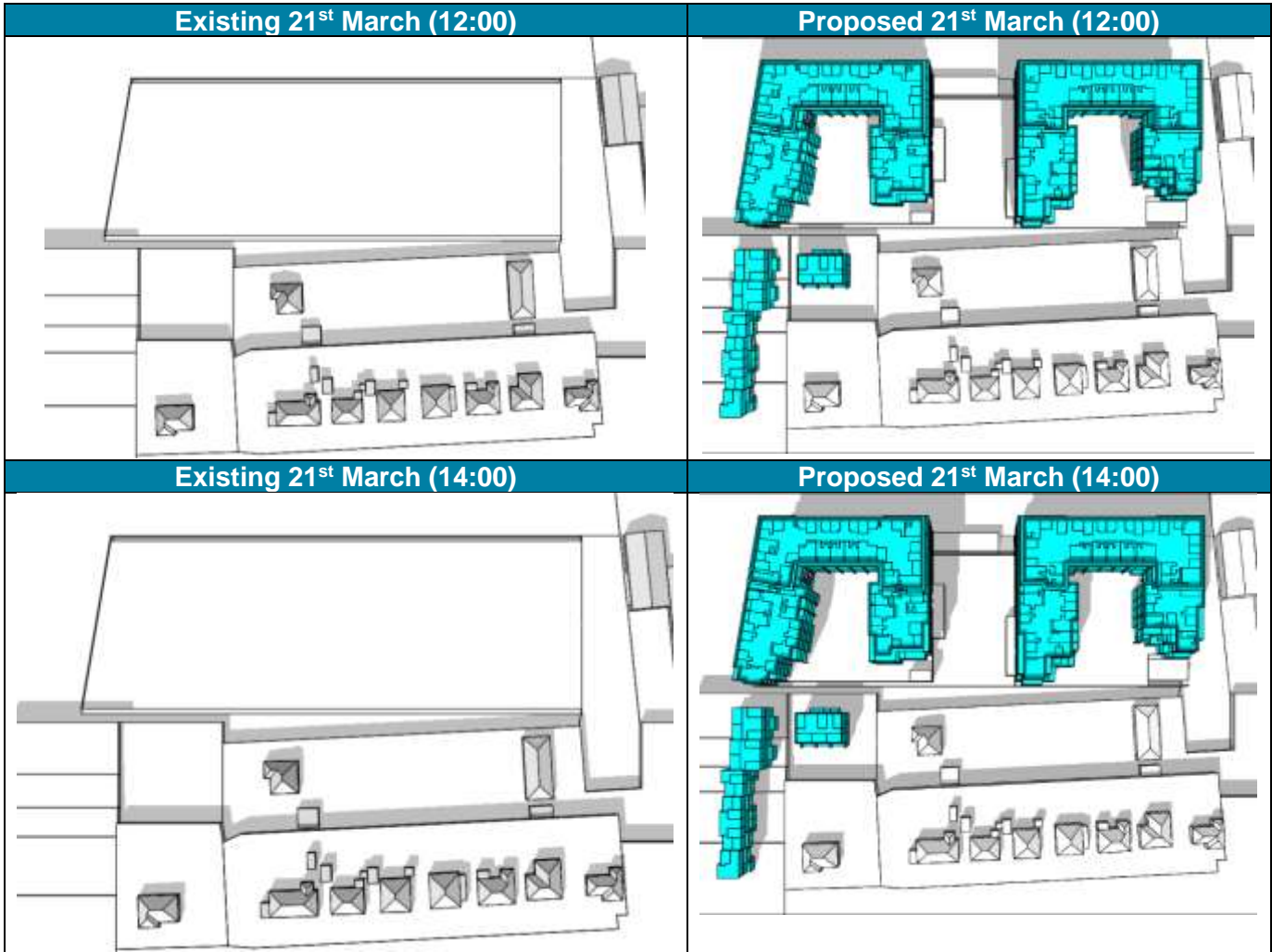
Of the 224 units proposed, 54% enjoy a dual aspect configuration and share full access to a courtyard amenity space which is usable all year round. This courtyard space receives a sufficient level of sunlight across the vast majority of its area according to BRE guidance.

All units also have higher than average ceilings at a height of 2.7m.

APPENDIX A | OVERSHADOWING IMAGES

Plan View Images
Plan View – 21st March

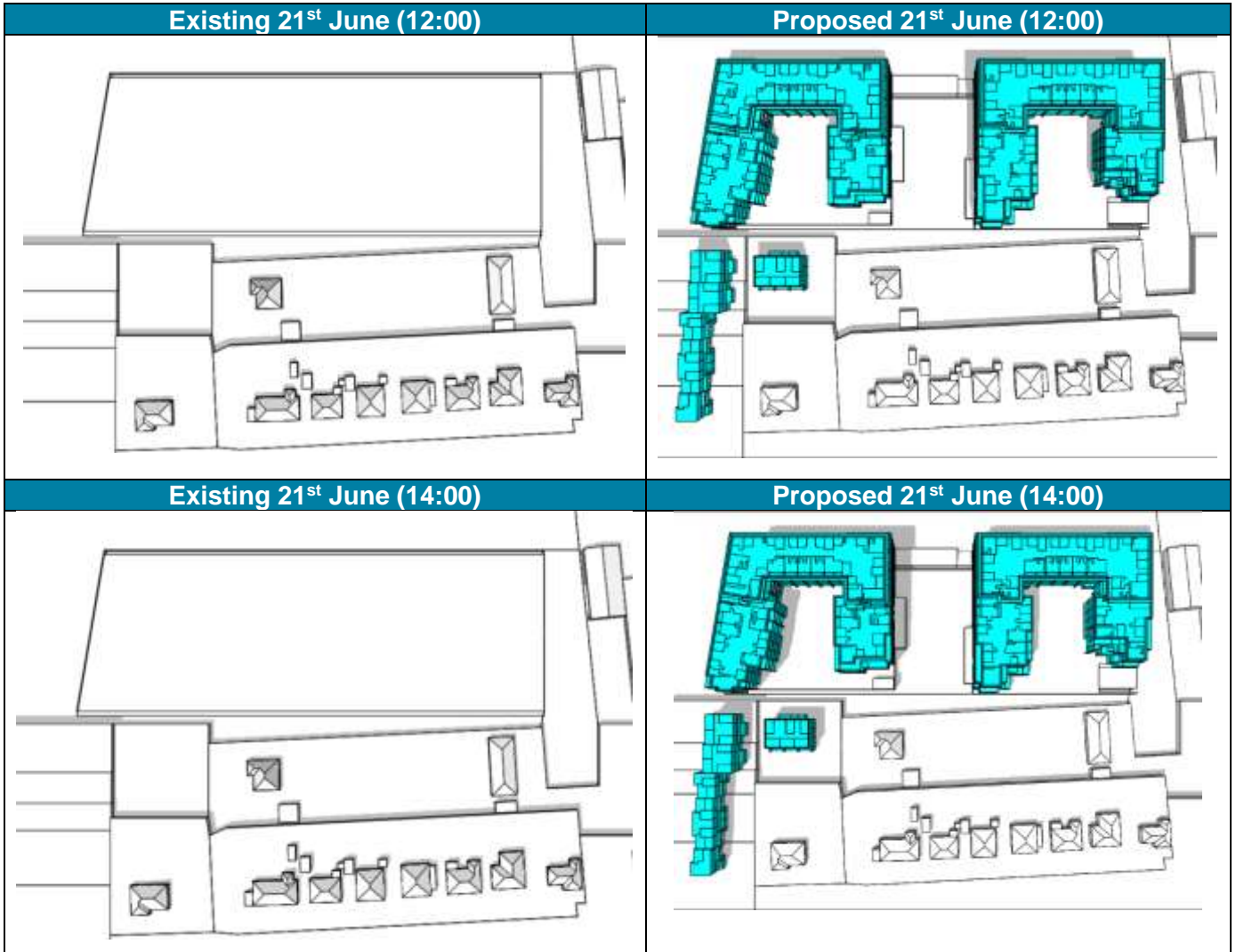






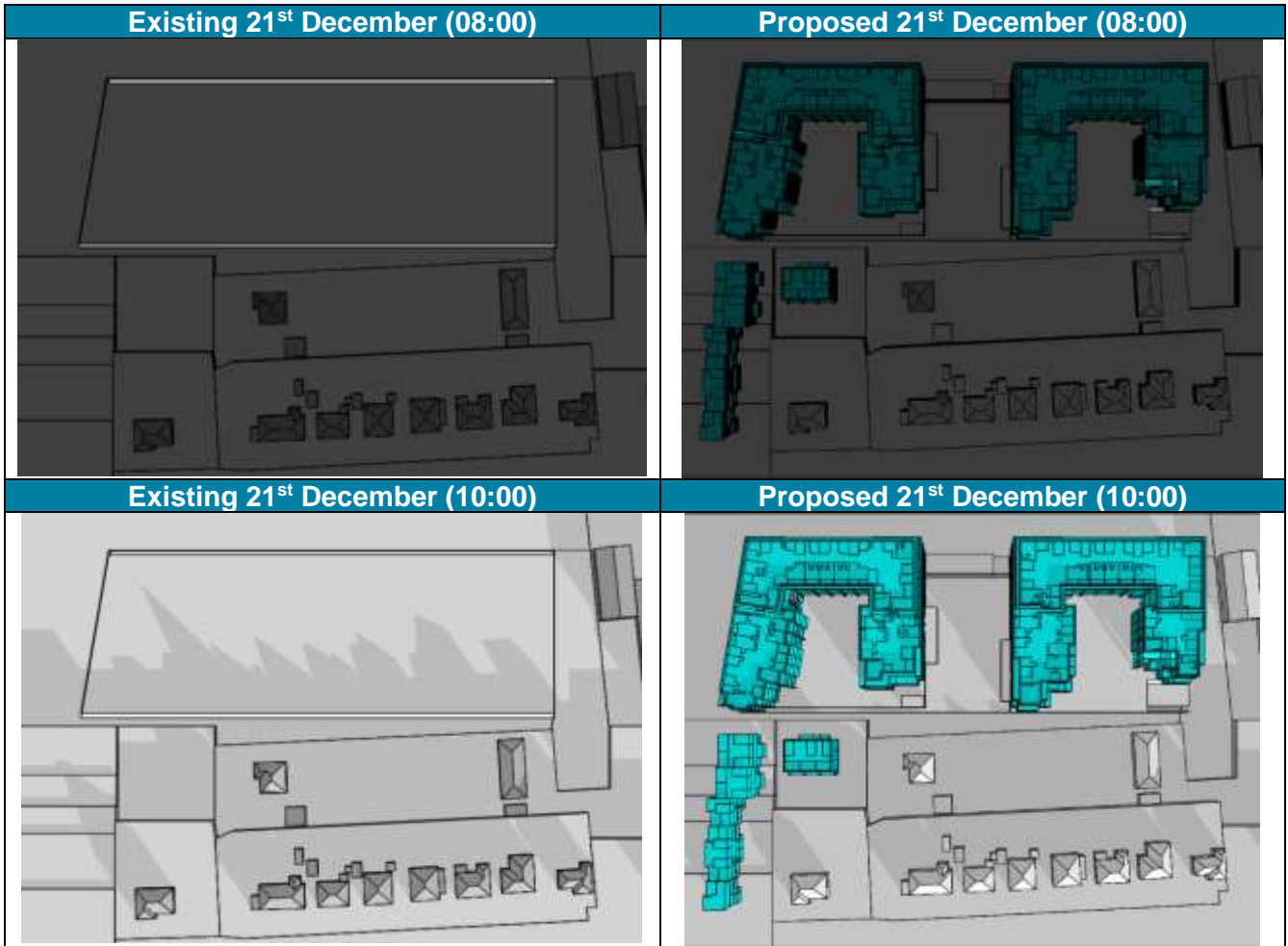
Plan View – 21st June

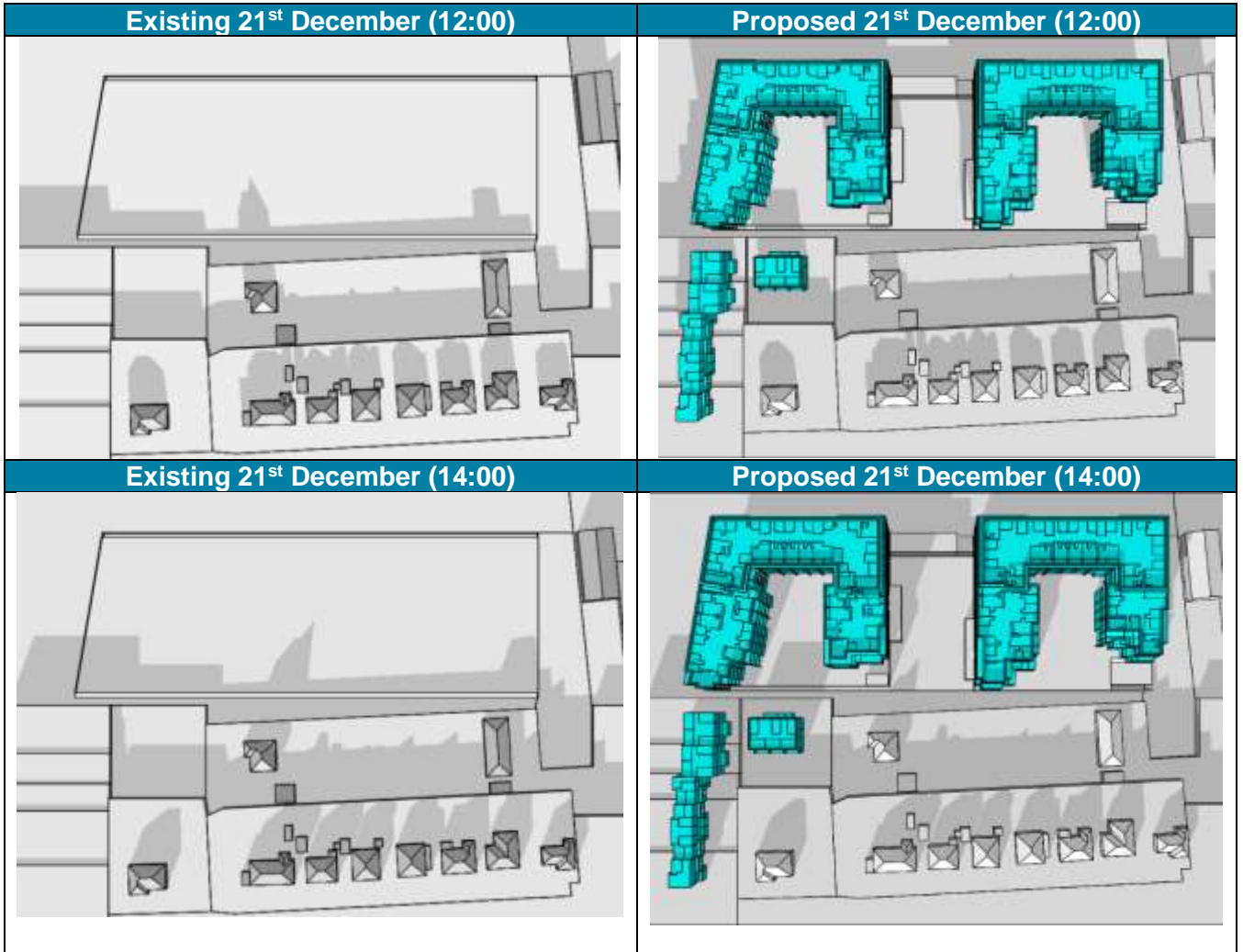






Plan
Plan View – 21st December







APPENDIX B | VERTICAL SKY COMPONENT RESULTS

Ref No.	Surrounding Building	Surface	Opening	Resultant VSC (Post-Development)	Existing VSC (Pre-Development)	Status	% of Existing VSC Maintained
1	Block 4	2	0	26.44	28.51	Pass2	92.74
2	Block 4	2	1	31.12	32.97	Pass	94.39
3	Block 4	3	0	31.07	34.54	Pass	89.95
4	Block 4	3	1	32.11	36.45	Pass	88.09
5	Block 4	4	0	31.49	33.42	Pass	94.23
6	Block 6	2	0	34.02	34.03	Pass	99.97
7	Block 6	2	1	27.06	27.15	Pass	99.67
8	Block 6	3	0	34.01	36.12	Pass	94.16
9	Block 6	3	1	25.96	27.33	Pass2	94.99
10	Block 6	4	0	33.25	33.38	Pass	99.61
11	Block 5	2	0	32.70	33.26	Pass	98.32
12	Block 5	2	1	31.65	31.92	Pass	99.15
13	Block 5	3	0	31.75	32.05	Pass	99.06
14	Block 5	5	0	34.75	36.41	Pass	95.44
15	Block 5	5	1	32.81	34.66	Pass	94.66
16	Block 10	1	0	33.38	37.99	Pass	87.87
17	Block 10	1	1	33.88	37.32	Pass	90.78
18	Block 10	1	2	33.90	37.82	Pass	89.64
19	Block 10	2	0	25.73	39.15	*Note 1	65.72
20	Block 10	3	0	36.98	37.44	Pass	98.77
21	Block 10	3	1	36.72	38.48	Pass	95.43
22	Block 10	3	2	37.39	38.04	Pass	98.29
23	Block 12	3	0	38.01	39.15	Pass	97.09
24	Block 12	2	0	37.66	38.60	Pass	97.56
25	Block 12	2	1	37.19	38.43	Pass	96.77
26	Block 11	2	0	35.12	35.95	Pass	97.69
27	Block 11	3	0	38.52	38.52	Pass	100.00
28	Block 11	5	0	36.98	38.55	Pass	95.93
29	Block 11	5	1	32.04	33.73	Pass	94.99
30	Block 11	2	0	37.38	39.09	Pass	95.63
31	Block 9	2	0	30.36	30.43	Pass	99.77
32	Block 9	3	0	36.90	39.21	Pass	94.11
33	Block 9	3	1	36.70	39.14	Pass	93.77
34	Block 9	4	0	37.21	37.24	Pass	99.92
35	Block 9	6	0	33.24	34.48	Pass	96.40
36	Block 9	7	0	31.34	33.73	Pass	92.91
37	Block 8	2	0	36.41	39.18	Pass	92.93
38	Block 8	3	0	36.24	39.02	Pass	92.88

Ref No.	Surrounding Building	Surface	Opening	Resultant VSC (Post-Development)	Existing VSC (Pre-Development)	Status	% of Existing VSC Maintained
39	Block 8	2	0	33.90	34.18	Pass	99.18
40	Block 8	2	1	32.09	32.62	Pass	98.38
41	Block 8	3	0	31.17	31.22	Pass	99.84
42	Block 1	2	0	33.92	39.11	Pass	86.73
43	Block 1	2	1	32.41	39.24	Pass	82.59
44	Block 1	3	0	34.63	39.08	Pass	88.61
45	Block 1	3	1	35.35	39.07	Pass	90.48
46	Block 1	4	0	38.12	38.84	Pass	98.15
47	Block 3	2	0	31.73	38.05	Pass	83.39
48	Block 3	3	0	27.37	39.11	Pass	69.98
49	Block 3	3	1	29.70	39.16	Pass	75.84
50	Block 3	4	0	34.81	37.65	Pass	92.46
51	Block 3	6	0	31.84	36.08	Pass	88.25
52	Block 2	2	0	31.54	31.89	Pass	98.90
53	Block 2	4	0	32.67	34.10	Pass	95.81
54	Block 2	5	0	36.18	38.92	Pass	92.96
55	Block 2	5	1	32.15	34.03	Pass	94.48
56	Block 7	1	0	34.45	34.61	Pass	99.54
57	Block 7	1	1	33.71	34.09	Pass	98.89
58	Block 7	2	0	36.02	39.10	Pass	92.12
59	Block 7	2	1	36.33	39.15	Pass	92.80

Pass2: VSC value is below target of 27% but has not been reduced to less than 80% of its pre-development value.

*Note 1: Result does not meet the recommended BRE guideline value.

APPENDIX C | AVERAGE DAYLIGHT FACTOR RESULTS

Bedroom ADF Results

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
1	2.13 Bedroom 1	1.71	Yes
2	2.12 Bedroom 1	1.87	Yes
3	2.11 Bedroom 1	1.96	Yes
4	2.10 Bedroom 1	1.86	Yes
5	2.10 Bedroom 2	1.70	Yes
6	2.14 Bedroom 1	1.67	Yes
7	2.07 Bedroom 1	3.13	Yes
8	2.20 Bedroom 1	4.64	Yes
9	2.09 Bedroom 2	3.88	Yes
10	2.09 Bedroom 1	9.89	Yes
11	2.20 Bedroom 2	4.70	Yes
12	3.05 Bedroom 2	4.97	Yes
13	3.14 Bedroom 1	1.70	Yes
14	3.13 Bedroom 1	1.74	Yes
15	3.12 Bedroom 1	1.69	Yes
16	3.05 Bedroom 3	4.28	Yes
17	3.05 Bedroom 1	5.50	Yes
18	4.14 Bedroom 1	1.70	Yes
19	4.13 Bedroom 1	1.74	Yes
20	4.12 Bedroom 1	1.73	Yes
21	6.07 Bedroom 1	2.79	Yes
22	6.06 Bedroom 1	2.89	Yes
23	6.05 Bedroom 1	2.99	Yes
24	6.08 Bedroom 1	2.85	Yes
25	6.04 Bedroom 1	3.04	Yes
26	6.03 Bedroom 1	6.80	Yes
27	6.03 Bedroom 2	3.45	Yes
28	6.02 Bedroom 2	2.69	Yes
29	6.02 Bedroom 1	2.55	Yes
30	6.01 Bedroom 1	2.12	Yes
31	6.10 Bedroom 2	4.60	Yes
32	6.10 Bedroom 1	3.18	Yes
33	6.11 Bedroom 2	1.38	Yes
34	6.11 Bedroom 1	1.67	Yes
35	6.09 Bedroom 1	3.52	Yes
36	6.09 Bedroom 2	2.60	Yes
37	2.24 Bedroom 1	2.83	Yes
38	2.24 Bedroom 2	4.89	Yes
39	2.41 Bedroom 2	2.95	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
40	2.28 Bedroom 1	4.80	Yes
41	2.31 Bedroom 1	4.57	Yes
42	2.38 Bedroom 1	4.73	Yes
43	2.36 Bedroom 1	4.35	Yes
44	2.36 Bedroom 2	6.48	Yes
45	2.42 Bedroom 1	2.91	Yes
46	2.40 Bedroom 1	4.06	Yes
47	2.27 Bedroom 2	4.39	Yes
48	2.27 Bedroom 1	4.21	Yes
49	3.43 Bedroom 1	5.56	Yes
50	3.41 Bedroom 1	4.89	Yes
51	3.41 Bedroom 2	6.99	Yes
52	3.38 Bedroom 1	2.37	Yes
53	3.37 Bedroom 1	2.45	Yes
54	3.36 Bedroom 1	2.30	Yes
55	3.39 Bedroom 1	2.60	Yes
56	2.32 Bedroom 1	3.71	Yes
57	2.35 Bedroom 1	3.32	Yes
58	2.34 Bedroom 1	5.48	Yes
59	2.34 Bedroom 2	5.02	Yes
60	2.33 Bedroom 2	5.53	Yes
61	2.33 Bedroom 1	5.64	Yes
62	3.39 Bedroom 2	2.27	Yes
63	3.26 Bedroom 1	4.10	Yes
64	3.26 Bedroom 2	6.06	Yes
65	3.34 Bedroom 3	6.17	Yes
66	3.34 Bedroom 1	5.20	Yes
67	3.34 Bedroom 2	10.01	Yes
68	3.40 Bedroom 1	5.07	Yes
69	4.35 Bedroom 1	1.59	Yes
70	4.34 Bedroom 1	1.64	Yes
71	4.27 Bedroom 1	3.56	Yes
72	4.27 Bedroom 2	2.29	Yes
73	4.41 Bedroom 3	3.86	Yes
74	4.28 Bedroom 2	1.97	Yes
75	4.28 Bedroom 1	3.09	Yes
76	6.18 Bedroom 1	2.56	Yes
77	6.17 Bedroom 1	2.59	Yes
78	6.16 Bedroom 1	2.98	Yes
79	6.20 Bedroom 1	3.74	Yes
80	6.20 Bedroom 2	3.21	Yes
81	6.14 Bedroom 2	3.91	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
82	6.14 Bedroom 1	2.92	Yes
83	2.05 Bedroom 2	4.42	Yes
84	2.05 Bedroom 1	4.05	Yes
85	2.22 Bedroom 2	3.55	Yes
86	2.22 Bedroom 1	3.80	Yes
87	2.23 Bedroom 1	2.84	Yes
88	2.06 Bedroom 2	4.59	Yes
89	2.06 Bedroom 1	4.35	Yes
90	2.03 Bedroom 2	6.38	Yes
91	2.03 Bedroom 1	3.86	Yes
92	3.18 Bedroom	3.24	Yes
93	3.17 Bedroom	3.24	Yes
94	3.06 Bedroom 2	4.49	Yes
95	3.06 Bedroom 1	4.07	Yes
96	3.07 Bedroom 1	4.72	Yes
97	3.07 Bedroom 2	4.15	Yes
98	3.04 Bedroom 1	6.70	Yes
99	3.04 Bedroom 2	3.87	Yes
100	3.15 Bedroom 2	2.48	Yes
101	3.15 Bedroom 1	1.56	Yes
102	3.09 Bedroom 1	3.43	Yes
103	3.08 Bedroom 1	3.28	Yes
104	3.03 Bedroom 1	3.74	Yes
105	3.02 Bedroom 1	3.20	Yes
106	3.11 Bedroom 1	2.72	Yes
107	3.11 Bedroom 2	1.89	Yes
108	3.01 Bedroom 1	1.60	Yes
109	2.15 Bedroom 2	4.85	Yes
110	2.15 Bedroom 1	2.54	Yes
111	3.10 Bedroom 2	3.31	Yes
112	3.10 Bedroom 1	9.65	Yes
113	2.01 Bedroom 2	3.37	Yes
114	2.01 Bedroom 1	3.41	Yes
115	4.05 Bedroom 3	5.53	Yes
116	4.05 Bedroom 2	4.10	Yes
117	4.05 Bedroom 1	5.39	Yes
118	4.06 Bedroom 2	4.31	Yes
119	4.06 Bedroom 1	4.20	Yes
120	4.07 Bedroom 1	4.50	Yes
121	4.07 Bedroom 2	4.21	Yes
122	4.04 Bedroom 2	6.70	Yes
123	4.04 Bedroom 1	4.22	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
124	4.03 Bedroom 1	3.95	Yes
125	4.02 Bedroom 1	3.43	Yes
126	4.11 Bedroom 1	2.75	Yes
127	4.11 Bedroom 2	1.72	Yes
128	4.01 Bedroom 1	1.72	Yes
129	4.10 Bedroom 2	3.77	Yes
130	4.10 Bedroom 1	9.42	Yes
131	5.14 Bedroom 1	1.67	Yes
132	5.13 Bedroom 1	1.70	Yes
133	5.12 Bedroom 1	1.70	Yes
134	5.05 Bedroom 1	6.10	Yes
135	5.05 Bedroom 3	4.46	Yes
136	5.05 Bedroom 2	5.82	Yes
137	5.06 Bedroom 1	4.40	Yes
138	5.06 Bedroom 2	4.40	Yes
139	5.07 Bedroom 1	4.78	Yes
140	5.07 Bedroom 2	3.98	Yes
141	5.04 Bedroom 2	7.12	Yes
142	5.04 Bedroom 1	4.30	Yes
143	5.09 Bedroom 1	3.00	Yes
144	5.08 Bedroom 1	2.82	Yes
145	5.03 Bedroom 1	4.01	Yes
146	5.02 Bedroom 1	3.84	Yes
147	5.11 Bedroom 1	2.67	Yes
148	5.11 Bedroom 2	1.68	Yes
149	5.01 Bedroom 1	2.15	Yes
150	5.10 Bedroom 2	2.94	Yes
151	5.10 Bedroom 1	8.48	Yes
152	4.22 Bedroom 1	4.24	Yes
153	4.22 Bedroom 2	4.20	Yes
154	4.15 Bedroom 2	2.31	Yes
155	4.15 Bedroom 1	1.51	Yes
156	4.24 Bedroom 1	1.43	Yes
157	5.19 Bedroom 1	3.49	Yes
158	5.18 Bedroom 1	3.71	Yes
159	5.17 Bedroom 1	3.28	Yes
160	5.20 Bedroom 1	3.85	Yes
161	5.15 Bedroom 2	2.27	Yes
162	5.15 Bedroom 1	1.50	Yes
163	2.21 Bedroom 1	4.07	Yes
164	2.21 Bedroom 2	5.30	Yes
165	2.23 Bedroom 2	2.72	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
166	3.25 Bedroom 1	1.13	Yes
167	3.23 Bedroom 2	3.88	Yes
168	3.23 Bedroom 1	3.71	Yes
169	3.24 Bedroom 1	3.24	Yes
170	5.21 Bedroom 1	2.66	Yes
171	5.21 Bedroom 2	4.78	Yes
172	5.21 Bedroom 3	2.62	Yes
173	5.22 Bedroom 2	4.44	Yes
174	5.22 Bedroom 1	4.18	Yes
175	5.23 Bedroom 1	4.15	Yes
176	5.24 Bedroom 1	1.90	Yes
177	3.16 Bedroom 2	6.04	Yes
178	3.16 Bedroom 1	3.55	Yes
179	4.16 Bedroom 1	3.46	Yes
180	5.16 Bedroom 1	3.26	Yes
181	2.45 Bedroom 1	11.25	Yes
182	2.40 Bedroom 2	4.26	Yes
183	3.45 Bedroom 1	5.16	Yes
184	3.45 Bedroom 2	5.06	Yes
185	5.40 Bedroom 2	4.36	Yes
186	5.40 Bedroom 1	4.14	Yes
187	5.36 Bedroom 1	1.89	Yes
188	5.35 Bedroom 1	1.73	Yes
189	5.34 Bedroom 1	1.60	Yes
190	5.27 Bedroom 1	3.39	Yes
191	5.27 Bedroom 2	2.17	Yes
192	5.28 Bedroom 2	2.29	Yes
193	5.28 Bedroom 1	3.23	Yes
194	6.13 Bedroom 2	4.57	Yes
195	6.13 Bedroom 1	2.76	Yes
196	6.21 Bedroom 1	4.35	Yes
197	6.21 Bedroom 3	4.64	Yes
198	6.21 Bedroom 2	2.82	Yes
199	6.22 Bedroom 1	2.59	Yes
200	6.12 Bedroom 1	2.64	Yes
201	2.30 Bedroom 1	4.26	Yes
202	2.30 Bedroom	4.09	Yes
203	3.22 Bedroom 1	6.29	Yes
204	3.22 Bedroom 2	3.86	Yes
205	4.16 Bedroom 2	6.69	Yes
206	5.16 Bedroom 2	5.56	Yes
207	5.41 Bedroom 1	3.72	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
208	5.41 Bedroom 2	4.18	Yes
209	3.29 Bedroom 2	4.77	Yes
210	3.29 Bedroom 1	4.81	Yes
211	3.33 Bedroom 1	3.76	Yes
212	4.32 Bedroom 3	5.86	Yes
213	4.32 Bedroom 1	4.61	Yes
214	4.32 Bedroom 2	7.02	Yes
215	4.31 Bedroom 1	3.20	Yes
216	5.29 Bedroom 2	4.57	Yes
217	5.29 Bedroom 1	4.45	Yes
218	5.32 Bedroom 3	5.07	Yes
219	5.32 Bedroom 1	4.06	Yes
220	5.32 Bedroom 2	6.48	Yes
221	5.31 Bedroom 1	3.39	Yes
222	5.30 Bedroom 1	7.17	Yes
223	5.30 Bedroom 2	7.11	Yes
224	4.25 Bedroom 1	4.12	Yes
225	5.26 Bedroom 2	4.35	Yes
226	5.26 Bedroom 1	6.19	Yes
227	5.25 Bedroom 1	4.29	Yes
228	5.25 Bedroom 2	6.14	Yes
229	3.44 Bedroom 2	4.90	Yes
230	3.44 Bedroom 1	4.79	Yes
231	3.47 Bedroom 1	3.60	Yes
232	3.46 Bedroom 1	4.47	Yes
233	3.46 Bedroom 2	3.94	Yes
234	4.44 Bedroom 1	3.20	Yes
235	5.44 Bedroom 1	4.00	Yes
236	4.43 Bedroom 1	3.86	Yes
237	4.41 Bedroom 2	3.83	Yes
238	5.43 Bedroom 1	3.88	Yes
239	5.41 Bedroom 3	4.60	Yes
240	5.42 Bedroom 1	4.89	Yes
241	4.39 Bedroom 1	4.44	Yes
242	4.38 Bedroom 2	4.51	Yes
243	5.39 Bedroom 1	4.03	Yes
244	5.39 Bedroom 2	6.30	Yes
245	5.38 Bedroom 1	4.16	Yes
246	2.39 Bedroom 1	3.88	Yes
247	4.42 Bedroom 1	3.99	Yes
248	4.42 Bedroom 2	5.01	Yes
249	3.35 Bedroom 1	2.20	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
250	3.35 Bedroom 2	2.51	Yes
251	4.33 Bedroom 1	1.64	Yes
252	5.37 Bedroom 2	1.71	Yes
253	5.37 Bedroom 1	1.32	Yes
254	5.33 Bedroom 1	1.81	Yes
255	5.33 Bedroom 2	1.65	Yes
256	6.15 Bedroom 1	2.51	Yes
257	6.16 Bedroom 2	2.80	Yes
258	3.30 Bedroom 1	4.07	Yes
259	6.19 Bedroom 2	3.01	Yes
260	6.19 Bedroom 1	2.60	Yes
261	4.37 Bedroom 2	1.81	Yes
262	2.04 Bedroom 1	4.44	Yes
263	2.04 Bedroom 3	4.17	Yes
264	2.04 Bedroom 2	5.83	Yes
265	2.37 Bedroom 2	4.20	Yes
266	2.37 Bedroom 1	3.93	Yes
267	2.25 Bedroom 2	3.89	Yes
268	2.25 Bedroom 1	5.21	Yes
269	2.26 Bedroom 2	4.08	Yes
270	2.26 Bedroom 1	6.05	Yes
271	3.42 Bedroom 2	4.78	Yes
272	3.42 Bedroom 1	4.52	Yes
273	4.29 Bedroom 1	4.47	Yes
274	4.29 Bedroom 2	4.28	Yes
275	4.30 Bedroom 1	4.59	Yes
276	4.30 Bedroom 2	4.26	Yes
277	3.27 Bedroom 2	4.07	Yes
278	3.27 Bedroom 1	6.03	Yes
279	3.28 Bedroom 2	5.87	Yes
280	3.28 Bedroom 1	7.28	Yes
281	3.31 Bedroom 2	4.79	Yes
282	3.31 Bedroom 1	4.58	Yes
283	3.32 Bedroom 1	7.37	Yes
284	3.32 Bedroom 2	7.18	Yes
285	4.40 Bedroom 2	4.11	Yes
286	4.40 Bedroom 1	3.96	Yes
287	2.29 Bedroom 2	4.31	Yes
288	2.29 Bedroom 1	3.56	Yes
289	3.21 Bedroom 1	4.21	Yes
290	3.21 Bedroom 2	5.50	Yes
291	4.21 Bedroom 1	2.85	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
292	4.21 Bedroom 2	4.26	Yes
293	4.21 Bedroom 3	2.72	Yes
294	4.26 Bedroom 2	3.86	Yes
295	4.26 Bedroom 1	5.60	Yes
296	2.41 Bedroom 1	1.33	Yes
297	4.25 Bedroom 2	5.71	Yes
298	4.33 Bedroom 2	1.69	Yes
299	4.36 Bedroom 1	1.66	Yes
300	4.37 Bedroom 1	1.36	Yes
301	4.39 Bedroom 2	6.28	Yes
302	4.41 Bedroom 1	3.77	Yes
303	4.09 Bedroom 1	3.37	Yes
304	4.08 Bedroom 1	3.04	Yes
305	4.17 Bedroom 1	3.20	Yes
306	4.18 Bedroom 1	3.28	Yes
307	4.19 Bedroom 1	3.38	Yes
308	4.20 Bedroom 1	3.71	Yes
309	3.20 Bedroom 1	3.38	Yes
310	3.19 Bedroom 1	3.40	Yes
311	2.08 Bedroom 1	3.62	Yes
312	2.16 Bedroom 1	3.15	Yes
313	2.17 Bedroom 1	3.11	Yes
314	2.19 Bedroom 1	4.45	Yes
315	2.18 Bedroom 1	3.54	Yes
316	2.19 Bedroom 1	3.49	Yes
317	2.44 Bedroom 1	6.67	Yes
318	2.14 Bedroom 2	1.84	Yes
319	2.39 Bedroom 2	4.58	Yes
320	2.43 Bedroom 1	12.81	Yes
321	2.43 Bedroom 1	8.05	Yes
322	C0.01_Bedroom	0.90	Marginally below target value
323	C0.02_Bedroom	0.40	No
324	C0.03_Bedroom	1.20	Yes
325	D0.01_Bedroom	1.12	Yes
326	D0.02_Bedroom	1.10	Yes
327	D0.03_Bedroom	0.85	Marginally below target value
328	D0.04_Bedroom	0.72	No
329	D0.05_Bedroom	1.07	Yes
330	D0.06_Bedroom	1.17	Yes
331	D0.07_Bedroom	1.06	Yes
332	D0.08_Bedroom	1.00	Yes
333	C2.01_Bedroom 01	6.16	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
334	C2.01_Bedroom 02	1.11	Yes
335	C2.02_Bedroom 01	5.87	Yes
336	C2.02_Bedroom 02	1.32	Yes
337	C2.03_Bedroom 01	5.96	Yes
338	C2.03_Bedroom 02	1.14	Yes
339	D2.01_Bedroom 01	6.73	Yes
340	D2.01_Bedroom 02	1.21	Yes
341	D2.02_Bedroom 01	6.42	Yes
342	D2.02_Bedroom 02	1.38	Yes
343	D2.03_Bedroom 01	6.66	Yes
344	D2.03_Bedroom 02	1.00	Yes
345	D2.04_Bedroom 01	6.56	Yes
346	D2.04_Bedroom 02	0.86	Marginally below target value
347	D2.05_Bedroom 01	6.61	Yes
348	D2.05_Bedroom 02	3.59	Yes
349	D2.06_Bedroom 01	3.66	Yes
350	D2.06_Bedroom 02	6.79	Yes
351	D2.07_Bedroom 01	3.56	Yes
352	D2.07_Bedroom 02	6.74	Yes
353	D2.08_Bedroom	6.85	Yes

Kitchen/Living Room ADF Results

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
1	2.13 Living/Kitchen	2.41	Yes
2	2.12 Living/Kitchen	2.62	Yes
3	2.11 Living/Kitchen	2.72	Yes
4	2.10 Living/Kitchen	2.06	Yes
5	2.14 Living/Kitchen	1.92	*Note 1
6	2.07 Living/Kitchen	2.81	Yes
7	2.20 Living/Kitchen	2.83	Yes
8	3.14 Living/Kitchen	2.89	Yes
9	3.13 Living/Kitchen	2.94	Yes
10	3.12 Living/Kitchen	2.78	Yes
11	4.14 Living/Kitchen	3.14	Yes
12	4.13 Living/Kitchen	3.49	Yes
13	4.12 Living/Kitchen	3.14	Yes
14	6.07 Living/Kitchen	2.89	Yes
15	6.06 Living/Kitchen	2.93	Yes
16	6.04 Living/Kitchen	2.87	Yes
17	6.08 Living/Kitchen	2.60	Yes
18	6.02 Living/Kitchen	5.84	Yes
19	6.03 Living/Kitchen	2.68	Yes
20	6.01 Living/Kitchen	7.92	Yes
21	6.10 Living/Kitchen	5.68	Yes
22	6.11 Living/Kitchen	7.26	Yes
23	6.09 Living/Kitchen	5.32	Yes
24	2.24 Living/Kitchen	1.80	*Note 1
25	2.41 Living/Kitchen	3.99	Yes
26	2.28 Living/Kitchen	3.93	Yes
27	2.31 Living/Kitchen	3.55	Yes
28	2.38 Living/Kitchen	4.51	Yes
29	2.36 Living/Kitchen	8.85	Yes
30	2.42 Living/Kitchen	2.30	Yes
31	2.40 Living/Kitchen	6.49	Yes
32	3.43 Living/Kitchen	5.84	Yes
33	3.41 Living/Kitchen	9.44	Yes
34	3.38 Living/Kitchen	3.99	Yes
35	3.37 Living/Kitchen	4.32	Yes
36	3.36 Living/Kitchen	3.71	Yes
37	3.39 Living/Kitchen	2.69	Yes
38	2.32 Living/Kitchen	3.78	Yes
39	2.35 Living/Kitchen	3.63	Yes
40	2.44 Living/Kitchen	3.51	Yes
41	2.34 Living/Kitchen	5.20	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
42	2.33 Living/Kitchen	5.46	Yes
43	3.26 Living/Kitchen	1.88	*Note 1
44	3.34 Living/Kitchen	6.03	Yes
45	3.40 Living/Kitchen	4.49	Yes
46	4.36 Living/Kitchen	3.85	Yes
47	4.35 Living/Kitchen	3.43	Yes
48	4.27 Living/Kitchen	2.60	Yes
49	4.42 Living/Kitchen	2.74	Yes
50	4.28 Living/Kitchen	4.94	Yes
51	6.17 Living/Kitchen	3.10	Yes
52	6.16 Living/Kitchen	3.23	Yes
53	6.20 Living/Kitchen	5.00	Yes
54	2.22 Living/Kitchen	1.31	*Note 1
55	2.23 Living/Kitchen	1.26	*Note 2
56	2.06 Living/Kitchen	5.31	Yes
57	2.03 Living/Kitchen	4.65	Yes
58	2.17 Living/Kitchen	3.53	Yes
59	3.19 Living/Kitchen	3.77	Yes
60	3.18 Living/Kitchen	3.59	Yes
61	3.17 Living/Kitchen	3.70	Yes
62	3.06 Living/Kitchen	2.47	Yes
63	3.07 Living/Kitchen	2.46	Yes
64	3.04 Living/Kitchen	4.50	Yes
65	3.09 Living/Kitchen	2.55	Yes
66	3.08 Living/Kitchen	2.68	Yes
67	3.11 Living/Kitchen	2.49	Yes
68	3.01 Living/Kitchen	2.97	Yes
69	3.05 Living/Kitchen	3.19	Yes
70	2.21 Living/Kitchen	3.35	Yes
71	2.15 Living/Kitchen	6.13	Yes
72	3.10 Living/Kitchen	4.40	Yes
73	2.01 Living/Kitchen	1.95	*Note 1
74	4.06 Living/Kitchen	2.47	Yes
75	4.07 Living/Kitchen	2.36	Yes
76	4.04 Living/Kitchen	4.94	Yes
77	4.11 Living/Kitchen	2.65	Yes
78	4.01 Living/Kitchen	3.30	Yes
79	4.05 Living/Kitchen	3.30	Yes
80	4.10 Living/Kitchen	4.36	Yes
81	5.14 Living/Kitchen	3.48	Yes
82	5.13 Living/Kitchen	3.55	Yes
83	5.12 Living/Kitchen	3.55	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
84	5.06 Living/Kitchen	2.50	Yes
85	5.07 Living/Kitchen	2.54	Yes
86	5.04 Living/Kitchen	5.47	Yes
87	5.09 Living/Kitchen	2.25	Yes
88	5.08 Living/Kitchen	2.40	Yes
89	5.11 Living/Kitchen	3.00	Yes
90	5.01 Living/Kitchen	3.58	Yes
91	5.05 Living/Kitchen	3.94	Yes
92	5.10 Living/Kitchen	4.03	Yes
93	4.15 Living/Kitchen	2.53	Yes
94	4.24 Living/Kitchen	3.35	Yes
95	5.19 Living/Kitchen	4.16	Yes
96	5.18 Living/Kitchen	3.60	Yes
97	5.17 Living/Kitchen	3.94	Yes
98	5.20 Living/Kitchen	3.70	Yes
99	5.15 Living/Kitchen	3.00	Yes
100	2.43 Living/Kitchen	2.40	Yes
101	5.21 Living/Kitchen	3.89	Yes
102	5.22 Living/Kitchen	2.52	Yes
103	5.23 Living/Kitchen	2.36	Yes
104	5.24 Living/Kitchen	3.68	Yes
105	3.16 Living/Kitchen	5.81	Yes
106	4.16 Living/Kitchen	5.89	Yes
107	5.16 Living/Kitchen	5.35	Yes
108	3.45 Living/Kitchen	6.72	Yes
109	5.40 Living/Kitchen	3.07	Yes
110	5.36 Living/Kitchen	3.82	Yes
111	5.35 Living/Kitchen	3.62	Yes
112	5.34 Living/Kitchen	3.65	Yes
113	5.27 Living/Kitchen	2.23	Yes
114	5.42 Living/Kitchen	4.53	Yes
115	5.28 Living/Kitchen	4.90	Yes
116	6.13 Living/Kitchen	4.03	Yes
117	6.21 Living/Kitchen	4.10	Yes
118	2.30 Living/Kitchen	3.44	Yes
119	3.22 Living/Kitchen	4.07	Yes
120	6.05 Living/Kitchen	3.03	Yes
121	5.41 Living/Kitchen	2.79	Yes
122	3.29 Living/Kitchen	5.87	Yes
123	3.33 Living/Kitchen	3.19	Yes
124	4.32 Living/Kitchen	4.97	Yes
125	4.31 Living/Kitchen	2.97	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
126	5.29 Living/Kitchen	3.13	Yes
127	5.32 Living/Kitchen	5.04	Yes
128	5.31 Living/Kitchen	2.73	Yes
129	5.30 Living/Kitchen	2.97	Yes
130	4.25 Living/Kitchen	1.64	*Note 1
131	5.26 Living/Kitchen	2.80	Yes
132	5.25 Living/Kitchen	1.95	*Note 1
133	3.44 Living/Kitchen	2.86	Yes
134	3.47 Living/Kitchen	2.32	Yes
135	3.46 Living/Kitchen	3.85	Yes
136	4.44 Living/Kitchen	1.94	*Note 1
137	5.44 Living/Kitchen	2.37	Yes
138	4.43 Living/Kitchen	4.48	Yes
139	5.43 Living/Kitchen	4.81	Yes
140	4.39 Living/Kitchen	7.87	Yes
141	4.38 Living/Kitchen	3.74	Yes
142	5.39 Living/Kitchen	7.11	Yes
143	5.38 Living/Kitchen	3.22	Yes
144	3.35 Living/Kitchen	2.98	Yes
145	4.33 Living/Kitchen	2.32	Yes
146	5.37 Living/Kitchen	2.66	Yes
147	5.33 Living/Kitchen	2.75	Yes
148	6.15 Living/Kitchen	2.77	Yes
149	Living/Kitchen	4.41	Yes
150	3.30 Living/Kitchen	4.46	Yes
151	6.19 Living/Kitchen	2.32	Yes
152	4.37 Living/Kitchen	2.37	Yes
153	2.04 Living/Kitchen	2.98	Yes
154	2.37 Living/Kitchen	3.54	Yes
155	2.25 Living/Kitchen	3.17	Yes
156	2.26 Living/Kitchen	4.59	Yes
157	3.42 Living/Kitchen	3.79	Yes
158	4.29 Living/Kitchen	2.63	Yes
159	4.30 Living/Kitchen	2.38	Yes
160	3.28 Living/Kitchen	2.86	Yes
161	3.28 Living/Kitchen	3.39	Yes
162	3.31 Living/Kitchen	3.03	Yes
163	4.40 Living/Kitchen	2.99	Yes
165	2.29 Living/Kitchen	3.48	Yes
166	3.21 Living/Kitchen	3.19	Yes
167	4.21 Living/Kitchen	3.56	Yes
168	4.26 Living/Kitchen	2.21	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
169	6.18 Living/Kitchen	3.24	Yes
170	4.34 Living/Kitchen	2.99	Yes
171	4.41 Living/Kitchen	2.63	Yes
172	4.09 Living/Kitchen	2.53	Yes
173	4.08 Living/Kitchen	2.62	Yes
174	4.17 Living/Kitchen	4.17	Yes
175	4.18 Living/Kitchen	3.94	Yes
176	4.19 Living/Kitchen	3.95	Yes
177	4.20 Living/Kitchen	4.07	Yes
178	3.02 Living/Kitchen	2.52	Yes
179	3.03 Living/Kitchen	3.34	Yes
180	3.23 Living/Kitchen	1.89	*Note 1
181	3.24 Living/Kitchen	1.75	*Note 1
182	3.25 Living/Kitchen	2.87	Yes
183	3.15 Living/Kitchen	2.22	Yes
184	3.20 Living/Kitchen	4.06	Yes
185	2.08 Living/Kitchen	2.77	Yes
186	2.09 Living/Kitchen	4.66	Yes
187	2.16 Living/Kitchen	3.67	Yes
188	2.18 Living/Kitchen	4.18	Yes
189	2.27 Living/Kitchen	6.23	Yes
190	2.45 Living/Kitchen	2.43	Yes
191	2.05 Living/Kitchen	2.29	Yes
192	2.39 Living/Kitchen	3.23	Yes
193	3.32 Living/Kitchen	3.01	Yes
194	2.02 Living/Kitchen	2.56	Yes
195	4.03 Living/Kitchen	3.58	Yes
196	4.02 Living/Kitchen	10.13	Yes
197	4.23 Living/Kitchen	2.04	Yes
198	5.03 Living/Kitchen	4.25	Yes
199	5.02 Living/Kitchen	3.73	Yes
200	6.22 Living/Kitchen	1.73	*Note 1
201	6.14 Living/Kitchen	5.27	Yes
202	6.12 Living/Kitchen	3.42	Yes
203	C0.01_Living	3.56	Yes
204	C0.02_Living	3.66	Yes
205	C0.03_Living	3.72	Yes
206	D0.01_Living	4.06	Yes
207	D0.02_Living	4.02	Yes
208	D0.03_Living	4.01	Yes
209	D0.04_Living	3.94	Yes
210	D0.05_Living	4.58	Yes

Reference Number	Room Name	% ADF	Achieves the BRE Best Practice Guidelines
211	D0.06_Living	4.55	Yes
212	D0.07_Living	4.58	Yes
213	D0.08_Living	4.58	Yes
214	C1.01_Living	3.25	Yes
215	C1.02_Living	3.34	Yes
216	C1.03_Living	3.32	Yes
217	D1.01_Living	3.77	Yes
218	D1.02_Living	3.62	Yes
219	D1.03_Living	3.80	Yes
220	D1.04_Living	3.61	Yes
221	D1.05_Living	5.34	Yes
222	D1.06_Living	5.40	Yes
223	D1.07_Living	5.27	Yes
224	D1.08_Living	5.38	Yes

*Note 1: The room achieves the BRE Target ADF for Living Room spaces (for example, not a combined kitchen/living room space) of 1.50%. The result achieved is only marginally below the BRE Target value for kitchen/living room spaces (2.00%).

*Note 2: The room does not achieve the recommended BRE ADF target value.

APPENDIX D | SPATIAL DAYLIGHT AUTONOMY (sDA) RESULTS – EN17037

All Rooms

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
1	2.13 Bedroom 1	52.00	100.00	Yes
2	2.13 Living/Kitchen	89.80	100.00	Yes
3	2.12 Bedroom 1	48.00	100.00	No
4	2.12 Living/Kitchen	97.96	100.00	Yes
5	2.11 Bedroom 1	56.00	100.00	Yes
6	2.11 Living/Kitchen	95.83	100.00	Yes
7	2.10 Bedroom 1	57.58	100.00	Yes
8	2.10 Bedroom 2	36.00	100.00	No
9	2.10 Living/Kitchen	76.92	95.38	Yes
10	2.14 Bedroom 1	36.00	100.00	No
11	2.14 Living/Kitchen	71.64	85.07	No
12	2.07 Bedroom 1	100.00	100.00	Yes
13	2.07 Living/Kitchen	66.67	100.00	Yes
14	2.20 Bedroom 1	96.88	100.00	Yes
15	2.09 Bedroom 2	100.00	100.00	Yes
16	2.09 Bedroom 1	100.00	100.00	Yes
17	2.20 Living/Kitchen	78.75	100.00	Yes
18	2.20 Bedroom 2	100.00	100.00	Yes
19	3.05 Bedroom 2	100.00	100.00	Yes
20	3.14 Bedroom 1	52.00	100.00	Yes
21	3.13 Bedroom 1	48.00	100.00	No
22	3.12 Bedroom 1	52.00	100.00	Yes
23	3.14 Living/Kitchen	97.96	100.00	Yes
24	3.13 Living/Kitchen	100.00	100.00	Yes
25	3.12 Living/Kitchen	100.00	100.00	Yes
26	3.05 Bedroom 3	100.00	100.00	Yes
27	3.05 Bedroom 1	100.00	100.00	Yes
28	4.14 Bedroom 1	48.00	100.00	No
29	4.13 Bedroom 1	44.00	100.00	No
30	4.12 Bedroom 1	48.00	100.00	No
31	4.14 Living/Kitchen	100.00	100.00	Yes
32	4.13 Living/Kitchen	100.00	100.00	Yes
33	4.12 Living/Kitchen	100.00	100.00	Yes
34	6.07 Bedroom 1	96.00	100.00	Yes
35	6.06 Bedroom 1	96.00	100.00	Yes
36	6.05 Bedroom 1	96.00	100.00	Yes
37	6.07 Living/Kitchen	100.00	100.00	Yes
38	6.06 Living/Kitchen	100.00	100.00	Yes
39	6.04 Living/Kitchen	100.00	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
40	6.08 Living/Kitchen	100.00	100.00	Yes
41	6.08 Bedroom 1	96.77	100.00	Yes
42	6.04 Bedroom 1	100.00	100.00	Yes
43	6.03 Bedroom 1	100.00	100.00	Yes
44	6.03 Bedroom 2	81.82	100.00	Yes
45	6.02 Bedroom 2	93.75	100.00	Yes
46	6.02 Bedroom 1	81.25	100.00	Yes
47	6.02 Living/Kitchen	100.00	100.00	Yes
48	6.03 Living/Kitchen	79.41	100.00	Yes
49	6.01 Living/Kitchen	100.00	100.00	Yes
50	6.01 Bedroom 1	72.41	100.00	Yes
51	6.10 Bedroom 2	100.00	100.00	Yes
52	6.10 Living/Kitchen	100.00	100.00	Yes
53	6.10 Bedroom 1	100.00	100.00	Yes
54	6.11 Bedroom 2	36.00	100.00	No
55	6.11 Living/Kitchen	100.00	100.00	Yes
56	6.11 Bedroom 1	81.82	100.00	Yes
57	6.09 Bedroom 1	93.33	100.00	Yes
58	6.09 Bedroom 2	90.63	100.00	Yes
59	6.09 Living/Kitchen	100.00	100.00	Yes
60	2.24 Bedroom 1	78.13	100.00	Yes
61	2.24 Bedroom 2	100.00	100.00	Yes
62	2.24 Living/Kitchen	36.36	83.12	No
63	2.41 Bedroom 2	73.53	97.06	Yes
64	2.41 Living/Kitchen	100.00	100.00	Yes
65	2.28 Living/Kitchen	77.78	100.00	Yes
66	2.28 Bedroom 1	91.18	91.18	No
67	2.31 Living/Kitchen	75.56	100.00	Yes
68	2.31 Bedroom 1	91.18	91.18	No
69	2.38 Living/Kitchen	100.00	100.00	Yes
70	2.38 Bedroom 1	100.00	100.00	Yes
71	2.36 Bedroom 1	100.00	100.00	Yes
72	2.36 Bedroom 2	100.00	100.00	Yes
73	2.36 Living/Kitchen	100.00	100.00	Yes
74	2.42 Bedroom 1	62.50	100.00	Yes
75	2.42 Living/Kitchen	46.81	100.00	No
76	2.40 Living/Kitchen	100.00	100.00	Yes
77	2.40 Bedroom 1	100.00	100.00	Yes
78	2.27 Bedroom 2	88.89	100.00	Yes
79	2.27 Bedroom 1	100.00	100.00	Yes
80	3.43 Living/Kitchen	100.00	100.00	Yes
81	3.43 Bedroom 1	97.06	97.06	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
82	3.41 Bedroom 1	100.00	100.00	Yes
83	3.41 Bedroom 2	100.00	100.00	Yes
84	3.41 Living/Kitchen	100.00	100.00	Yes
85	3.38 Bedroom 1	88.00	100.00	Yes
86	3.37 Bedroom 1	84.00	100.00	Yes
87	3.36 Bedroom 1	84.00	100.00	Yes
88	3.38 Living/Kitchen	100.00	100.00	Yes
89	3.37 Living/Kitchen	100.00	100.00	Yes
90	3.36 Living/Kitchen	100.00	100.00	Yes
91	3.39 Bedroom 1	95.45	100.00	Yes
92	3.39 Living/Kitchen	98.44	100.00	Yes
93	2.32 Living/Kitchen	88.89	100.00	Yes
94	2.32 Bedroom 1	100.00	100.00	Yes
95	2.35 Living/Kitchen	67.86	100.00	Yes
96	2.35 Bedroom 1	100.00	100.00	Yes
97	2.44 Living/Kitchen	94.74	100.00	Yes
98	2.34 Living/Kitchen	88.46	100.00	Yes
99	2.34 Bedroom 1	100.00	100.00	Yes
100	2.34 Bedroom 2	100.00	100.00	Yes
101	2.33 Living/Kitchen	100.00	100.00	Yes
102	2.33 Bedroom 2	100.00	100.00	Yes
103	2.33 Bedroom 1	100.00	100.00	Yes
104	3.39 Bedroom 2	68.00	100.00	Yes
105	3.26 Bedroom 1	96.00	100.00	Yes
106	3.26 Bedroom 2	100.00	100.00	Yes
107	3.26 Living/Kitchen	62.64	98.90	Yes
108	3.34 Living/Kitchen	96.10	100.00	Yes
109	3.34 Bedroom 3	100.00	100.00	Yes
110	3.34 Bedroom 1	100.00	100.00	Yes
111	3.34 Bedroom 2	100.00	100.00	Yes
112	3.40 Living/Kitchen	95.45	100.00	Yes
113	3.40 Bedroom 1	96.88	96.88	Yes
114	4.35 Bedroom 1	44.00	100.00	No
115	4.34 Bedroom 1	52.00	100.00	Yes
116	4.36 Living/Kitchen	100.00	100.00	Yes
117	4.35 Living/Kitchen	100.00	100.00	Yes
118	4.27 Living/Kitchen	57.33	100.00	Yes
119	4.27 Bedroom 1	79.49	100.00	Yes
120	4.27 Bedroom 2	93.33	100.00	Yes
121	4.42 Living/Kitchen	100.00	100.00	Yes
122	4.41 Bedroom 3	96.55	100.00	Yes
123	4.28 Living/Kitchen	100.00	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
124	4.28 Bedroom 2	92.00	100.00	Yes
125	4.28 Bedroom 1	100.00	100.00	Yes
126	6.18 Bedroom 1	96.00	100.00	Yes
127	6.17 Bedroom 1	96.00	100.00	Yes
128	6.16 Bedroom 1	93.55	100.00	Yes
129	6.17 Living/Kitchen	100.00	100.00	Yes
130	6.16 Living/Kitchen	100.00	100.00	Yes
131	6.20 Living/Kitchen	100.00	100.00	Yes
132	6.20 Bedroom 1	100.00	100.00	Yes
133	6.20 Bedroom 2	93.33	100.00	Yes
134	6.14 Bedroom 2	100.00	100.00	Yes
135	6.14 Bedroom 1	67.74	100.00	Yes
136	2.05 Bedroom 2	100.00	100.00	Yes
137	2.05 Bedroom 1	100.00	100.00	Yes
138	2.22 Bedroom 2	87.50	100.00	Yes
139	2.22 Bedroom 1	81.25	100.00	Yes
140	2.22 Living/Kitchen	31.15	100.00	No
141	2.23 Bedroom 1	53.13	100.00	Yes
142	2.23 Living/Kitchen	26.23	98.36	No
143	2.06 Bedroom 2	100.00	100.00	Yes
144	2.06 Bedroom 1	100.00	100.00	Yes
145	2.06 Living/Kitchen	82.02	95.51	Yes
146	2.03 Bedroom 2	100.00	100.00	Yes
147	2.03 Bedroom 1	87.50	100.00	Yes
148	2.03 Living/Kitchen	100.00	100.00	Yes
149	2.17 Living/Kitchen	66.67	100.00	Yes
150	3.19 Living/Kitchen	77.78	100.00	Yes
151	3.18 Bedroom	100.00	100.00	Yes
152	3.18 Living/Kitchen	77.78	100.00	Yes
153	3.17 Bedroom	100.00	100.00	Yes
154	3.17 Living/Kitchen	77.78	100.00	Yes
155	3.06 Bedroom 2	100.00	100.00	Yes
156	3.06 Bedroom 1	100.00	100.00	Yes
157	3.06 Living/Kitchen	81.33	98.67	Yes
158	3.07 Bedroom 1	100.00	100.00	Yes
159	3.07 Bedroom 2	100.00	100.00	Yes
160	3.07 Living/Kitchen	76.81	100.00	Yes
161	3.04 Bedroom 1	100.00	100.00	Yes
162	3.04 Bedroom 2	86.11	100.00	Yes
163	3.04 Living/Kitchen	100.00	100.00	Yes
164	3.15 Bedroom 2	86.36	100.00	Yes
165	3.15 Bedroom 1	32.26	100.00	No

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
166	3.09 Bedroom 1	96.88	96.88	Yes
167	3.09 Living/Kitchen	66.67	100.00	Yes
168	3.08 Bedroom 1	96.88	96.88	Yes
169	3.08 Living/Kitchen	66.67	100.00	Yes
170	3.03 Bedroom 1	100.00	100.00	Yes
171	3.02 Bedroom 1	100.00	100.00	Yes
172	3.11 Bedroom 1	100.00	100.00	Yes
173	3.11 Living/Kitchen	100.00	100.00	Yes
174	3.11 Bedroom 2	38.71	100.00	No
175	3.01 Bedroom 1	45.45	100.00	No
176	3.01 Living/Kitchen	73.24	100.00	Yes
177	3.05 Living/Kitchen	99.12	100.00	Yes
178	2.21 Living/Kitchen	90.43	100.00	Yes
179	2.15 Bedroom 2	92.31	100.00	Yes
180	2.15 Bedroom 1	59.38	100.00	Yes
181	2.15 Living/Kitchen	100.00	100.00	Yes
182	3.10 Bedroom 2	96.00	100.00	Yes
183	3.10 Bedroom 1	100.00	100.00	Yes
184	3.10 Living/Kitchen	100.00	100.00	Yes
185	2.01 Living/Kitchen	49.33	100.00	No
186	2.01 Bedroom 2	71.88	100.00	Yes
187	2.01 Bedroom 1	94.29	100.00	Yes
188	4.05 Bedroom 3	100.00	100.00	Yes
189	4.05 Bedroom 2	100.00	100.00	Yes
190	4.05 Bedroom 1	100.00	100.00	Yes
191	4.06 Bedroom 2	100.00	100.00	Yes
192	4.06 Bedroom 1	100.00	100.00	Yes
193	4.06 Living/Kitchen	89.71	100.00	Yes
194	4.07 Bedroom 1	100.00	100.00	Yes
195	4.07 Bedroom 2	100.00	100.00	Yes
196	4.07 Living/Kitchen	81.43	100.00	Yes
197	4.04 Bedroom 2	100.00	100.00	Yes
198	4.04 Bedroom 1	100.00	100.00	Yes
199	4.04 Living/Kitchen	100.00	100.00	Yes
200	4.03 Bedroom 1	100.00	100.00	Yes
201	4.02 Bedroom 1	100.00	100.00	Yes
202	4.11 Bedroom 1	100.00	100.00	Yes
203	4.11 Living/Kitchen	100.00	100.00	Yes
204	4.11 Bedroom 2	38.71	100.00	No
205	4.01 Bedroom 1	52.00	100.00	Yes
206	4.01 Living/Kitchen	78.87	100.00	Yes
207	4.05 Living/Kitchen	99.12	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
208	4.10 Bedroom 2	100.00	100.00	Yes
209	4.10 Bedroom 1	100.00	100.00	Yes
210	4.10 Living/Kitchen	100.00	100.00	Yes
211	5.14 Bedroom 1	48.00	100.00	No
212	5.13 Bedroom 1	44.00	100.00	No
213	5.12 Bedroom 1	52.00	100.00	Yes
214	5.14 Living/Kitchen	100.00	100.00	Yes
215	5.13 Living/Kitchen	100.00	100.00	Yes
216	5.12 Living/Kitchen	100.00	100.00	Yes
217	5.05 Bedroom 1	100.00	100.00	Yes
218	5.05 Bedroom 3	84.85	100.00	Yes
219	5.05 Bedroom 2	100.00	100.00	Yes
220	5.06 Bedroom 1	100.00	100.00	Yes
221	5.06 Bedroom 2	100.00	100.00	Yes
222	5.06 Living/Kitchen	81.43	100.00	Yes
223	5.07 Bedroom 1	100.00	100.00	Yes
224	5.07 Bedroom 2	100.00	100.00	Yes
225	5.07 Living/Kitchen	80.88	100.00	Yes
226	5.04 Bedroom 2	100.00	100.00	Yes
227	5.04 Bedroom 1	100.00	100.00	Yes
228	5.04 Living/Kitchen	100.00	100.00	Yes
229	5.09 Bedroom 1	100.00	100.00	Yes
230	5.09 Living/Kitchen	59.57	100.00	Yes
231	5.08 Bedroom 1	100.00	100.00	Yes
232	5.08 Living/Kitchen	64.44	100.00	Yes
233	5.03 Bedroom 1	100.00	100.00	Yes
234	5.02 Bedroom 1	100.00	100.00	Yes
235	5.11 Bedroom 1	100.00	100.00	Yes
236	5.11 Living/Kitchen	100.00	100.00	Yes
237	5.11 Bedroom 2	35.48	100.00	No
238	5.01 Bedroom 1	100.00	100.00	Yes
239	5.01 Living/Kitchen	84.72	98.61	Yes
240	5.05 Living/Kitchen	100.00	100.00	Yes
241	5.10 Bedroom 2	96.00	100.00	Yes
242	5.10 Bedroom 1	100.00	100.00	Yes
243	5.10 Living/Kitchen	100.00	100.00	Yes
244	4.22 Bedroom 1	100.00	100.00	Yes
245	4.22 Bedroom 2	96.88	100.00	Yes
246	4.15 Bedroom 2	86.36	100.00	Yes
247	4.15 Living/Kitchen	95.08	100.00	Yes
248	4.15 Bedroom 1	32.26	100.00	No
249	4.24 Bedroom 1	27.27	100.00	No

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
250	4.24 Living/Kitchen	78.38	100.00	Yes
251	5.19 Bedroom 1	100.00	100.00	Yes
252	5.19 Living/Kitchen	82.22	100.00	Yes
253	5.18 Bedroom 1	100.00	100.00	Yes
254	5.18 Living/Kitchen	82.22	100.00	Yes
255	5.17 Bedroom 1	100.00	100.00	Yes
256	5.17 Living/Kitchen	82.22	100.00	Yes
257	5.20 Bedroom 1	100.00	100.00	Yes
258	5.20 Living/Kitchen	72.73	100.00	Yes
259	5.15 Bedroom 2	86.36	100.00	Yes
260	5.15 Living/Kitchen	98.36	100.00	Yes
261	5.15 Bedroom 1	35.48	100.00	No
262	2.21 Bedroom 1	91.43	100.00	Yes
263	2.21 Bedroom 2	100.00	100.00	Yes
264	2.43 Living/Kitchen	55.10	100.00	Yes
265	2.23 Bedroom 2	59.09	100.00	Yes
266	3.25 Bedroom 1	18.18	100.00	No
267	3.23 Bedroom 2	100.00	100.00	Yes
268	3.23 Bedroom 1	96.88	100.00	Yes
269	3.24 Bedroom 1	81.25	100.00	Yes
270	5.21 Bedroom 1	100.00	100.00	Yes
271	5.21 Living/Kitchen	100.00	100.00	Yes
272	5.21 Bedroom 2	100.00	100.00	Yes
273	5.21 Bedroom 3	100.00	100.00	Yes
274	5.22 Bedroom 2	100.00	100.00	Yes
275	5.22 Bedroom 1	100.00	100.00	Yes
276	5.22 Living/Kitchen	65.28	100.00	Yes
277	5.23 Bedroom 1	100.00	100.00	Yes
278	5.23 Living/Kitchen	73.02	100.00	Yes
279	5.24 Bedroom 1	72.73	100.00	Yes
280	5.24 Living/Kitchen	83.78	100.00	Yes
281	3.16 Bedroom 2	100.00	100.00	Yes
282	3.16 Bedroom 1	100.00	100.00	Yes
283	3.16 Living/Kitchen	100.00	100.00	Yes
284	4.16 Bedroom 1	96.88	100.00	Yes
285	4.16 Living/Kitchen	100.00	100.00	Yes
286	5.16 Bedroom 1	96.88	100.00	Yes
287	5.16 Living/Kitchen	100.00	100.00	Yes
288	2.45 Bedroom 1	100.00	100.00	Yes
289	2.40 Bedroom 2	100.00	100.00	Yes
290	3.45 Living/Kitchen	100.00	100.00	Yes
291	3.45 Bedroom 1	100.00	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
292	3.45 Bedroom 2	100.00	100.00	Yes
293	5.40 Bedroom 2	100.00	100.00	Yes
294	5.40 Bedroom 1	100.00	100.00	Yes
295	5.40 Living/Kitchen	100.00	100.00	Yes
296	5.36 Bedroom 1	52.00	100.00	Yes
297	5.35 Bedroom 1	48.00	100.00	No
298	5.34 Bedroom 1	48.00	100.00	No
299	5.36 Living/Kitchen	100.00	100.00	Yes
300	5.35 Living/Kitchen	100.00	100.00	Yes
301	5.34 Living/Kitchen	100.00	100.00	Yes
302	5.27 Living/Kitchen	56.47	100.00	Yes
303	5.27 Bedroom 1	89.74	100.00	Yes
304	5.27 Bedroom 2	93.33	100.00	Yes
305	5.42 Living/Kitchen	98.73	98.73	Yes
306	5.28 Living/Kitchen	100.00	100.00	Yes
307	5.28 Bedroom 2	96.00	100.00	Yes
308	5.28 Bedroom 1	100.00	100.00	Yes
309	6.13 Living/Kitchen	100.00	100.00	Yes
310	6.13 Bedroom 2	100.00	100.00	Yes
311	6.13 Bedroom 1	96.97	100.00	Yes
312	6.21 Living/Kitchen	100.00	100.00	Yes
313	6.21 Bedroom 1	100.00	100.00	Yes
314	6.21 Bedroom 3	100.00	100.00	Yes
315	6.21 Bedroom 2	90.91	100.00	Yes
316	6.22 Bedroom 1	100.00	100.00	Yes
317	6.12 Bedroom 1	95.65	100.00	Yes
318	2.30 Bedroom 1	100.00	100.00	Yes
319	2.30 Bedroom	93.75	100.00	Yes
320	2.30 Living/Kitchen	64.86	97.30	Yes
321	3.22 Living/Kitchen	100.00	100.00	Yes
322	3.22 Bedroom 1	100.00	100.00	Yes
323	3.22 Bedroom 2	94.29	100.00	Yes
324	4.16 Bedroom 2	100.00	100.00	Yes
325	5.16 Bedroom 2	100.00	100.00	Yes
326	6.05 Living/Kitchen	100.00	100.00	Yes
327	5.41 Bedroom 1	100.00	100.00	Yes
328	5.41 Bedroom 2	100.00	100.00	Yes
329	5.41 Living/Kitchen	72.37	100.00	Yes
330	3.29 Bedroom 2	100.00	100.00	Yes
331	3.29 Living/Kitchen	100.00	100.00	Yes
332	3.29 Bedroom 1	100.00	100.00	Yes
333	3.33 Living/Kitchen	82.09	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
334	3.33 Bedroom 1	100.00	100.00	Yes
335	4.32 Living/Kitchen	94.81	100.00	Yes
336	4.32 Bedroom 3	100.00	100.00	Yes
337	4.32 Bedroom 1	100.00	100.00	Yes
338	4.32 Bedroom 2	100.00	100.00	Yes
339	4.31 Living/Kitchen	76.12	100.00	Yes
340	4.31 Bedroom 1	100.00	100.00	Yes
341	5.29 Bedroom 2	100.00	100.00	Yes
342	5.29 Bedroom 1	100.00	100.00	Yes
343	5.29 Living/Kitchen	91.55	100.00	Yes
344	5.32 Living/Kitchen	94.59	100.00	Yes
345	5.32 Bedroom 3	100.00	100.00	Yes
346	5.32 Bedroom 1	95.24	100.00	Yes
347	5.32 Bedroom 2	100.00	100.00	Yes
348	5.31 Living/Kitchen	65.67	100.00	Yes
349	5.31 Bedroom 1	100.00	100.00	Yes
350	5.30 Bedroom 1	100.00	100.00	Yes
351	5.30 Bedroom 2	100.00	100.00	Yes
352	5.30 Living/Kitchen	91.55	100.00	Yes
353	4.25 Bedroom 1	92.00	100.00	Yes
354	4.25 Living/Kitchen	49.45	96.70	No
355	5.26 Bedroom 2	100.00	100.00	Yes
356	5.26 Bedroom 1	100.00	100.00	Yes
357	5.26 Living/Kitchen	84.51	100.00	Yes
358	5.25 Bedroom 1	100.00	100.00	Yes
359	5.25 Bedroom 2	100.00	100.00	Yes
360	5.25 Living/Kitchen	68.13	100.00	Yes
361	3.44 Bedroom 2	100.00	100.00	Yes
362	3.44 Bedroom 1	100.00	100.00	Yes
363	3.44 Living/Kitchen	92.00	94.67	No
364	3.47 Living/Kitchen	97.14	100.00	Yes
365	3.47 Bedroom 1	80.00	100.00	Yes
366	3.46 Bedroom 1	100.00	100.00	Yes
367	3.46 Bedroom 2	96.88	100.00	Yes
368	3.46 Living/Kitchen	100.00	100.00	Yes
369	4.44 Living/Kitchen	85.71	100.00	Yes
370	4.44 Bedroom 1	65.52	100.00	Yes
371	5.44 Bedroom 1	88.00	100.00	Yes
372	5.44 Living/Kitchen	98.57	100.00	Yes
373	4.43 Living/Kitchen	100.00	100.00	Yes
374	4.43 Bedroom 1	100.00	100.00	Yes
375	4.41 Bedroom 2	100.00	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
376	5.43 Living/Kitchen	100.00	100.00	Yes
377	5.43 Bedroom 1	100.00	100.00	Yes
378	5.41 Bedroom 3	100.00	100.00	Yes
379	5.42 Bedroom 1	100.00	100.00	Yes
380	4.39 Bedroom 1	88.00	88.00	No
381	4.39 Living/Kitchen	100.00	100.00	Yes
382	4.38 Living/Kitchen	75.00	100.00	Yes
383	4.38 Bedroom 2	96.88	96.88	Yes
384	5.39 Bedroom 1	100.00	100.00	Yes
385	5.39 Bedroom 2	100.00	100.00	Yes
386	5.39 Living/Kitchen	100.00	100.00	Yes
387	5.38 Living/Kitchen	72.73	100.00	Yes
388	5.38 Bedroom 1	96.88	96.88	Yes
389	2.39 Bedroom 1	88.89	100.00	Yes
390	4.42 Bedroom 1	100.00	100.00	Yes
391	4.42 Bedroom 2	100.00	100.00	Yes
392	3.35 Bedroom 1	86.36	100.00	Yes
393	3.35 Living/Kitchen	100.00	100.00	Yes
394	3.35 Bedroom 2	65.22	100.00	Yes
395	4.33 Bedroom 1	45.45	100.00	No
396	4.33 Living/Kitchen	93.65	100.00	Yes
397	5.37 Bedroom 2	63.64	100.00	Yes
398	5.37 Living/Kitchen	98.36	100.00	Yes
399	5.37 Bedroom 1	25.71	100.00	No
400	5.33 Bedroom 1	45.45	100.00	No
401	5.33 Living/Kitchen	96.88	100.00	Yes
402	5.33 Bedroom 2	39.13	100.00	No
403	6.15 Bedroom 1	96.00	100.00	Yes
404	6.15 Living/Kitchen	98.41	100.00	Yes
405	6.16 Bedroom 2	100.00	100.00	Yes
406	Living/Kitchen	100.00	100.00	Yes
407	3.30 Living/Kitchen	100.00	100.00	Yes
408	3.30 Bedroom 1	91.18	91.18	No
409	6.19 Bedroom 2	95.45	100.00	Yes
410	6.19 Living/Kitchen	98.51	100.00	Yes
411	6.19 Bedroom 1	76.19	100.00	Yes
412	4.37 Bedroom 2	63.64	100.00	Yes
413	4.37 Living/Kitchen	98.57	100.00	Yes
414	2.04 Bedroom 1	100.00	100.00	Yes
415	2.04 Bedroom 3	100.00	100.00	Yes
416	2.04 Bedroom 2	100.00	100.00	Yes
417	2.04 Living/Kitchen	98.00	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
418	2.37 Bedroom 2	100.00	100.00	Yes
419	2.37 Bedroom 1	100.00	100.00	Yes
420	2.37 Living/Kitchen	100.00	100.00	Yes
421	2.25 Bedroom 2	89.66	100.00	Yes
422	2.25 Bedroom 1	100.00	100.00	Yes
423	2.25 Living/Kitchen	66.22	100.00	Yes
424	2.26 Bedroom 2	96.55	100.00	Yes
425	2.26 Bedroom 1	100.00	100.00	Yes
426	2.26 Living/Kitchen	98.65	100.00	Yes
427	3.42 Bedroom 2	100.00	100.00	Yes
428	3.42 Bedroom 1	100.00	100.00	Yes
429	3.42 Living/Kitchen	100.00	100.00	Yes
430	4.29 Bedroom 1	100.00	100.00	Yes
431	4.29 Bedroom 2	100.00	100.00	Yes
432	4.29 Living/Kitchen	78.38	100.00	Yes
433	4.30 Bedroom 1	100.00	100.00	Yes
434	4.30 Bedroom 2	100.00	100.00	Yes
435	4.30 Living/Kitchen	72.06	98.53	Yes
436	3.27 Bedroom 2	100.00	100.00	Yes
437	3.27 Bedroom 1	100.00	100.00	Yes
438	3.28 Living/Kitchen	91.89	100.00	Yes
439	3.28 Bedroom 2	100.00	100.00	Yes
440	3.28 Bedroom 1	100.00	100.00	Yes
441	3.28 Living/Kitchen	100.00	100.00	Yes
442	3.31 Bedroom 2	100.00	100.00	Yes
443	3.31 Bedroom 1	100.00	100.00	Yes
444	3.31 Living/Kitchen	93.06	94.44	No
445	3.32 Bedroom 1	100.00	100.00	Yes
446	3.32 Bedroom 2	100.00	100.00	Yes
447	4.40 Bedroom 2	100.00	100.00	Yes
448	4.40 Bedroom 1	100.00	100.00	Yes
449	4.40 Living/Kitchen	100.00	100.00	Yes
450	2.29 Bedroom 2	100.00	100.00	Yes
451	2.29 Bedroom 1	83.33	100.00	Yes
452	2.29 Living/Kitchen	65.71	98.57	Yes
453	3.21 Bedroom 1	96.88	100.00	Yes
454	3.21 Living/Kitchen	92.94	100.00	Yes
455	3.21 Bedroom 2	100.00	100.00	Yes
456	4.21 Bedroom 1	100.00	100.00	Yes
457	4.21 Living/Kitchen	100.00	100.00	Yes
458	4.21 Bedroom 2	100.00	100.00	Yes
459	4.21 Bedroom 3	100.00	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
460	4.26 Bedroom 2	100.00	100.00	Yes
461	4.26 Bedroom 1	100.00	100.00	Yes
462	4.26 Living/Kitchen	68.85	100.00	Yes
463	6.18 Living/Kitchen	100.00	100.00	Yes
464	4.25 Bedroom 2	100.00	100.00	Yes
465	4.33 Bedroom 2	39.13	100.00	No
466	4.34 Living/Kitchen	100.00	100.00	Yes
467	4.36 Bedroom 1	48.00	100.00	No
468	4.37 Bedroom 1	25.71	100.00	No
469	4.39 Bedroom 2	100.00	100.00	Yes
470	4.41 Living/Kitchen	72.73	100.00	Yes
471	4.41 Bedroom 1	96.55	100.00	Yes
472	4.09 Living/Kitchen	66.67	100.00	Yes
473	4.09 Bedroom 1	96.88	96.88	Yes
474	4.08 Bedroom 1	96.88	96.88	Yes
475	4.08 Living/Kitchen	66.67	100.00	Yes
476	4.17 Living/Kitchen	80.00	100.00	Yes
477	4.17 Bedroom 1	100.00	100.00	Yes
478	4.18 Bedroom 1	100.00	100.00	Yes
479	4.18 Living/Kitchen	77.78	100.00	Yes
480	4.19 Living/Kitchen	82.22	100.00	Yes
481	4.19 Bedroom 1	100.00	100.00	Yes
482	4.20 Bedroom 1	100.00	100.00	Yes
483	4.20 Living/Kitchen	82.22	100.00	Yes
484	3.02 Living/Kitchen	68.89	100.00	Yes
485	3.03 Living/Kitchen	72.31	98.46	Yes
486	3.23 Living/Kitchen	41.89	97.30	No
487	3.24 Living/Kitchen	44.78	100.00	No
488	3.25 Living/Kitchen	75.00	100.00	Yes
489	3.15 Living/Kitchen	94.55	100.00	Yes
490	3.20 Bedroom 1	100.00	100.00	Yes
491	3.19 Bedroom 1	100.00	100.00	Yes
492	3.20 Living/Kitchen	77.78	100.00	Yes
493	2.08 Bedroom 1	100.00	100.00	Yes
494	2.08 Living/Kitchen	66.67	100.00	Yes
495	2.09 Living/Kitchen	100.00	100.00	Yes
496	2.16 Living/Kitchen	71.11	100.00	Yes
497	2.16 Bedroom 1	100.00	100.00	Yes
498	2.17 Bedroom 1	100.00	100.00	Yes
499	2.18 Living/Kitchen	77.78	100.00	Yes
500	2.19 Bedroom 1	80.00	100.00	Yes
501	2.18 Bedroom 1	100.00	100.00	Yes

Reference Number	Room	% Area achieving 300 Lux	% Area achieving 100 Lux	EN 17037 Compliant
502	2.19 Bedroom 1	100.00	100.00	Yes
503	2.27 Living/Kitchen	100.00	100.00	Yes
504	2.45 Living/Kitchen	61.22	100.00	Yes
505	2.44 Bedroom 1	100.00	100.00	Yes
506	2.14 Bedroom 2	40.63	100.00	No
507	2.05 Living/Kitchen	78.69	100.00	Yes
508	2.39 Bedroom 2	100.00	100.00	Yes
509	2.39 Living/Kitchen	82.67	97.33	Yes
510	2.43 Bedroom 1	100.00	100.00	Yes
511	2.43 Bedroom 1	100.00	100.00	Yes
512	3.32 Living/Kitchen	90.28	94.44	No
513	2.02 Living/Kitchen	63.93	98.36	Yes
514	2.02 Bed 1	100.00	100.00	Yes
515	4.03 Living/Kitchen	73.85	98.46	Yes
516	4.02 Living/Kitchen	73.83	89.72	No
517	4.23 Living/Kitchen	63.08	100.00	Yes
518	4.23 Bed 1	87.50	100.00	Yes
519	5.03 Living/Kitchen	94.37	100.00	Yes
520	5.02 Living/Kitchen	93.62	100.00	Yes
521	6.22 Living/Kitchen	50.00	100.00	Yes
522	6.14 Living/Kitchen	100.00	100.00	Yes
523	6.12 Living/Kitchen	85.37	90.24	No

APPENDIX E | SPATIAL DAYLIGHT AUTONOMY (sDA) RESULTS – BS EN17037 BRITISH NATIONAL ANNEX

Bedrooms

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
1	2.13 Bedroom 1	100.00	Yes
2	2.12 Bedroom 1	100.00	Yes
3	2.11 Bedroom 1	100.00	Yes
4	2.10 Bedroom 1	100.00	Yes
5	2.10 Bedroom 2	100.00	Yes
6	2.14 Bedroom 1	100.00	Yes
7	2.07 Bedroom 1	100.00	Yes
8	2.20 Bedroom 1	100.00	Yes
9	2.09 Bedroom 2	100.00	Yes
10	2.09 Bedroom 1	100.00	Yes
11	2.20 Bedroom 2	100.00	Yes
12	3.05 Bedroom 2	100.00	Yes
13	3.14 Bedroom 1	100.00	Yes
14	3.13 Bedroom 1	100.00	Yes
15	3.12 Bedroom 1	100.00	Yes
16	3.05 Bedroom 3	100.00	Yes
17	3.05 Bedroom 1	100.00	Yes
18	4.14 Bedroom 1	100.00	Yes
19	4.13 Bedroom 1	100.00	Yes
20	4.12 Bedroom 1	100.00	Yes
21	6.07 Bedroom 1	100.00	Yes
22	6.06 Bedroom 1	100.00	Yes
23	6.05 Bedroom 1	100.00	Yes
24	6.08 Bedroom 1	100.00	Yes
25	6.04 Bedroom 1	100.00	Yes
26	6.03 Bedroom 1	100.00	Yes
27	6.03 Bedroom 2	100.00	Yes
28	6.02 Bedroom 2	100.00	Yes
29	6.02 Bedroom 1	100.00	Yes
30	6.01 Bedroom 1	100.00	Yes
31	6.10 Bedroom 2	100.00	Yes
32	6.10 Bedroom 1	100.00	Yes
33	6.11 Bedroom 2	100.00	Yes
34	6.11 Bedroom 1	100.00	Yes
35	6.09 Bedroom 1	100.00	Yes
36	6.09 Bedroom 2	100.00	Yes
37	2.24 Bedroom 1	100.00	Yes
38	2.24 Bedroom 2	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
39	2.41 Bedroom 2	97.06	Yes
40	2.28 Bedroom 1	91.18	Yes
41	2.31 Bedroom 1	91.18	Yes
42	2.38 Bedroom 1	100.00	Yes
43	2.36 Bedroom 1	100.00	Yes
44	2.36 Bedroom 2	100.00	Yes
45	2.42 Bedroom 1	100.00	Yes
46	2.40 Bedroom 1	100.00	Yes
47	2.27 Bedroom 2	100.00	Yes
48	2.27 Bedroom 1	100.00	Yes
49	3.43 Bedroom 1	97.06	Yes
50	3.41 Bedroom 1	100.00	Yes
51	3.41 Bedroom 2	100.00	Yes
52	3.38 Bedroom 1	100.00	Yes
53	3.37 Bedroom 1	100.00	Yes
54	3.36 Bedroom 1	100.00	Yes
55	3.39 Bedroom 1	100.00	Yes
56	2.32 Bedroom 1	100.00	Yes
57	2.35 Bedroom 1	100.00	Yes
58	2.34 Bedroom 1	100.00	Yes
59	2.34 Bedroom 2	100.00	Yes
60	2.33 Bedroom 2	100.00	Yes
61	2.33 Bedroom 1	100.00	Yes
62	3.39 Bedroom 2	100.00	Yes
63	3.26 Bedroom 1	100.00	Yes
64	3.26 Bedroom 2	100.00	Yes
65	3.34 Bedroom 3	100.00	Yes
66	3.34 Bedroom 1	100.00	Yes
67	3.34 Bedroom 2	100.00	Yes
68	3.40 Bedroom 1	96.88	Yes
69	4.35 Bedroom 1	100.00	Yes
70	4.34 Bedroom 1	100.00	Yes
71	4.27 Bedroom 1	100.00	Yes
72	4.27 Bedroom 2	100.00	Yes
73	4.41 Bedroom 3	100.00	Yes
74	4.28 Bedroom 2	100.00	Yes
75	4.28 Bedroom 1	100.00	Yes
76	6.18 Bedroom 1	100.00	Yes
77	6.17 Bedroom 1	100.00	Yes
78	6.16 Bedroom 1	100.00	Yes
79	6.20 Bedroom 1	100.00	Yes
80	6.20 Bedroom 2	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
81	6.14 Bedroom 2	100.00	Yes
82	6.14 Bedroom 1	100.00	Yes
83	2.05 Bedroom 2	100.00	Yes
84	2.05 Bedroom 1	100.00	Yes
85	2.22 Bedroom 2	100.00	Yes
86	2.22 Bedroom 1	100.00	Yes
87	2.23 Bedroom 1	100.00	Yes
88	2.06 Bedroom 2	100.00	Yes
89	2.06 Bedroom 1	100.00	Yes
90	2.03 Bedroom 2	100.00	Yes
91	2.03 Bedroom 1	100.00	Yes
92	3.18 Bedroom	100.00	Yes
93	3.17 Bedroom	100.00	Yes
94	3.06 Bedroom 2	100.00	Yes
95	3.06 Bedroom 1	100.00	Yes
96	3.07 Bedroom 1	100.00	Yes
97	3.07 Bedroom 2	100.00	Yes
98	3.04 Bedroom 1	100.00	Yes
99	3.04 Bedroom 2	100.00	Yes
100	3.15 Bedroom 2	100.00	Yes
101	3.15 Bedroom 1	100.00	Yes
102	3.09 Bedroom 1	96.88	Yes
103	3.08 Bedroom 1	96.88	Yes
104	3.03 Bedroom 1	100.00	Yes
105	3.02 Bedroom 1	100.00	Yes
106	3.11 Bedroom 1	100.00	Yes
107	3.11 Bedroom 2	100.00	Yes
108	3.01 Bedroom 1	100.00	Yes
109	2.15 Bedroom 2	100.00	Yes
110	2.15 Bedroom 1	100.00	Yes
111	3.10 Bedroom 2	100.00	Yes
112	3.10 Bedroom 1	100.00	Yes
113	2.01 Bedroom 2	100.00	Yes
114	2.01 Bedroom 1	100.00	Yes
115	4.05 Bedroom 3	100.00	Yes
116	4.05 Bedroom 2	100.00	Yes
117	4.05 Bedroom 1	100.00	Yes
118	4.06 Bedroom 2	100.00	Yes
119	4.06 Bedroom 1	100.00	Yes
120	4.07 Bedroom 1	100.00	Yes
121	4.07 Bedroom 2	100.00	Yes
122	4.04 Bedroom 2	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
123	4.04 Bedroom 1	100.00	Yes
124	4.03 Bedroom 1	100.00	Yes
125	4.02 Bedroom 1	100.00	Yes
126	4.11 Bedroom 1	100.00	Yes
127	4.11 Bedroom 2	100.00	Yes
128	4.01 Bedroom 1	100.00	Yes
129	4.10 Bedroom 2	100.00	Yes
130	4.10 Bedroom 1	100.00	Yes
131	5.14 Bedroom 1	100.00	Yes
132	5.13 Bedroom 1	100.00	Yes
133	5.12 Bedroom 1	100.00	Yes
134	5.05 Bedroom 1	100.00	Yes
135	5.05 Bedroom 3	100.00	Yes
136	5.05 Bedroom 2	100.00	Yes
137	5.06 Bedroom 1	100.00	Yes
138	5.06 Bedroom 2	100.00	Yes
139	5.07 Bedroom 1	100.00	Yes
140	5.07 Bedroom 2	100.00	Yes
141	5.04 Bedroom 2	100.00	Yes
142	5.04 Bedroom 1	100.00	Yes
143	5.09 Bedroom 1	100.00	Yes
144	5.08 Bedroom 1	100.00	Yes
145	5.03 Bedroom 1	100.00	Yes
146	5.02 Bedroom 1	100.00	Yes
147	5.11 Bedroom 1	100.00	Yes
148	5.11 Bedroom 2	100.00	Yes
149	5.01 Bedroom 1	100.00	Yes
150	5.10 Bedroom 2	100.00	Yes
151	5.10 Bedroom 1	100.00	Yes
152	4.22 Bedroom 1	100.00	Yes
153	4.22 Bedroom 2	100.00	Yes
154	4.15 Bedroom 2	100.00	Yes
155	4.15 Bedroom 1	100.00	Yes
156	4.24 Bedroom 1	100.00	Yes
157	5.19 Bedroom 1	100.00	Yes
158	5.18 Bedroom 1	100.00	Yes
159	5.17 Bedroom 1	100.00	Yes
160	5.20 Bedroom 1	100.00	Yes
161	5.15 Bedroom 2	100.00	Yes
162	5.15 Bedroom 1	100.00	Yes
163	2.21 Bedroom 1	100.00	Yes
164	2.21 Bedroom 2	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
165	2.23 Bedroom 2	100.00	Yes
166	3.25 Bedroom 1	100.00	Yes
167	3.23 Bedroom 2	100.00	Yes
168	3.23 Bedroom 1	100.00	Yes
169	3.24 Bedroom 1	100.00	Yes
170	5.21 Bedroom 1	100.00	Yes
171	5.21 Bedroom 2	100.00	Yes
172	5.21 Bedroom 3	100.00	Yes
173	5.22 Bedroom 2	100.00	Yes
174	5.22 Bedroom 1	100.00	Yes
175	5.23 Bedroom 1	100.00	Yes
176	5.24 Bedroom 1	100.00	Yes
177	3.16 Bedroom 2	100.00	Yes
178	3.16 Bedroom 1	100.00	Yes
179	4.16 Bedroom 1	100.00	Yes
180	5.16 Bedroom 1	100.00	Yes
181	2.45 Bedroom 1	100.00	Yes
182	2.40 Bedroom 2	100.00	Yes
183	3.45 Bedroom 1	100.00	Yes
184	3.45 Bedroom 2	100.00	Yes
185	5.40 Bedroom 2	100.00	Yes
186	5.40 Bedroom 1	100.00	Yes
187	5.36 Bedroom 1	100.00	Yes
188	5.35 Bedroom 1	100.00	Yes
189	5.34 Bedroom 1	100.00	Yes
190	5.27 Bedroom 1	100.00	Yes
191	5.27 Bedroom 2	100.00	Yes
192	5.28 Bedroom 2	100.00	Yes
193	5.28 Bedroom 1	100.00	Yes
194	6.13 Bedroom 2	100.00	Yes
195	6.13 Bedroom 1	100.00	Yes
196	6.21 Bedroom 1	100.00	Yes
197	6.21 Bedroom 3	100.00	Yes
198	6.21 Bedroom 2	100.00	Yes
199	6.22 Bedroom 1	100.00	Yes
200	6.12 Bedroom 1	100.00	Yes
201	2.30 Bedroom 1	100.00	Yes
202	2.30 Bedroom	100.00	Yes
203	3.22 Bedroom 1	100.00	Yes
204	3.22 Bedroom 2	100.00	Yes
205	4.16 Bedroom 2	100.00	Yes
206	5.16 Bedroom 2	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
207	5.41 Bedroom 1	100.00	Yes
208	5.41 Bedroom 2	100.00	Yes
209	3.29 Bedroom 2	100.00	Yes
210	3.29 Bedroom 1	100.00	Yes
211	3.33 Bedroom 1	100.00	Yes
212	4.32 Bedroom 3	100.00	Yes
213	4.32 Bedroom 1	100.00	Yes
214	4.32 Bedroom 2	100.00	Yes
215	4.31 Bedroom 1	100.00	Yes
216	5.29 Bedroom 2	100.00	Yes
217	5.29 Bedroom 1	100.00	Yes
218	5.32 Bedroom 3	100.00	Yes
219	5.32 Bedroom 1	100.00	Yes
220	5.32 Bedroom 2	100.00	Yes
221	5.31 Bedroom 1	100.00	Yes
222	5.30 Bedroom 1	100.00	Yes
223	5.30 Bedroom 2	100.00	Yes
224	4.25 Bedroom 1	100.00	Yes
225	5.26 Bedroom 2	100.00	Yes
226	5.26 Bedroom 1	100.00	Yes
227	5.25 Bedroom 1	100.00	Yes
228	5.25 Bedroom 2	100.00	Yes
229	3.44 Bedroom 2	100.00	Yes
230	3.44 Bedroom 1	100.00	Yes
231	3.47 Bedroom 1	100.00	Yes
232	3.46 Bedroom 1	100.00	Yes
233	3.46 Bedroom 2	100.00	Yes
234	4.44 Bedroom 1	100.00	Yes
235	5.44 Bedroom 1	100.00	Yes
236	4.43 Bedroom 1	100.00	Yes
237	4.41 Bedroom 2	100.00	Yes
238	5.43 Bedroom 1	100.00	Yes
239	5.41 Bedroom 3	100.00	Yes
240	5.42 Bedroom 1	100.00	Yes
241	4.39 Bedroom 1	88.00	Yes
242	4.38 Bedroom 2	96.88	Yes
243	5.39 Bedroom 1	100.00	Yes
244	5.39 Bedroom 2	100.00	Yes
245	5.38 Bedroom 1	96.88	Yes
246	2.39 Bedroom 1	100.00	Yes
247	4.42 Bedroom 1	100.00	Yes
248	4.42 Bedroom 2	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
249	3.35 Bedroom 1	100.00	Yes
250	3.35 Bedroom 2	100.00	Yes
251	4.33 Bedroom 1	100.00	Yes
252	5.37 Bedroom 2	100.00	Yes
253	5.37 Bedroom 1	100.00	Yes
254	5.33 Bedroom 1	100.00	Yes
255	5.33 Bedroom 2	100.00	Yes
256	6.15 Bedroom 1	100.00	Yes
257	6.16 Bedroom 2	100.00	Yes
258	3.30 Bedroom 1	91.18	Yes
259	6.19 Bedroom 2	100.00	Yes
260	6.19 Bedroom 1	100.00	Yes
261	4.37 Bedroom 2	100.00	Yes
262	2.04 Bedroom 1	100.00	Yes
263	2.04 Bedroom 3	100.00	Yes
264	2.04 Bedroom 2	100.00	Yes
265	2.37 Bedroom 2	100.00	Yes
266	2.37 Bedroom 1	100.00	Yes
267	2.25 Bedroom 2	100.00	Yes
268	2.25 Bedroom 1	100.00	Yes
269	2.26 Bedroom 2	100.00	Yes
270	2.26 Bedroom 1	100.00	Yes
271	3.42 Bedroom 2	100.00	Yes
272	3.42 Bedroom 1	100.00	Yes
273	4.29 Bedroom 1	100.00	Yes
274	4.29 Bedroom 2	100.00	Yes
275	4.30 Bedroom 1	100.00	Yes
276	4.30 Bedroom 2	100.00	Yes
277	3.27 Bedroom 2	100.00	Yes
278	3.27 Bedroom 1	100.00	Yes
279	3.28 Bedroom 2	100.00	Yes
280	3.28 Bedroom 1	100.00	Yes
281	3.31 Bedroom 2	100.00	Yes
282	3.31 Bedroom 1	100.00	Yes
283	3.32 Bedroom 1	100.00	Yes
284	3.32 Bedroom 2	100.00	Yes
285	4.40 Bedroom 2	100.00	Yes
286	4.40 Bedroom 1	100.00	Yes
287	2.29 Bedroom 2	100.00	Yes
288	2.29 Bedroom 1	100.00	Yes
289	3.21 Bedroom 1	100.00	Yes
290	3.21 Bedroom 2	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
291	4.21 Bedroom 1	100.00	Yes
292	4.21 Bedroom 2	100.00	Yes
293	4.21 Bedroom 3	100.00	Yes
294	4.26 Bedroom 2	100.00	Yes
295	4.26 Bedroom 1	100.00	Yes
296	4.25 Bedroom 2	100.00	Yes
297	4.33 Bedroom 2	100.00	Yes
298	4.36 Bedroom 1	100.00	Yes
299	4.37 Bedroom 1	100.00	Yes
300	4.39 Bedroom 2	100.00	Yes
301	4.41 Bedroom 1	100.00	Yes
302	4.09 Bedroom 1	96.88	Yes
303	4.08 Bedroom 1	96.88	Yes
304	4.17 Bedroom 1	100.00	Yes
305	4.18 Bedroom 1	100.00	Yes
306	4.19 Bedroom 1	100.00	Yes
307	4.20 Bedroom 1	100.00	Yes
308	3.20 Bedroom 1	100.00	Yes
309	3.19 Bedroom 1	100.00	Yes
310	2.08 Bedroom 1	100.00	Yes
311	2.16 Bedroom 1	100.00	Yes
312	2.17 Bedroom 1	100.00	Yes
313	2.19 Bedroom 1	100.00	Yes
314	2.18 Bedroom 1	100.00	Yes
315	2.19 Bedroom 1	100.00	Yes
316	2.44 Bedroom 1	100.00	Yes
317	2.14 Bedroom 2	100.00	Yes
318	2.39 Bedroom 2	100.00	Yes
319	2.43 Bedroom 1	100.00	Yes
320	2.43 Bedroom 1	100.00	Yes

Kitchen/Living

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
1	2.13 Living/Kitchen	100.00	Yes
2	2.12 Living/Kitchen	100.00	Yes
3	2.11 Living/Kitchen	100.00	Yes
4	2.10 Living/Kitchen	80.00	Yes
5	2.14 Living/Kitchen	77.61	Yes
6	2.07 Living/Kitchen	84.44	Yes
7	2.20 Living/Kitchen	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
8	3.14 Living/Kitchen	100.00	Yes
9	3.13 Living/Kitchen	100.00	Yes
10	3.12 Living/Kitchen	100.00	Yes
11	4.14 Living/Kitchen	100.00	Yes
12	4.13 Living/Kitchen	100.00	Yes
13	4.12 Living/Kitchen	100.00	Yes
14	6.07 Living/Kitchen	100.00	Yes
15	6.06 Living/Kitchen	100.00	Yes
16	6.04 Living/Kitchen	100.00	Yes
17	6.08 Living/Kitchen	100.00	Yes
18	6.02 Living/Kitchen	100.00	Yes
19	6.03 Living/Kitchen	100.00	Yes
20	6.01 Living/Kitchen	100.00	Yes
21	6.10 Living/Kitchen	100.00	Yes
22	6.11 Living/Kitchen	100.00	Yes
23	6.09 Living/Kitchen	100.00	Yes
24	2.24 Living/Kitchen	55.84	Yes
25	2.41 Living/Kitchen	100.00	Yes
26	2.28 Living/Kitchen	97.78	Yes
27	2.31 Living/Kitchen	91.11	Yes
28	2.38 Living/Kitchen	100.00	Yes
29	2.36 Living/Kitchen	100.00	Yes
30	2.42 Living/Kitchen	78.72	Yes
31	2.40 Living/Kitchen	100.00	Yes
32	3.43 Living/Kitchen	100.00	Yes
33	3.41 Living/Kitchen	100.00	Yes
34	3.38 Living/Kitchen	100.00	Yes
35	3.37 Living/Kitchen	100.00	Yes
36	3.36 Living/Kitchen	100.00	Yes
37	3.39 Living/Kitchen	100.00	Yes
38	2.32 Living/Kitchen	100.00	Yes
39	2.35 Living/Kitchen	98.21	Yes
40	2.44 Living/Kitchen	100.00	Yes
41	2.34 Living/Kitchen	92.31	Yes
42	2.33 Living/Kitchen	100.00	Yes
43	3.26 Living/Kitchen	79.12	Yes
44	3.34 Living/Kitchen	100.00	Yes
45	3.40 Living/Kitchen	100.00	Yes
46	4.36 Living/Kitchen	100.00	Yes
47	4.35 Living/Kitchen	100.00	Yes
48	4.27 Living/Kitchen	78.67	Yes
49	4.42 Living/Kitchen	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
50	4.28 Living/Kitchen	100.00	Yes
51	6.17 Living/Kitchen	100.00	Yes
52	6.16 Living/Kitchen	100.00	Yes
53	6.20 Living/Kitchen	100.00	Yes
54	2.22 Living/Kitchen	50.82	Yes
55	2.23 Living/Kitchen	45.90	No
56	2.06 Living/Kitchen	95.51	Yes
57	2.03 Living/Kitchen	100.00	Yes
58	2.17 Living/Kitchen	82.22	Yes
59	3.19 Living/Kitchen	82.22	Yes
60	3.18 Living/Kitchen	84.44	Yes
61	3.17 Living/Kitchen	95.56	Yes
62	3.06 Living/Kitchen	98.67	Yes
63	3.07 Living/Kitchen	100.00	Yes
64	3.04 Living/Kitchen	100.00	Yes
65	3.09 Living/Kitchen	82.22	Yes
66	3.08 Living/Kitchen	84.44	Yes
67	3.11 Living/Kitchen	100.00	Yes
68	3.01 Living/Kitchen	88.73	Yes
69	3.05 Living/Kitchen	100.00	Yes
70	2.21 Living/Kitchen	95.74	Yes
71	2.15 Living/Kitchen	100.00	Yes
72	3.10 Living/Kitchen	100.00	Yes
73	2.01 Living/Kitchen	72.00	Yes
74	4.06 Living/Kitchen	100.00	Yes
75	4.07 Living/Kitchen	100.00	Yes
76	4.04 Living/Kitchen	100.00	Yes
77	4.11 Living/Kitchen	100.00	Yes
78	4.01 Living/Kitchen	94.37	Yes
79	4.05 Living/Kitchen	100.00	Yes
80	4.10 Living/Kitchen	100.00	Yes
81	5.14 Living/Kitchen	100.00	Yes
82	5.13 Living/Kitchen	100.00	Yes
83	5.12 Living/Kitchen	100.00	Yes
84	5.06 Living/Kitchen	100.00	Yes
85	5.07 Living/Kitchen	100.00	Yes
86	5.04 Living/Kitchen	100.00	Yes
87	5.09 Living/Kitchen	78.72	Yes
88	5.08 Living/Kitchen	82.22	Yes
89	5.11 Living/Kitchen	100.00	Yes
90	5.01 Living/Kitchen	97.22	Yes
91	5.05 Living/Kitchen	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
92	5.10 Living/Kitchen	100.00	Yes
93	4.15 Living/Kitchen	100.00	Yes
94	4.24 Living/Kitchen	94.59	Yes
95	5.19 Living/Kitchen	100.00	Yes
96	5.18 Living/Kitchen	97.78	Yes
97	5.17 Living/Kitchen	100.00	Yes
98	5.20 Living/Kitchen	100.00	Yes
99	5.15 Living/Kitchen	100.00	Yes
100	2.43 Living/Kitchen	77.55	Yes
101	5.21 Living/Kitchen	100.00	Yes
102	5.22 Living/Kitchen	100.00	Yes
103	5.23 Living/Kitchen	100.00	Yes
104	5.24 Living/Kitchen	98.65	Yes
105	3.16 Living/Kitchen	100.00	Yes
106	4.16 Living/Kitchen	100.00	Yes
107	5.16 Living/Kitchen	100.00	Yes
108	3.45 Living/Kitchen	100.00	Yes
109	5.40 Living/Kitchen	100.00	Yes
110	5.36 Living/Kitchen	100.00	Yes
111	5.35 Living/Kitchen	100.00	Yes
112	5.34 Living/Kitchen	100.00	Yes
113	5.27 Living/Kitchen	85.88	Yes
114	5.42 Living/Kitchen	98.73	Yes
115	5.28 Living/Kitchen	100.00	Yes
116	6.13 Living/Kitchen	100.00	Yes
117	6.21 Living/Kitchen	100.00	Yes
118	Living/Kitchen	98.55	Yes
119	Living/Kitchen	100.00	Yes
120	Living/Kitchen	100.00	Yes
121	Living/Kitchen	100.00	Yes
122	Living/Kitchen	100.00	Yes
123	Living/Kitchen	68.35	Yes
124	Living/Kitchen	78.52	Yes
125	Living/Kitchen	79.19	Yes
126	Living/Kitchen	72.00	Yes
127	2.30 Living/Kitchen	93.24	Yes
128	3.22 Living/Kitchen	100.00	Yes
129	6.05 Living/Kitchen	100.00	Yes
130	5.41 Living/Kitchen	90.79	Yes
131	3.29 Living/Kitchen	100.00	Yes
132	3.33 Living/Kitchen	100.00	Yes
133	4.32 Living/Kitchen	97.40	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
134	4.31 Living/Kitchen	97.01	Yes
135	5.29 Living/Kitchen	100.00	Yes
136	5.32 Living/Kitchen	95.95	Yes
137	5.31 Living/Kitchen	98.51	Yes
138	5.30 Living/Kitchen	100.00	Yes
139	4.25 Living/Kitchen	72.53	Yes
140	5.26 Living/Kitchen	100.00	Yes
141	5.25 Living/Kitchen	76.92	Yes
142	3.44 Living/Kitchen	93.33	Yes
143	3.47 Living/Kitchen	100.00	Yes
144	3.46 Living/Kitchen	100.00	Yes
145	4.44 Living/Kitchen	100.00	Yes
146	5.44 Living/Kitchen	100.00	Yes
147	4.43 Living/Kitchen	100.00	Yes
148	5.43 Living/Kitchen	100.00	Yes
149	4.39 Living/Kitchen	100.00	Yes
150	4.38 Living/Kitchen	100.00	Yes
151	5.39 Living/Kitchen	100.00	Yes
152	5.38 Living/Kitchen	100.00	Yes
153	3.35 Living/Kitchen	100.00	Yes
154	4.33 Living/Kitchen	100.00	Yes
155	5.37 Living/Kitchen	100.00	Yes
156	5.33 Living/Kitchen	100.00	Yes
157	6.15 Living/Kitchen	100.00	Yes
158	Living/Kitchen	100.00	Yes
159	3.30 Living/Kitchen	100.00	Yes
160	6.19 Living/Kitchen	100.00	Yes
161	4.37 Living/Kitchen	100.00	Yes
162	2.04 Living/Kitchen	100.00	Yes
163	2.37 Living/Kitchen	100.00	Yes
164	2.25 Living/Kitchen	98.65	Yes
165	2.26 Living/Kitchen	100.00	Yes
166	3.42 Living/Kitchen	100.00	Yes
167	4.29 Living/Kitchen	100.00	Yes
168	4.30 Living/Kitchen	98.53	Yes
169	3.28 Living/Kitchen	100.00	Yes
170	3.28 Living/Kitchen	100.00	Yes
171	3.31 Living/Kitchen	94.44	Yes
172	4.40 Living/Kitchen	100.00	Yes
173	2.29 Living/Kitchen	95.71	Yes
174	3.21 Living/Kitchen	100.00	Yes
175	4.21 Living/Kitchen	100.00	Yes

Reference Number	Room	% Area achieving 100 Lux	BS EN 17037 Compliant
176	4.26 Living/Kitchen	100.00	Yes
177	6.18 Living/Kitchen	100.00	Yes
178	4.34 Living/Kitchen	100.00	Yes
179	4.41 Living/Kitchen	92.21	Yes
180	4.09 Living/Kitchen	82.22	Yes
181	4.08 Living/Kitchen	84.44	Yes
182	4.17 Living/Kitchen	100.00	Yes
183	4.18 Living/Kitchen	93.33	Yes
184	4.19 Living/Kitchen	97.78	Yes
185	4.20 Living/Kitchen	100.00	Yes
186	3.02 Living/Kitchen	84.44	Yes
187	3.03 Living/Kitchen	90.77	Yes
188	3.23 Living/Kitchen	60.81	Yes
189	3.24 Living/Kitchen	70.15	Yes
190	3.25 Living/Kitchen	90.38	Yes
191	3.15 Living/Kitchen	100.00	Yes
192	3.20 Living/Kitchen	95.56	Yes
193	2.08 Living/Kitchen	86.67	Yes
194	2.09 Living/Kitchen	100.00	Yes
195	2.16 Living/Kitchen	91.11	Yes
196	2.18 Living/Kitchen	95.56	Yes
197	2.27 Living/Kitchen	100.00	Yes
198	2.45 Living/Kitchen	87.76	Yes
199	2.05 Living/Kitchen	100.00	Yes
200	2.39 Living/Kitchen	96.00	Yes
201	3.32 Living/Kitchen	94.44	Yes
202	2.02 Living/Kitchen	83.61	Yes
203	4.03 Living/Kitchen	96.92	Yes
204	4.02 Living/Kitchen	88.79	Yes
205	4.23 Living/Kitchen	78.46	Yes
206	5.03 Living/Kitchen	100.00	Yes
207	5.02 Living/Kitchen	100.00	Yes
208	6.22 Living/Kitchen	100.00	Yes
209	6.14 Living/Kitchen	100.00	Yes
210	6.12 Living/Kitchen	87.80	Yes