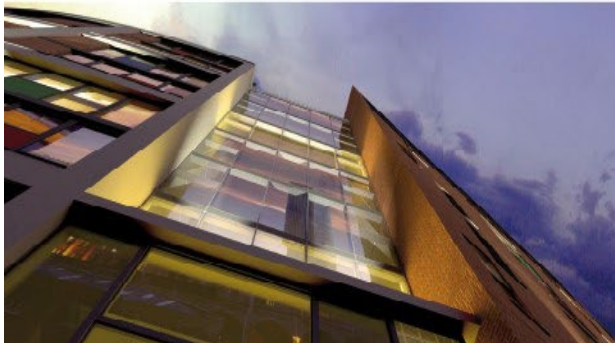




Daylight / Sunlight Assessment

Strategic Housing Development at Mooretown SHD,
Swords, Co. Dublin

April 2022

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Comments

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1. Introduction

Waterman Moylan have been appointed to complete the sunlight and daylight analysis for the proposed residential development at Mooretown Phase 3, Swords, Co. Dublin. The purpose of this analysis is to determine if the various parameters associated with sunlight and daylight meet the recommendations of BRE document 'Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice' Second Edition 2018.

The parameters assessed will include the following

- daylight factors within dwellings,
- sunlight to communal amenity areas and pocket parks within the proposed development,
- overshadowing caused by the proposed development within the subject site,
- overshadowing caused by the proposed development on existing adjacent properties,
- vertical sky component to existing properties
- sunlight to existing property gardens

The proposed development has been analysed using a number of qualitative and quantitative methods to identify the areas of the development which were likely to receive the least daylight and to identify measures that could be taken to improve the daylight penetration. IES Virtual Environment simulation software was used to build a model of the proposed development to enable the necessary analysis to be completed.

This Daylight Analysis Report presents the requirements set out in the relevant guidance documents, describes the methodologies employed to complete the analysis and details the results that were achieved.

2. Site Overview and Nature of Proposed Development

2.1 Site Location & Description

The subject site will consist of construction of a residential development of 650 no. units, including 265 No. houses, 119 No. Duplex/Triplex units and 266 No. apartments. A creche and commercial spaces in some of the blocks also forms part of the development.

- Apartment Block A containing 40 no. apartments measuring five storeys in height (including podium and undercroft parking).
- Apartment Block B containing 70 no. apartments measuring five storeys in height (including podium and undercroft parking).
- Apartment Block C containing 8 no. apartments measuring four storeys in height.
- Apartment Block D containing 8 no. apartments measuring four storeys in height.
- Apartment Block E containing 46 no. apartments measuring five storeys in height.
- Apartment Block F containing 21 no. apartments measuring four storeys in height.
- Duplex Blocks A-V, totalling 119 No. units.



Figure 1 – Proposed development site location (Source: Google Maps)



Figure 3 – Proposed arrangement of Apartment Blocks A & B





Figure 5 – Proposed arrangement of Apartment Blocks C & D and Duplex Block V



Figure 6 - Proposed arrangement of Apartment Block E and Duplex Blocks F, G, H, I & J



Figure 7 - Proposed arrangement of Apartment Block E and Duplex Block K, L & M



Figure 8 - Proposed arrangement of Duplex Block P, Q & R



Figure 9 - Proposed arrangement of Duplex Block O & N



Figure 10 - Proposed arrangement of Apartment Block F

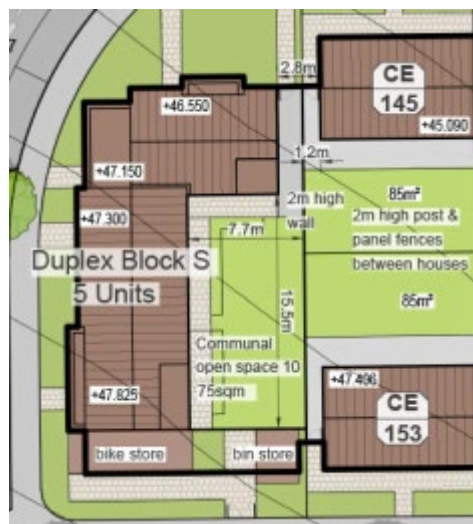


Figure 11 - Proposed arrangement of Duplex Block S

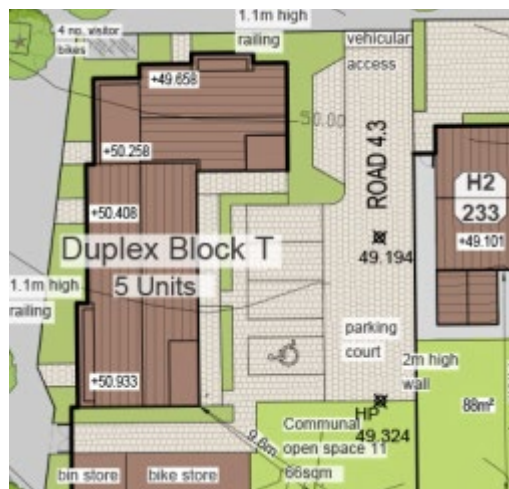


Figure 12 - Proposed arrangement of Duplex Block T

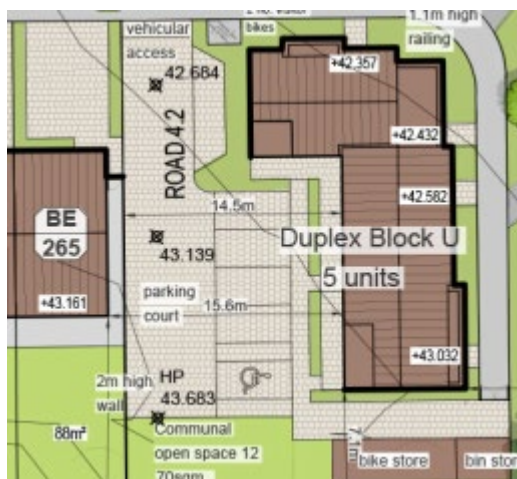


Figure 13 - Proposed arrangement of Duplex Block U

2.2 Design Development Process

The daylight modelling results presented in Section 4 of this report have been achieved following a design development process between the Architect, Conroy Crowe Kelly and Waterman Moylan. Preliminary drawings were analysed for compliance and feedback was given to the Architect.

In areas where non compliances were identified, the Architect looked to improve the access to daylight by increasing window sizes where possible and by modifying the position of the balconies to minimise the over-shading of the living areas. These changes had a positive impact on the daylight levels achieved and these improved results are reported in Section 4.

3. Relevant Standards and Assessment Approach

This Daylight and Sunlight Assessment follows the methodologies set out in the Building Research Establishment's (BRE) publication entitled "**Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice**" (Building Research Establishment Report, 2018). This document is considered to be one of the primary sources of guidance on the subject of daylight and sunlight in residential developments and BS 8206-2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylight'.

Guidance on daylight levels in residential buildings is also provided in **British Standard (BS) 8206: Part 2 – Code of Practice for Daylighting**. Both the BRE document and BS 8206 describe similar approaches to assessing daylight levels in residential buildings and set the same minimum performance levels for daylighting. The BRE document refers to BS 8206 and provides more practical advice and greater clarity around the assessment methodologies and will therefore form the basis for the assessment described in this report.

It is noted that BS 8206-2:2008: Lighting for buildings - Part 2: Code of practice for daylighting was replaced with BS EN 17037:2018 Daylight in Buildings. However, given that the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities refer to the BS 8206-2:2008 and not to BS EN 17037:2018, BS 8206:2008 has been referenced in the preparation of this report.

The BRE "Site Layout Planning for Daylight and Sunlight. A Guidance to Good Practice" sets out a number of key parameters and assessment methodologies that should be measured in order to assess the sunlight & daylight penetration into the buildings within a proposed development and also sets out the analysis that should be carried out to assess the impact of a proposed development might have on existing adjacent properties.

3.1 Assessment Methodologies

The BRE report identifies a number of metrics that can be used to assess the levels of daylight that can be expected in a dwelling

3.1.1 Angle of Visible Sky

The Angle of Visible Sky can be used to provide a qualitative assessment of the amount of daylight that can be expected based on the angle between the mid pane of the window a continuous obstruction opposite to it.

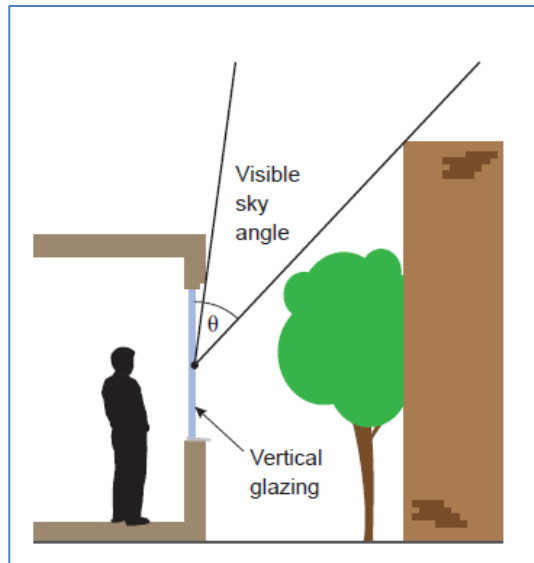


Figure 14 – Angle of Visible Sky (Θ)

3.1.2 Vertical Sky Component (VSC)

The Vertical Sky Component (VSC) is the ratio of direct sky illuminance that falls on a vertical wall at a particular reference point to the simultaneous horizontal illuminance under an unobstructed sky. The maximum VSC is typically 40% for an unobstructed wall. The assessment of VSC assumes that the sky is completely overcast (CIE Overcast Sky), with no direct sunlight. As the sky model brightness is assumed unidirectional, there is therefore no difference in calculation for VSC for different orientations: i.e. Northerly aspect facades will receive identical natural light potential to Southerly, etc.

The Angle of Visible Sky and the VSC are effectively different ways of representing the same information, both will allow an assessment to be made of the day light available at a point on a building façade, and by extension the likelihood of adequate daylight being available within the rooms of a building, however they do not provide a method for measuring the specific internal daylight levels.

3.1.3 Average Daylight Factor (ADF)

The ADF is the ratio of illuminance at a point on a given plane due to light received from a sky of known or assumed luminance distribution, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Similar to the measurement of VSC, the assessment of ADF is also based on the CIE Overcast Sky.

The Average Daylight Factor does provide a method for making a quantitative assessment of the daylight that will be achieved internally. The ADF is assessed using numerical modelling which takes account of the external factors (such as shading from balconies or other buildings), the size and shape of the windows and the internal room layouts.

BS 8206-2 Code of Practice for daylighting, states that “below 2% the room will look dull and electric lighting is likely to be turned on. In residential developments, both the BRE guidance and BS 8206-2 also give minimum value of ADF of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.”

In assessing a scheme of the size that proposed for the Auburn site, the most effective way to assess the overall daylight levels in the scheme is to use a combination of the methods described above. Sectional views of apartments will be assessed to determine which apartments will have the lowest value for the Angle of Visible Sky, then, once these apartments have been identified, ADF calculations will be carried on these units to confirm the actual level of daylight that will be achieved.

3.1.4 Sunlight to Amenity

The BRE guidelines recommend that for external amenity spaces to appear adequately sunlit throughout the year, at least 50% of the amenity space should receive at least two hours of sunlight on March 21st. In order to prove that sunlight levels to amenity spaces achieve compliance a dynamic simulation was carried out using IES VE SunCast.

The amenity spaces were accurately imported to IES VE via Auto CAD dxf files and the footprint of the amenity area was traced and the geometry (position, bulk and height) of all proposed building structures were included in order to perform accurate IES VE SunCast simulations.

3.1.5 Vertical Sky Component – Existing Properties

This assessment uses receptors on the existing properties surrounding the proposed development in order to analyse the impact the proposed development may have on these existing dwellings.

A visual survey of the existing properties was carried out using ‘Google – Earth’ to identify windows (receptors) which look onto the proposed development to determine if there was a significant drop in illuminance due to obstructions from the auburn site.

3.1.6 Annual Probable Sunlight Hours – Existing Properties

Annual probable sunlight hours (APSH) are a measure of sunlight a given window may expect over the period of a one year. The BRE guidance recognises that sunlight is heavily influenced by orientation with north facing windows receiving significantly less sunlight than south facing windows throughout the year with eastwards or westwards windows receiving sunlight at certain points of each day.

To determine the impact the proposed development may have on the existing properties a dynamic simulation was carried out using IES VE software. In order to calculate and objectively determine the impact to the existing properties, simulations were performed by modelling existing properties before introducing the proposed development to establish a baseline.

4. Daylight Assessment of Dwellings

As discussed in Section 3, a combination of methods was used to make an assessment of the daylight levels that will be achieved within the various apartments within the development. This assessment systematically identified the apartments that will have the most restricted access to daylight based on BRE recommended Vertical Sky Angle obstruction angle of between 25° - 45°.

4.1 Angle of Visible Sky Assessment

In order to use the Angle of Visible Sky method to critically assess the scheme, a series of sections through the buildings were analysed to determine which apartments had the least advantageous “Angle of Visible Sky” as these are the apartments that are likely to perform the worst in terms of Average Daylight Factor.

Due to the low rise nature of the scheme overall and the fact that the apartment blocks are generally well spaced out, the majority of apartments have a favourable Angle of Visible Sky. This analysis did however highlight the fact that the apartments on the lower levels of apartment blocks had the least favourable value due to the fact that the blocks were located next to each other and due to the geometry of some of the balconies.

As such, these units were the focus of the initial Average Daylight Factor ADF analysis. This initial analysis identified rooms where the ADF did not meet the required minimum standards and where changes needed to be made. Waterman Moylan liaised with CCK to identify the required changes and to remodel the performance of the changes made. Once satisfied that these changes had the desired effect, they were implemented. ADF modelling was then completed for all units in apartment blocks and duplex blocks, starting at ground level and working up through the floors.

4.2 Average Daylight Factor Assessment

Having analysed the scheme as described in Section 4.1 above to identify the apartments that were not achieving the minimum standard and to work with the architect to make the necessary changes, a systematic ADF modelling approach was then undertaken to work through all apartments in the scheme.

This involved the use of **IES Virtual Environment program Radiance** to systematically model apartments at through each level in all apartment blocks and duplex blocks to determine compliance with the required standards.

The results of this modelling exercise are shown in Tables 1 to 27 in Section 4.2.2 for every living area and bedroom in all apartments in Apartment Blocks and kitchen/living/dining rooms & bedrooms in the Duplex Blocks.

The average daylight factor results are visually represented using daylight mapping images for each area, as indicated in the examples in Figures 14, 15 & 16. The daylight mapping images indicate the daylight levels in a space each space. They are represented through coloured bands which indicate the level of daylight in each part of the room.

The average daylight factor generate in Figure 15 to 17 illustrates the daylight mapping / level of daylight received ranging from 14.25% (red contour) to 0.75% (blue contour). These images indicate how the level of daylight reduces as the distance from the window increases. The average daylight factor in each space is an average of each of the varying levels of daylight throughout the room. Figures 15-17 are examples

of 3 typical rooms. Full mapping for each floor of each of the assessed buildings is provided in Appendix A.

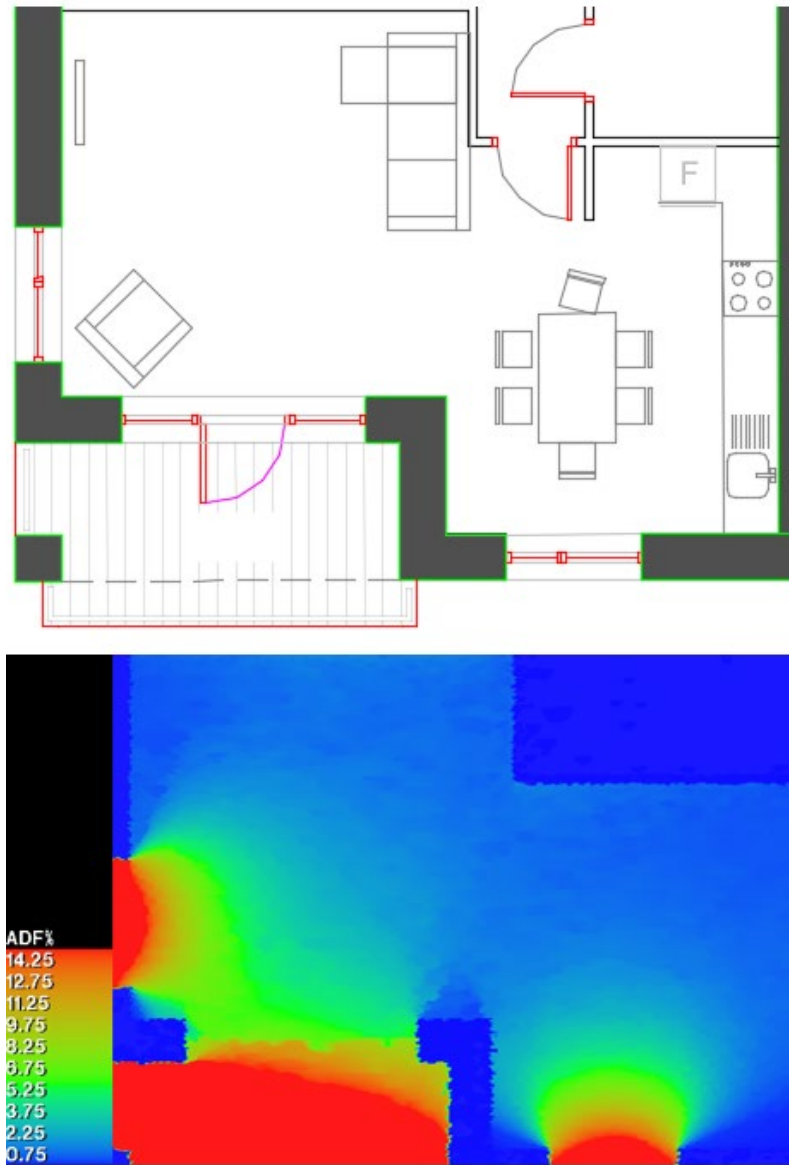


Figure 15 – Block A Apartment unit 2 (K/L/D) Daylight Mapping

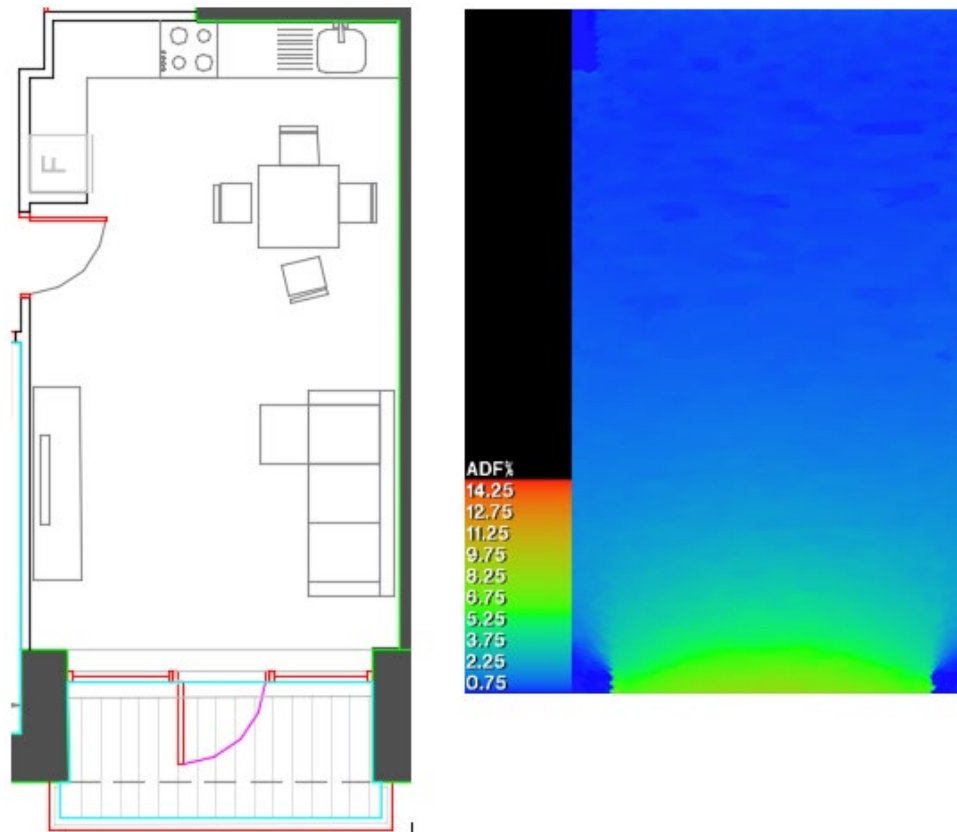


Figure 16 – Block A Apartment unit 3 (K/L/D) Daylight Mapping

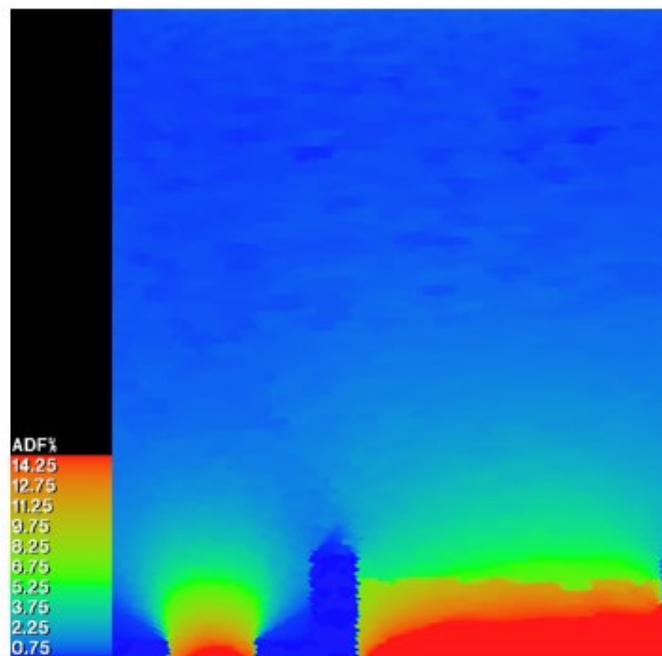
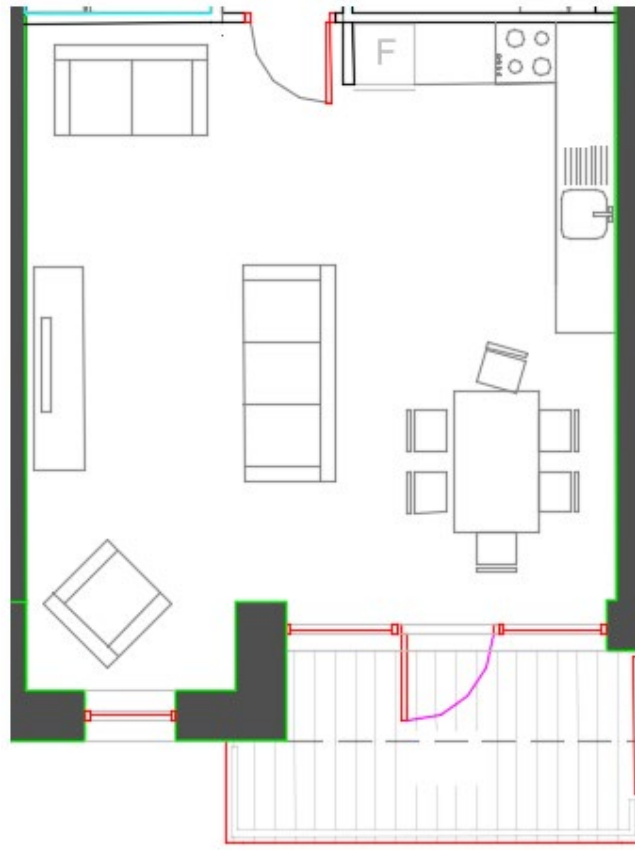


Figure 17 – Block A Apartment unit 4 (K/L/D) Daylight Mapping

4.2.1 IES Model Data

The model was built in accordance with architectural Auto CAD layouts issued by CCK Architects which included all blocks in the proposed development. Images of the model are presented below

The following assumptions were made when modelling the ADF in each of the apartments selected

- The CIE Overcast Sky was used in accordance with CIBSE and BRE Guidance
- The following material properties were assigned in the model:
 - Glazing Visible Light Transmittance - 0.70
 - Internal Wall Reflectance - 0.80
 - Ceiling Reflectance - 0.80
 - Internal Floor Reflectance - 0.68
 - Working Plane Height

The working plane height in the model was taken as 0.85m. This is a typical value for domestic applications based on guidance within the BRE Guide “Site Layout Planning for Daylight and Sunlight” Second Edition 2018.

4.2.2 Average Daylight Factor Results

The BRE guidelines suggest a daylight level of 2% for kitchen/living/Dining areas, 1.5% Living areas and 1% for bedrooms as an adequate performance in terms of access to daylight. The tables 1 to 28 below indicate rooms assessed achieved daylight levels in compliance with the minimum standards.

The BRE “Site Layout Planning for Daylight and Sunlight. A Guidance to Good Practice states, “2.1.8 Daylight provision in new rooms may be checked using the average daylight factor (ADF). The ADF is a measure of the overall amount of daylight in a space... BS 8206-2 Code of practice for daylighting” states that below 2% the room will look dull and electric lighting is likely to be turned on. In housing BS 8206-2 also gives minimum value of ADF of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.”

In all cases adequate glazing areas have been included into all units of the proposed development with dual aspect facades incorporated where possible.

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Block A	Triplex-01	Kitchen/Living	2.0	3.46	Yes
Block A	Triplex-01	Office/Family	2.0	3.93	Yes
Block A	Triplex-01	Bedroom 1	1.0	3.22	Yes
Block A	Triplex-01	Bedroom 2	1.0	3.61	Yes
Block A	Triplex-01	Bedroom 3	1.0	4.80	Yes
Block A	Triplex-02	Kitchen/Living	2.0	3.36	Yes
Block A	Triplex-02	Office/Family	2.0	3.94	Yes

Block A	Triplex-02	Bedroom 1	1.0	3.16	Yes
Block A	Triplex-02	Bedroom 2	1.0	3.53	Yes
Block A	Triplex-02	Bedroom 3	1.0	4.80	Yes
Block A	Triplex-03	Kitchen/Living	2.0	3.27	Yes
Block A	Triplex-03	Office/Family	2.0	5.35	Yes
Block A	Triplex-03	Bedroom 1	1.0	3.09	Yes
Block A	Triplex-03	Bedroom 2	1.0	3.31	Yes
Block A	Triplex-03	Bedroom 3	1.0	4.79	Yes
Block A	Triplex-04	Kitchen/Living	2.0	3.13	Yes
Block A	Triplex-04	Office/Family	2.0	2.77	Yes
Block A	Triplex-04	Bedroom 1	1.0	3.61	Yes
Block A	Triplex-04	Bedroom 2	1.0	4.06	Yes
Block A	Triplex-04	Bedroom 3	1.0	3.99	Yes
Block A	Triplex-05	Kitchen/Living	2.0	3.03	Yes
Block A	Triplex-05	Office/Family	2.0	2.85	Yes
Block A	Triplex-05	Bedroom 1	1.0	3.54	Yes
Block A	Triplex-05	Bedroom 2	1.0	3.94	Yes
Block A	Triplex-05	Bedroom 3	1.0	3.98	Yes
Block A	Triplex-06	Kitchen/Living	2.0	2.88	Yes
Block A	Triplex-06	Office/Family	2.0	2.78	Yes
Block A	Triplex-06	Bedroom 1	1.0	3.44	Yes
Block A	Triplex-06	Bedroom 2	1.0	3.71	Yes
Block A	Triplex-06	Bedroom 3	1.0	3.89	Yes
Block A-GF	Simplex-01	Bedroom 1	1.0	5.33	Yes
Block A-GF	Simplex-01	Kitchen/Living	2.0	4.15	Yes
Block A-GF	Simplex-01	Home Office	2.0	4.52	Yes
Block A-GF	Simplex-02	Bedroom 1	1.0	3.02	Yes
Block A-GF	Simplex-02	Kitchen/Living	2.0	2.17	Yes
Block A-GF	Simplex-02	Home Office	2.0	4.86	Yes
Block A-GF	Simplex-03	Bedroom 1	1.0	3.02	Yes
Block A-GF	Simplex-03	Kitchen/Living	2.0	2.12	Yes
Block A-GF	Simplex-03	Home Office	2.0	4.56	Yes
Block A-GF	Simplex-04	Bedroom 1	1.0	4.71	Yes
Block A-GF	Simplex-04	Kitchen/Living	2.0	2.73	Yes
Block A-GF	Simplex-04	Home Office	2.0	4.35	Yes
Block A	FF-Apt 1	Kitchen/Living	2.0	3.25	Yes
Block A	FF-Apt 1	Bedroom 1	1.0	4.32	Yes
Block A	FF-Apt 1	Bedroom 2	1.0	4.53	Yes
Block A	FF-Apt 2	Kitchen/Living	2.0	5.02	Yes
Block A	FF-Apt 2	Bedroom 1	1.0	4.35	Yes
Block A	FF-Apt 2	Bedroom 2	1.0	4.46	Yes
Block A	FF-Apt 3 (S)	Kitchen/Living	2.0	2.89	Yes
Block A	FF-Apt 3 (S)	Bedroom 1	1.0	4.32	Yes

Block A	FF-Apt 4	Kitchen/Living	2.0	3.00	Yes
Block A	FF-Apt 4	Bedroom 1	1.0	3.58	Yes
Block A	FF-Apt 4	Bedroom 2	1.0	3.86	Yes
Block A	FF-Apt 5	Kitchen/Living	2.0	3.01	Yes
Block A	FF-Apt 5	Bedroom 1	1.0	3.56	Yes
Block A	FF-Apt 5	Bedroom 2	1.0	3.82	Yes
Block A	FF-Apt 6	Kitchen/Living	2.0	2.90	Yes
Block A	FF-Apt 6	Bedroom 1	1.0	4.29	Yes
Block A	FF-Apt 7	Kitchen/Living	2.0	4.69	Yes
Block A	FF-Apt 7	Bedroom 1	1.0	3.22	Yes
Block A	FF-Apt 7	Bedroom 2	1.0	3.01	Yes
Block A	FF-Apt 8	Kitchen/Living	2.0	2.42	Yes
Block A	FF-Apt 8	Bedroom 1	1.0	2.89	Yes
Block A	FF-Apt 8	Bedroom 2	1.0	3.13	Yes
Block A	SF-Apt 9	Kitchen/Living	2.0	3.40	Yes
Block A	SF-Apt 9	Bedroom 1	1.0	4.36	Yes
Block A	SF-Apt 9	Bedroom 2	1.0	4.54	Yes
Block A	SF-Apt 10	Kitchen/Living	2.0	5.01	Yes
Block A	SF-Apt 10	Bedroom 1	1.0	4.48	Yes
Block A	SF-Apt 10	Bedroom 2	1.0	4.37	Yes
Block A	SF-Apt 11	Kitchen/Living	2.0	2.89	Yes
Block A	SF-Apt 11	Bedroom 1	1.0	4.30	Yes
Block A	SF-Apt 12	Kitchen/Living	2.0	3.69	Yes
Block A	SF-Apt 12	Bedroom 1	1.0	3.82	Yes
Block A	SF-Apt 12	Bedroom 2	1.0	4.05	Yes
Block A	SF-Apt 13	Kitchen/Living	2.0	3.69	Yes
Block A	SF-Apt 13	Bedroom 1	1.0	3.80	Yes
Block A	SF-Apt 13	Bedroom 2	1.0	4.01	Yes
Block A	SF-Apt 14	Kitchen/Living	2.0	2.90	Yes
Block A	SF-Apt 14	Bedroom 1	1.0	4.29	Yes
Block A	SF-Apt 15	Kitchen/Living	2.0	4.76	Yes
Block A	SF-Apt 15	Bedroom 1	1.0	3.54	Yes
Block A	SF-Apt 15	Bedroom 2	1.0	3.34	Yes
Block A	SF-Apt 16	Kitchen/Living	2.0	2.87	Yes
Block A	SF-Apt 16	Bedroom 1	1.0	3.33	Yes
Block A	SF-Apt 16	Bedroom 2	1.0	3.57	Yes
Block A	TF-Apt 17	Kitchen/Living	2.0	4.00	Yes
Block A	TF-Apt 17	Bedroom 1	1.0	3.98	Yes
Block A	TF-Apt 17	Bedroom 2	1.0	4.17	Yes
Block A	TF-Apt 18	Kitchen/Living	2.0	5.00	Yes
Block A	TF-Apt 18	Bedroom 1	1.0	4.09	Yes
Block A	TF-Apt 18	Bedroom 2	1.0	4.01	Yes
Block A	TF-Apt 19	Kitchen/Living	2.0	3.60	Yes

Block A	TF-Apt 19	Bedroom 1	1.0	3.95	Yes
Block A	TF-Apt 20	Kitchen/Living	2.0	3.93	Yes
Block A	TF-Apt 20	Bedroom 1	1.0	3.75	Yes
Block A	TF-Apt 20	Bedroom 2	1.0	3.99	Yes
Block A	TF-Apt 21	Kitchen/Living	2.0	3.98	Yes
Block A	TF-Apt 21	Bedroom 1	1.0	3.75	Yes
Block A	TF-Apt 21	Bedroom 2	1.0	3.96	Yes
Block A	TF-Apt 22	Kitchen/Living	2.0	3.62	Yes
Block A	TF-Apt 22	Bedroom 1	1.0	3.90	Yes
Block A	TF-Apt 23	Kitchen/Living	2.0	4.86	Yes
Block A	TF-Apt 23	Bedroom 1	1.0	3.49	Yes
Block A	TF-Apt 23	Bedroom 2	1.0	3.32	Yes
Block A	TF-Apt 24	Kitchen/Living	2.0	3.74	Yes
Block A	TF-Apt 24	Bedroom 1	1.0	3.54	Yes
Block A	TF-Apt 24	Bedroom 2	1.0	3.30	Yes
Block A	PH-Apt 25	Kitchen/Living	2.0	7.59	Yes
Block A	PH-Apt 25	Bedroom 1	1.0	3.43	Yes
Block A	PH-Apt 25	Bedroom 2	1.0	3.25	Yes
Block A	PH-Apt 26	Kitchen/Living	2.0	6.48	Yes
Block A	PH-Apt 26	Bedroom 1	1.0	3.70	Yes
Block A	PH-Apt 26	Bedroom 2	1.0	4.12	Yes
Block A	PH-Apt 27	Kitchen/Living	2.0	4.64	Yes
Block A	PH-Apt 27	Bedroom 1	1.0	4.13	Yes
Block A	PH-Apt 27	Bedroom 2	1.0	4.33	Yes
Block A	PH-Apt 28	Kitchen/Living	2.0	4.62	Yes
Block A	PH-Apt 28	Bedroom 1	1.0	4.13	Yes
Block A	PH-Apt 28	Bedroom 2	1.0	4.30	Yes
Block A	PH-Apt 29	Kitchen/Living	2.0	6.42	Yes
Block A	PH-Apt 29	Bedroom 1	1.0	3.80	Yes
Block A	PH-Apt 29	Bedroom 2	1.0	4.12	Yes
Block A	PH-Apt 30	Kitchen/Living	2.0	7.37	Yes
Block A	PH-Apt 30	Bedroom 1	1.0	3.04	Yes
Block A	PH-Apt 30	Bedroom 2	1.0	2.99	Yes

Table 1 – Apartment Block A ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Block B	GF-S01	Kitchen/Living	2.0	2.58	Yes
Block B	GF-S01	Bedroom 1	1.0	3.82	Yes
Block B	GF-S01	Workspace	2.0	4.73	Yes

Block B	GF-S02	Kitchen/Living	2.0	3.92	Yes
Block B	GF-S02	Bedroom 1	1.0	4.01	Yes
Block B	GF-S03	Kitchen/Living	2.0	2.15	Yes
Block B	GF-S03	Bedroom 1	1.0	3.44	Yes
Block B	GF-S04	Kitchen/Living	2.0	2.13	Yes
Block B	GF-S04	Bedroom 1	1.0	1.84	Yes
Block B	GF-S04	Office	2.0	3.72	Yes
Block B	GF-S05	Kitchen/Living	2.0	3.25	Yes
Block B	GF-S05	Bedroom 1	1.0	2.33	Yes
Block B	GF-S05	Workspace	2.0	3.91	Yes
Block B	GF-S06	Kitchen/Living	2.0	2.81	Yes
Block B	GF-S06	Bedroom 1	1.0	3.39	Yes
Block B	GF-S06	Workspace	2.0	6.38	Yes
Block B	GF-S07	Kitchen/Living	2.0	3.97	Yes
Block B	GF-S07	Bedroom 1	1.0	3.05	Yes
Block B	GF-S07	Workspace	2.0	6.20	Yes
Block B	GF-S08	Kitchen/Living	2.0	4.17	Yes
Block B	GF-S08	Bedroom 1	1.0	3.19	Yes
Block B	GF-S08	Workspace	2.0	5.65	Yes
Block B	GF-S09	Kitchen/Living	2.0	3.76	Yes
Block B	GF-S09	Bedroom 1	1.0	3.85	Yes
Block B	GF-S09	Workspace	2.0	5.74	Yes
Block B	GF-S010	Kitchen/Living	2.0	2.20	Yes
Block B	GF-S010	Bedroom 1	1.0	3.77	Yes
Block B	GF-S011	Kitchen/Living	2.0	4.40	Yes
Block B	GF-S011	Bedroom 1	1.0	4.26	Yes
Block B	GF-S012	Kitchen/Living	2.0	5.23	Yes
Block B	GF-S012	Bedroom 1	1.0	3.55	Yes
Block B	GF-S012	Workspace	2.0	5.67	Yes
Block B	FF-Apt 1	Kitchen/Living	2.0	3.41	Yes
Block B	FF-Apt 1	Bedroom 1	1.0	3.82	Yes
Block B	FF-Apt 1	Bedroom 2	1.0	4.04	Yes
Block B	FF-Apt 2	Kitchen/Living	2.0	3.65	Yes
Block B	FF-Apt 2	Bedroom 1	1.0	4.17	Yes
Block B	FF-Apt 2	Bedroom 2	1.0	4.43	Yes
Block B	FF-Apt 3 (S)	Kitchen/Living	2.0	2.40	Yes
Block B	FF-Apt 3 (S)	Bedroom 1	1.0	4.39	Yes
Block B	FF-Apt 4	Kitchen/Living	2.0	2.76	Yes
Block B	FF-Apt 4	Bedroom 1	1.0	3.39	Yes
Block B	FF-Apt 4	Bedroom 2	1.0	3.66	Yes
Block B	FF-Apt 5	Kitchen/Living	2.0	2.09	Yes
Block B	FF-Apt 5	Bedroom 1	1.0	3.08	Yes
Block B	FF-Apt 5	Bedroom 2	1.0	3.08	Yes

Block B	FF-Apt 6	Kitchen/Living	2.0	2.57	Yes
Block B	FF-Apt 6	Bedroom 1	1.0	3.40	Yes
Block B	FF-Apt 7	Kitchen/Living	2.0	4.90	Yes
Block B	FF-Apt 7	Bedroom 1	1.0	3.48	Yes
Block B	FF-Apt 7	Bedroom 2	1.0	4.75	Yes
Block B	FF-Apt 8	Kitchen/Living	2.0	2.68	Yes
Block B	FF-Apt 8	Bedroom 1	1.0	4.18	Yes
Block B	FF-Apt 8	Bedroom 2	1.0	3.26	Yes
Block B	FF-Apt 9	Kitchen/Living	2.0	2.09	Yes
Block B	FF-Apt 9	Bedroom 1	1.0	3.55	Yes
Block B	FF-Apt 9	Bedroom 2	1.0	3.87	Yes
Block B	FF-Apt 10	Kitchen/Living	2.0	2.13	Yes
Block B	FF-Apt 10	Bedroom 1	1.0	3.65	Yes
Block B	FF-Apt 10	Bedroom 2	1.0	4.11	Yes
Block B	FF-Apt 11	Kitchen/Living	2.0	2.71	Yes
Block B	FF-Apt 11	Bedroom 1	1.0	4.26	Yes
Block B	FF-Apt 11	Bedroom 2	1.0	3.45	Yes
Block B	FF-Apt 12	Kitchen/Living	2.0	5.18	Yes
Block B	FF-Apt 12	Bedroom 1	1.0	4.04	Yes
Block B	FF-Apt 12	Bedroom 2	1.0	4.34	Yes
Block B	FF-Apt 13	Kitchen/Living	2.0	2.44	Yes
Block B	FF-Apt 13	Bedroom 1	1.0	4.60	Yes
Block B	FF-Apt 14	Kitchen/Living	2.0	2.68	Yes
Block B	FF-Apt 14	Bedroom 1	1.0	3.51	Yes
Block B	FF-Apt 14	Bedroom 2	1.0	3.42	Yes
Block B	FF-Apt 15	Kitchen/Living	2.0	2.87	Yes
Block B	FF-Apt 15	Bedroom 1	1.0	3.59	Yes
Block B	FF-Apt 15	Bedroom 2	1.0	3.85	Yes
Block B	FF-Apt 16	Kitchen/Living	2.0	2.42	Yes
Block B	FF-Apt 16	Bedroom 1	1.0	4.64	Yes
Block B	FF-Apt 17	Kitchen/Living	2.0	4.08	Yes
Block B	FF-Apt 17	Bedroom 1	1.0	4.20	Yes
Block B	FF-Apt 17	Bedroom 2	1.0	5.42	Yes
Block B	FF-Apt 18	Kitchen/Living	2.0	3.13	Yes
Block B	FF-Apt 18	Bedroom 1	1.0	4.01	Yes
Block B	FF-Apt 18	Bedroom 2	1.0	4.65	Yes
Block B	SF-Apt 19	Kitchen/Living	2.0	6.23	Yes
Block B	SF-Apt 19	Bedroom 1	1.0	4.34	Yes
Block B	SF-Apt 19	Bedroom 2	1.0	4.93	Yes
Block B	SF-Apt 20	Kitchen/Living	2.0	6.38	Yes
Block B	SF-Apt 20	Bedroom 1	1.0	4.80	Yes
Block B	SF-Apt 20	Bedroom 2	1.0	5.20	Yes
Block B	SF-Apt 21	Kitchen/Living	2.0	2.88	Yes

Block B	SF-Apt 21	Bedroom 1	1.0	4.93	Yes
Block B	SF-Apt 22	Kitchen/Living	2.0	3.56	Yes
Block B	SF-Apt 22	Bedroom 1	1.0	4.07	Yes
Block B	SF-Apt 22	Bedroom 2	1.0	4.38	Yes
Block B	SF-Apt 23	Kitchen/Living	2.0	2.14	Yes
Block B	SF-Apt 23	Bedroom 1	1.0	3.47	Yes
Block B	SF-Apt 23	Bedroom 2	1.0	3.32	Yes
Block B	SF-Apt 24	Kitchen/Living	2.0	2.86	Yes
Block B	SF-Apt 24	Bedroom 1	1.0	3.73	Yes
Block B	SF-Apt 25	Kitchen/Living	2.0	5.10	Yes
Block B	SF-Apt 25	Bedroom 1	1.0	3.75	Yes
Block B	SF-Apt 25	Bedroom 2	1.0	4.82	Yes
Block B	SF-Apt 26	Kitchen/Living	2.0	2.72	Yes
Block B	SF-Apt 26	Bedroom 1	1.0	4.23	Yes
Block B	SF-Apt 26	Bedroom 2	1.0	3.31	Yes
Block B	SF-Apt 27	Kitchen/Living	2.0	2.11	Yes
Block B	SF-Apt 27	Bedroom 1	1.0	3.77	Yes
Block B	SF-Apt 27	Bedroom 2	1.0	4.13	Yes
Block B	SF-Apt 28	Kitchen/Living	2.0	2.16	Yes
Block B	SF-Apt 28	Bedroom 1	1.0	3.87	Yes
Block B	SF-Apt 28	Bedroom 2	1.0	4.34	Yes
Block B	SF-Apt 29	Kitchen/Living	2.0	2.75	Yes
Block B	SF-Apt 29	Bedroom 1	1.0	4.32	Yes
Block B	SF-Apt 29	Bedroom 2	1.0	3.48	Yes
Block B	SF-Apt 30	Kitchen/Living	2.0	5.24	Yes
Block B	SF-Apt 30	Bedroom 1	1.0	4.08	Yes
Block B	SF-Apt 30	Bedroom 2	1.0	4.40	Yes
Block B	SF-Apt 31	Kitchen/Living	2.0	3.44	Yes
Block B	SF-Apt 31	Bedroom 1	1.0	4.61	Yes
Block B	SF-Apt 32	Kitchen/Living	2.0	2.69	Yes
Block B	SF-Apt 32	Bedroom 1	1.0	3.79	Yes
Block B	SF-Apt 32	Bedroom 2	1.0	3.74	Yes
Block B	SF-Apt 33	Kitchen/Living	2.0	3.02	Yes
Block B	SF-Apt 33	Bedroom 1	1.0	3.90	Yes
Block B	SF-Apt 33	Bedroom 2	1.0	4.18	Yes
Block B	SF-Apt 34	Kitchen/Living	2.0	3.42	Yes
Block B	SF-Apt 34	Bedroom 1	1.0	4.63	Yes
Block B	SF-Apt 35	Kitchen/Living	2.0	6.12	Yes
Block B	SF-Apt 35	Bedroom 1	1.0	4.36	Yes
Block B	SF-Apt 35	Bedroom 2	1.0	5.69	Yes
Block B	SF-Apt 36	Kitchen/Living	2.0	5.46	Yes
Block B	SF-Apt 36	Bedroom 1	1.0	4.34	Yes
Block B	SF-Apt 36	Bedroom 2	1.0	5.08	Yes

Block B	TF-Apt 37	Kitchen/Living	2.0	4.43	Yes
Block B	TF-Apt 37	Bedroom 1	1.0	4.53	Yes
Block B	TF-Apt 38	Kitchen/Living	2.0	5.58	Yes
Block B	TF-Apt 38	Bedroom 1	1.0	3.82	Yes
Block B	TF-Apt 38	Bedroom 2	1.0	4.11	Yes
Block B	TF-Apt 39	Kitchen/Living	2.0	2.91	Yes
Block B	TF-Apt 39	Bedroom 1	1.0	3.86	Yes
Block B	TF-Apt 39	Bedroom 2	1.0	3.71	Yes
Block B	TF-Apt 40	Kitchen/Living	2.0	3.61	Yes
Block B	TF-Apt 40	Bedroom 1	1.0	3.68	Yes
Block B	TF-Apt 41	Kitchen/Living	2.0	5.34	Yes
Block B	TF-Apt 41	Bedroom 1	1.0	3.64	Yes
Block B	TF-Apt 41	Bedroom 2	1.0	4.47	Yes
Block B	TF-Apt 42	Kitchen/Living	2.0	2.70	Yes
Block B	TF-Apt 42	Bedroom 1	1.0	4.09	Yes
Block B	TF-Apt 42	Bedroom 2	1.0	3.21	Yes
Block B	TF-Apt 43	Kitchen/Living	2.0	2.18	Yes
Block B	TF-Apt 43	Bedroom 1	1.0	3.86	Yes
Block B	TF-Apt 43	Bedroom 2	1.0	4.33	Yes
Block B	TF-Apt 44	Kitchen/Living	2.0	2.22	Yes
Block B	TF-Apt 44	Bedroom 1	1.0	3.91	Yes
Block B	TF-Apt 44	Bedroom 2	1.0	4.43	Yes
Block B	TF-Apt 45	Kitchen/Living	2.0	2.79	Yes
Block B	TF-Apt 45	Bedroom 1	1.0	4.18	Yes
Block B	TF-Apt 45	Bedroom 2	1.0	3.40	Yes
Block B	TF-Apt 46	Kitchen/Living	2.0	5.26	Yes
Block B	TF-Apt 46	Bedroom 1	1.0	3.70	Yes
Block B	TF-Apt 46	Bedroom 2	1.0	4.11	Yes
Block B	TF-Apt 47	Kitchen/Living	2.0	3.85	Yes
Block B	TF-Apt 47	Bedroom 1	1.0	4.24	Yes
Block B	TF-Apt 48	Kitchen/Living	2.0	3.12	Yes
Block B	TF-Apt 48	Bedroom 1	1.0	4.03	Yes
Block B	TF-Apt 48	Bedroom 2	1.0	3.90	Yes
Block B	TF-Apt 49	Kitchen/Living	2.0	5.20	Yes
Block B	TF-Apt 49	Bedroom 1	1.0	4.02	Yes
Block B	TF-Apt 49	Bedroom 2	1.0	4.31	Yes
Block B	TF-Apt 50	Kitchen/Living	2.0	4.37	Yes
Block B	TF-Apt 50	Bedroom 1	1.0	4.62	Yes
Block B	PH-Apt 51	Kitchen/Living	2.0	5.12	Yes
Block B	PH-Apt 51	Bedroom 1	1.0	3.88	Yes
Block B	PH-Apt 51	Bedroom 2	1.0	3.95	Yes
Block B	PH-Apt 52	Kitchen/Living	2.0	6.40	Yes
Block B	PH-Apt 52	Bedroom 1	1.0	3.86	Yes

Block B	PH-Apt 52	Bedroom 2	1.0	4.17	Yes
Block B	PH-Apt 53	Kitchen/Living	2.0	3.98	Yes
Block B	PH-Apt 53	Bedroom 1	1.0	4.22	Yes
Block B	PH-Apt 53	Bedroom 2	1.0	3.21	Yes
Block B	PH-Apt 54	Kitchen/Living	2.0	3.47	Yes
Block B	PH-Apt 54	Bedroom 1	1.0	4.16	Yes
Block B	PH-Apt 54	Bedroom 2	1.0	4.86	Yes
Block B	PH-Apt 55	Kitchen/Living	2.0	3.53	Yes
Block B	PH-Apt 55	Bedroom 1	1.0	4.15	Yes
Block B	PH-Apt 55	Bedroom 2	1.0	4.75	Yes
Block B	PH-Apt 56	Kitchen/Living	2.0	4.00	Yes
Block B	PH-Apt 56	Bedroom 1	1.0	4.30	Yes
Block B	PH-Apt 56	Bedroom 2	1.0	3.49	Yes
Block B	PH-Apt 57	Kitchen/Living	2.0	6.16	Yes
Block B	PH-Apt 57	Bedroom 1	1.0	3.87	Yes
Block B	PH-Apt 57	Bedroom 2	1.0	3.99	Yes
Block B	PH-Apt 58	Kitchen/Living	2.0	5.18	Yes
Block B	PH-Apt 58	Bedroom 1	1.0	4.15	Yes
Block B	PH-Apt 58	Bedroom 2	1.0	4.23	Yes

Table 2 – Apartment Block B ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
C	Apt 1	Bedroom 1	1.0	6.98	Yes
C	Apt 1	Bedroom 2	1.0	3.98	Yes
C	Apt 1	Kitchen/Living	2.0	2.35	Yes
C	Apt 2	Bedroom 1	1.0	2.85	Yes
C	Apt 2	Bedroom 2	1.0	2.89	Yes
C	Apt 2	Kitchen/Living	2.0	3.69	Yes
C	Apt 3	Bedroom 1	1.0	3.51	Yes
C	Apt 3	Bedroom 2	1.0	1.94	Yes
C	Apt 3	Kitchen/Living	2.0	2.93	Yes
C	Apt 4	Bedroom 1	1.0	7.02	Yes
C	Apt 4	Bedroom 2	1.0	4.05	Yes
C	Apt 4	Kitchen/Living	2.0	5.36	Yes
C	Apt 5	Bedroom 1	1.0	3.02	Yes
C	Apt 5	Bedroom 2	1.0	3.15	Yes
C	Apt 5	Kitchen/Living	2.0	3.72	Yes
C	Apt 6	Bedroom 1	1.0	3.51	Yes
C	Apt 6	Bedroom 2	1.0	1.94	Yes

C	Apt 6	Kitchen/Living	2.0	3.39	Yes
C	Apt 7	Bedroom 1	1.0	7.28	Yes
C	Apt 7	Bedroom 2	1.0	4.16	Yes
C	Apt 7	Kitchen/Living	2.0	4.85	Yes
C	Apt 8	Bedroom 1	1.0	3.11	Yes
C	Apt 8	Bedroom 2	1.0	3.23	Yes
C	Apt 8	Kitchen/Living	2.0	3.94	Yes

Table 3 – Apartment Block C ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
D	Apt 1	Bedroom 1	1.0	2.83	Yes
D	Apt 1	Bedroom 2	1.0	3.44	Yes
D	Apt 1	Kitchen/Living	2.0	5.29	Yes
D	Apt 2	Bedroom 1	1.0	3.24	Yes
D	Apt 2	Bedroom 2	1.0	3.10	Yes
D	Apt 2	Kitchen/Living	2.0	3.77	Yes
D	Apt 3	Bedroom 1	1.0	3.32	Yes
D	Apt 3	Bedroom 2	1.0	3.34	Yes
D	Apt 3	Kitchen/Living	2.0	5.73	Yes
D	Apt 4	Bedroom 1	1.0	3.98	Yes
D	Apt 4	Bedroom 2	1.0	3.96	Yes
D	Apt 4	Kitchen/Living	2.0	5.33	Yes
D	Apt 5	Bedroom 1	1.0	3.65	Yes
D	Apt 5	Bedroom 2	1.0	3.33	Yes
D	Apt 5	Kitchen/Living	2.0	3.77	Yes
D	Apt 6	Bedroom 1	1.0	3.93	Yes
D	Apt 6	Bedroom 2	1.0	3.84	Yes
D	Apt 6	Kitchen/Living	2.0	5.81	Yes
D	Apt 7	Bedroom 1	1.0	6.11	Yes
D	Apt 7	Bedroom 2	1.0	4.03	Yes
D	Apt 7	Kitchen/Living	2.0	4.82	Yes
D	Apt 8	Bedroom 1	1.0	4.05	Yes
D	Apt 8	Bedroom 2	1.0	4.13	Yes
D	Apt 8	Kitchen/Living	2.0	4.50	Yes

Table 4 – Apartment Block D ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
E	Apt 1	Bedroom 1	1.0	3.21	Yes
E	Apt 1	Bedroom 2	1.0	3.17	Yes
E	Apt 1	Kitchen/Living	2.0	4.61	Yes
E	Apt 2	Bedroom 1	1.0	3.42	Yes
E	Apt 2	Bedroom 2	1.0	4.06	Yes
E	Apt 2	Kitchen/Living	2.0	2.57	Yes
E	Apt 3	Bedroom 1	1.0	3.11	Yes
E	Apt 3	Bedroom 2	1.0	2.04	Yes
E	Apt 3	Kitchen/Living	2.0	1.80	Yes
E	Apt 4	Bedroom 1	1.0	3.18	Yes
E	Apt 4	Bedroom 2	1.0	1.85	Yes
E	Apt 4	Kitchen/Living	2.0	1.61	Yes
E	Apt 5	Bedroom 1	1.0	2.94	Yes
E	Apt 5	Bedroom 2	1.0	2.14	Yes
E	Apt 5	Kitchen/Living	2.0	4.46	Yes
E	Apt 6	Bedroom 1	1.0	2.93	Yes
E	Apt 6	Bedroom 2	1.0	1.69	Yes
E	Apt 6	Kitchen/Living	2.0	2.71	Yes
E	Apt 7	Bedroom 1	1.0	2.69	Yes
E	Apt 7	Bedroom 2	1.0	2.58	Yes
E	Apt 7	Kitchen/Living	2.0	2.34	Yes
E	Apt 8	Bedroom 1	1.0	3.48	Yes
E	Apt 8	Bedroom 2	1.0	2.20	Yes
E	Apt 8	Kitchen/Living	2.0	4.80	Yes
E	Apt 9	Bedroom 1	1.0	3.44	Yes
E	Apt 9	Bedroom 2	1.0	3.35	Yes
E	Apt 9	Kitchen/Living	2.0	4.53	Yes
E	Apt 10	Bedroom 1	1.0	3.61	Yes
E	Apt 10	Bedroom 2	1.0	4.26	Yes
E	Apt 10	Kitchen/Living	2.0	2.38	Yes
E	Apt 11	Bedroom 1	1.0	4.05	Yes
E	Apt 11	Bedroom 2	1.0	4.19	Yes
E	Apt 11	Kitchen/Living	2.0	3.07	Yes
E	Apt 12	Bedroom 1	1.0	3.27	Yes
E	Apt 12	Bedroom 2	1.0	2.15	Yes
E	Apt 12	Kitchen/Living	2.0	2.85	Yes
E	Apt 13	Bedroom 1	1.0	3.41	Yes
E	Apt 13	Bedroom 2	1.0	3.33	Yes
E	Apt 13	Kitchen/Living	2.0	2.99	Yes

E	Apt 14	Bedroom 1	1.0	3.35	Yes
E	Apt 14	Bedroom 2	1.0	1.96	Yes
E	Apt 14	Kitchen/Living	2.0	2.56	Yes
E	Apt 15	Bedroom 1	1.0	2.40	Yes
E	Apt 15	Bedroom 2	1.0	3.99	Yes
E	Apt 15	Kitchen/Living	2.0	3.36	Yes
E	Apt 16	Bedroom 1	1.0	3.18	Yes
E	Apt 16	Bedroom 2	1.0	1.87	Yes
E	Apt 16	Kitchen/Living	2.0	3.01	Yes
E	Apt 17	Bedroom 1	1.0	2.95	Yes
E	Apt 17	Bedroom 2	1.0	2.71	Yes
E	Apt 17	Kitchen/Living	2.0	2.60	Yes
E	Apt 18	Bedroom 1	1.0	3.58	Yes
E	Apt 18	Bedroom 2	1.0	1.64	Yes
E	Apt 18	Kitchen/Living	2.0	4.84	Yes
E	Apt 19	Bedroom 1	1.0	3.46	Yes
E	Apt 19	Bedroom 2	1.0	3.38	Yes
E	Apt 19	Kitchen/Living	2.0	4.53	Yes
E	Apt 20	Bedroom 1	1.0	3.61	Yes
E	Apt 20	Bedroom 2	1.0	4.29	Yes
E	Apt 20	Kitchen/Living	2.0	2.38	Yes
E	Apt 21	Bedroom 1	1.0	3.73	Yes
E	Apt 21	Bedroom 2	1.0	4.33	Yes
E	Apt 21	Kitchen/Living	2.0	4.09	Yes
E	Apt 22	Bedroom 1	1.0	3.28	Yes
E	Apt 22	Bedroom 2	1.0	2.16	Yes
E	Apt 22	Kitchen/Living	2.0	3.80	Yes
E	Apt 23	Bedroom 1	1.0	3.57	Yes
E	Apt 23	Bedroom 2	1.0	3.50	Yes
E	Apt 23	Kitchen/Living	2.0	3.98	Yes
E	Apt 24	Bedroom 1	1.0	3.34	Yes
E	Apt 24	Bedroom 2	1.0	1.96	Yes
E	Apt 24	Kitchen/Living	2.0	3.42	Yes
E	Apt 25	Bedroom 1	1.0	2.46	Yes
E	Apt 25	Bedroom 2	1.0	4.00	Yes
E	Apt 25	Kitchen/Living	2.0	3.48	Yes
E	Apt 26	Bedroom 1	1.0	3.26	Yes
E	Apt 26	Bedroom 2	1.0	1.93	Yes
E	Apt 26	Kitchen/Living	2.0	4.02	Yes
E	Apt 27	Bedroom 1	1.0	3.11	Yes
E	Apt 27	Bedroom 2	1.0	2.98	Yes
E	Apt 27	Kitchen/Living	2.0	3.47	Yes
E	Apt 28	Bedroom 1	1.0	3.44	Yes

E	Apt 28	Bedroom 2	1.0	1.59	Yes
E	Apt 28	Kitchen/Living	2.0	4.98	Yes
E	Apt 29	Bedroom 1	1.0	3.28	Yes
E	Apt 29	Bedroom 2	1.0	3.26	Yes
E	Apt 29	Kitchen/Living	2.0	6.01	Yes
E	Apt 30	Bedroom 1	1.0	3.41	Yes
E	Apt 30	Bedroom 2	1.0	4.09	Yes
E	Apt 30	Kitchen/Living	2.0	3.92	Yes
E	Apt 31	Bedroom 1	1.0	3.66	Yes
E	Apt 31	Bedroom 2	1.0	4.24	Yes
E	Apt 31	Kitchen/Living	2.0	5.11	Yes
E	Apt 32	Bedroom 1	1.0	3.15	Yes
E	Apt 32	Bedroom 2	1.0	2.09	Yes
E	Apt 32	Kitchen/Living	2.0	4.75	Yes
E	Apt 33	Bedroom 1	1.0	3.32	Yes
E	Apt 33	Bedroom 2	1.0	3.54	Yes
E	Apt 33	Kitchen/Living	2.0	4.98	Yes
E	Apt 34	Bedroom 1	1.0	3.20	Yes
E	Apt 34	Bedroom 2	1.0	1.87	Yes
E	Apt 34	Kitchen/Living	2.0	4.27	Yes
E	Apt 35	Bedroom 1	1.0	2.57	Yes
E	Apt 35	Bedroom 2	1.0	3.82	Yes
E	Apt 35	Kitchen/Living	2.0	3.84	Yes
E	Apt 36	Bedroom 1	1.0	3.17	Yes
E	Apt 36	Bedroom 2	1.0	1.88	Yes
E	Apt 36	Kitchen/Living	2.0	5.02	Yes
E	Apt 37	Bedroom 1	1.0	3.21	Yes
E	Apt 37	Bedroom 2	1.0	3.07	Yes
E	Apt 37	Kitchen/Living	2.0	4.34	Yes
E	Apt 38	Bedroom 1	1.0	3.56	Yes
E	Apt 38	Bedroom 2	1.0	4.10	Yes
E	Apt 38	Kitchen/Living	2.0	6.56	Yes
E	Apt 39	Bedroom 1	1.0	3.28	Yes
E	Apt 39	Bedroom 2	1.0	4.00	Yes
E	Apt 39	Kitchen/Living	2.0	7.80	Yes
E	Apt 40	Bedroom 1	1.0	3.63	Yes
E	Apt 40	Bedroom 2	1.0	5.13	Yes
E	Apt 40	Kitchen/Living	2.0	3.24	Yes
E	Apt 41	Bedroom 1	1.0	3.59	Yes
E	Apt 41	Bedroom 2	1.0	3.69	Yes
E	Apt 41	Kitchen/Living	2.0	2.79	Yes
E	Apt 42	Bedroom 1	1.0	3.85	Yes
E	Apt 42	Bedroom 2	1.0	4.76	Yes

E	Apt 42	Kitchen/Living	2.0	3.30	Yes
E	Apt 43	Bedroom 1	1.0	3.64	Yes
E	Apt 43	Kitchen/Living	2.0	3.62	Yes
E	Apt 44	Bedroom 1	1.0	3.57	Yes
E	Apt 44	Bedroom 2	1.0	1.44	Yes
E	Apt 44	Kitchen/Living	2.0	5.64	Yes
E	Apt 45	Bedroom 1	1.0	3.48	Yes
E	Apt 45	Kitchen/Living	2.0	3.90	Yes
E	Apt 46	Bedroom 1	1.0	3.15	Yes
E	Apt 46	Bedroom 2	1.0	2.31	Yes
E	Apt 46	Kitchen/Living	2.0	4.11	Yes

Table 5 – Apartment Block E ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
F	Apt 1	Bedroom 1	1.0	5.44	Yes
F	Apt 1	Bedroom 2	1.0	4.49	Yes
F	Apt 1	Kitchen/Living	2.0	8.76	Yes
F	Apt 2	Bedroom 1	1.0	6.12	Yes
F	Apt 2	Kitchen/Living	2.0	10.57	Yes
F	Apt 3	Bedroom 1	1.0	5.57	Yes
F	Apt 3	Bedroom 2	1.0	3.04	Yes
F	Apt 3	Kitchen/Living	2.0	8.29	Yes
F	Apt 4	Bedroom 1	1.0	7.87	Yes
F	Apt 4	Bedroom 2	1.0	4.51	Yes
F	Apt 4	Kitchen/Living	2.0	8.64	Yes
F	Apt 5	Bedroom 1	1.0	4.12	Yes
F	Apt 5	Kitchen/Living	2.0	4.77	Yes
F	Apt 6	Bedroom 1	1.0	4.34	Yes
F	Apt 6	Kitchen/Living	2.0	4.46	Yes
F	Apt 7	Bedroom 1	1.0	5.75	Yes
F	Apt 7	Bedroom 2	1.0	4.74	Yes
F	Apt 7	Kitchen/Living	2.0	9.29	Yes
F	Apt 8	Bedroom 1	1.0	5.30	Yes
F	Apt 8	Bedroom 2	1.0	3.28	Yes
F	Apt 8	Kitchen/Living	2.0	5.36	Yes
F	Apt 9	Bedroom 1	1.0	5.88	Yes
F	Apt 9	Bedroom 2	1.0	3.22	Yes
F	Apt 9	Kitchen/Living	2.0	8.84	Yes
F	Apt 10	Bedroom 1	1.0	8.31	Yes

F	Apt 10	Bedroom 2	1.0	4.76	Yes
F	Apt 10	Kitchen/Living	2.0	9.16	Yes
F	Apt 11	Bedroom 1	1.0	4.35	Yes
F	Apt 11	Kitchen/Living	2.0	5.06	Yes
F	Apt 12	Bedroom 1	1.0	4.32	Yes
F	Apt 12	Kitchen/Living	2.0	4.59	Yes
F	Apt 13	Bedroom 1	1.0	5.98	Yes
F	Apt 13	Bedroom 2	1.0	4.63	Yes
F	Apt 13	Kitchen/Living	2.0	9.31	Yes
F	Apt 14	Bedroom 1	1.0	5.18	Yes
F	Apt 14	Bedroom 2	1.0	3.48	Yes
F	Apt 14	Kitchen/Living	2.0	9.42	Yes
F	Apt 15	Bedroom 1	1.0	5.72	Yes
F	Apt 15	Bedroom 2	1.0	3.44	Yes
F	Apt 15	Kitchen/Living	2.0	8.68	Yes
F	Apt 16	Bedroom 1	1.0	9.23	Yes
F	Apt 16	Bedroom 2	1.0	5.22	Yes
F	Apt 16	Kitchen/Living	2.0	9.20	Yes
F	Apt 17	Bedroom 1	1.0	4.31	Yes
F	Apt 17	Kitchen/Living	2.0	4.61	Yes
F	Apt 18	Bedroom 1	1.0	5.62	Yes
F	Apt 18	Bedroom 2	1.0	5.20	Yes
F	Apt 18	Kitchen/Living	2.0	8.56	Yes
F	Apt 19	Bedroom 1	1.0	5.16	Yes
F	Apt 19	Bedroom 2	1.0	4.48	Yes
F	Apt 19	Kitchen/Living	2.0	9.54	Yes
F	Apt 20	Bedroom 1	1.0	5.54	Yes
F	Apt 20	Bedroom 2	1.0	4.20	Yes
F	Apt 20	Kitchen/Living	2.0	8.83	Yes
F	Apt 21	Bedroom 1	1.0	5.68	Yes
F	Apt 21	Bedroom 2	1.0	5.45	Yes
F	Apt 21	Kitchen/Living	2.0	8.54	Yes

Table 6 – Apartment Block F ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex A	GF-01	Bedroom 1	1.0	2.51	Yes
Duplex A	GF-01	Kitchen/Living	2.0	4.47	Yes
Duplex A	GF-02	Bedroom 1	1.0	1.86	Yes
Duplex A	GF-02	Bedroom 2	1.0	2.66	Yes

Duplex A	GF-02	Kitchen/Living	2.0	4.51	Yes
Duplex A	GF-03	Bedroom 1	1.0	4.85	Yes
Duplex A	GF-03	Kitchen/Living	2.0	2.12	Yes
Duplex A	GF-03	Home Office	2.0	7.37	Yes
Duplex A	GF-04	Bedroom 1	1.0	1.83	Yes
Duplex A	GF-04	Bedroom 2	1.0	2.69	Yes
Duplex A	GF-04	Kitchen/Living	2.0	4.50	Yes
Duplex A	GF-05	Bedroom 1	1.0	4.00	Yes
Duplex A	GF-05	Bedroom 2	1.0	6.77	Yes
Duplex A	GF-05	Kitchen/Living	2.0	5.00	Yes
Duplex A	FF-01	Living Room	1.5	6.15	Yes
Duplex A	FF-01	Kitchen	2.0	8.77	Yes
Duplex A	FF-01	Bedroom 1	1.0	4.45	Yes
Duplex A	FF-01	Bedroom 2	1.0	4.58	Yes
Duplex A	FF-01	Bedroom 3	1.0	3.69	Yes
Duplex A	FF-02	Living Room	1.5	5.18	Yes
Duplex A	FF-02	Kitchen	2.0	7.19	Yes
Duplex A	FF-02	Bedroom 1	1.0	4.44	Yes
Duplex A	FF-02	Bedroom 2	1.0	4.96	Yes
Duplex A	FF-02	Bedroom 3	1.0	3.69	Yes
Duplex A	FF-03	Living Room	1.5	5.16	Yes
Duplex A	FF-03	Kitchen	2.0	7.12	Yes
Duplex A	FF-03	Bedroom 1	1.0	4.42	Yes
Duplex A	FF-03	Bedroom 2	1.0	4.95	Yes
Duplex A	FF-03	Bedroom 3	1.0	3.68	Yes
Duplex A	FF-04	Living Room	1.5	4.72	Yes
Duplex A	FF-04	Kitchen	2.0	6.68	Yes
Duplex A	FF-04	Bedroom 1	1.0	3.99	Yes
Duplex A	FF-04	Bedroom 2	1.0	4.99	Yes
Duplex A	FF-04	Bedroom 3	1.0	3.04	Yes
Duplex A	FF-05	Living Room	1.5	5.20	Yes
Duplex A	FF-05	Kitchen	2.0	7.18	Yes
Duplex A	FF-05	Bedroom 1	1.0	4.44	Yes
Duplex A	FF-05	Bedroom 2	1.0	4.97	Yes
Duplex A	FF-05	Bedroom 3	1.0	3.69	Yes
Duplex A	FF-06	Living Room	1.5	5.19	Yes
Duplex A	FF-06	Kitchen	2.0	7.12	Yes
Duplex A	FF-06	Bedroom 1	1.0	4.46	Yes
Duplex A	FF-06	Bedroom 2	1.0	4.97	Yes
Duplex A	FF-06	Bedroom 3	1.0	3.69	Yes
Duplex A	FF-07	Living Room	1.5	8.57	Yes
Duplex A	FF-07	Kitchen	2.0	10.06	Yes
Duplex A	FF-07	Bedroom 1	1.0	4.44	Yes

Duplex A	FF-07	Bedroom 2	1.0	4.96	Yes
Duplex A	FF-07	Bedroom 3	1.0	3.70	Yes

Table 7 – Duplex Block A ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex B	GF-01	Bedroom 1	1.0	2.46	Yes
Duplex B	GF-01	Kitchen/Living	2.0	4.75	Yes
Duplex B	GF-02	Bedroom 1	1.0	1.75	Yes
Duplex B	GF-02	Bedroom 2	1.0	2.55	Yes
Duplex B	GF-02	Kitchen/Living	2.0	4.58	Yes
Duplex B	GF-03	Bedroom 1	1.0	1.82	Yes
Duplex B	GF-03	Bedroom 2	1.0	2.58	Yes
Duplex B	GF-03	Kitchen/Living	2.0	4.62	Yes
Duplex B	FF-01	Living Room	1.5	6.16	Yes
Duplex B	FF-01	Kitchen	2.0	9.50	Yes
Duplex B	FF-01	Bedroom 1	1.0	4.42	Yes
Duplex B	FF-01	Bedroom 2	1.0	4.78	Yes
Duplex B	FF-01	Bedroom 3	1.0	3.40	Yes
Duplex B	FF-02	Living Room	1.5	5.20	Yes
Duplex B	FF-02	Kitchen	2.0	7.44	Yes
Duplex B	FF-02	Bedroom 1	1.0	4.40	Yes
Duplex B	FF-02	Bedroom 2	1.0	4.57	Yes
Duplex B	FF-02	Bedroom 3	1.0	3.42	Yes
Duplex B	FF-03	Living Room	1.5	5.13	Yes
Duplex B	FF-03	Kitchen	2.0	7.50	Yes
Duplex B	FF-03	Bedroom 1	1.0	4.41	Yes
Duplex B	FF-03	Bedroom 2	1.0	4.56	Yes
Duplex B	FF-03	Bedroom 3	1.0	3.42	Yes
Duplex B	FF-04	Living Room	1.5	5.16	Yes
Duplex B	FF-04	Kitchen	2.0	7.44	Yes
Duplex B	FF-04	Bedroom 1	1.0	4.48	Yes
Duplex B	FF-04	Bedroom 2	1.0	4.57	Yes
Duplex B	FF-04	Bedroom 3	1.0	3.42	Yes
Duplex B	FF-05	Living Room	1.5	5.21	Yes
Duplex B	FF-05	Kitchen	2.0	7.51	Yes
Duplex B	FF-05	Bedroom 1	1.0	4.45	Yes
Duplex B	FF-05	Bedroom 2	1.0	4.56	Yes
Duplex B	FF-05	Bedroom 3	1.0	3.41	Yes
Duplex B	FF-06	Living Room	1.5	6.56	Yes

Duplex B	FF-06	Kitchen	2.0	9.94	Yes
Duplex B	FF-06	Bedroom 1	1.0	4.40	Yes
Duplex B	FF-06	Bedroom 2	1.0	4.74	Yes
Duplex B	FF-06	Bedroom 3	1.0	3.42	Yes

Table 8 – Duplex Block B ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex C	GF-01	Bedroom 1	1.0	5.53	Yes
Duplex C	GF-01	Kitchen/Living	2.0	5.04	Yes
Duplex C	GF-02	Bedroom 1	1.0	1.67	Yes
Duplex C	GF-02	Bedroom 2	1.0	2.53	Yes
Duplex C	GF-02	Kitchen/Living	2.0	4.72	Yes
Duplex C	GF-03	Bedroom 1	1.0	5.08	Yes
Duplex C	GF-03	Kitchen/Living	2.0	2.15	Yes
Duplex C	GF-03	Home Office	1.5	8.03	Yes
Duplex C	GF-04	Bedroom 1	1.0	5.10	Yes
Duplex C	GF-04	Kitchen/Living	2.0	4.94	Yes
Duplex C	GF-04	Home Office	1.5	8.04	Yes
Duplex C	GF-05	Bedroom 1	1.0	1.70	Yes
Duplex C	GF-05	Bedroom 2	1.0	2.55	Yes
Duplex C	GF-05	Kitchen/Living	2.0	4.48	Yes
Duplex C	GF-06	Bedroom 1	1.0	5.27	Yes
Duplex C	GF-06	Bedroom 2	1.0	6.08	Yes
Duplex C	GF-06	Kitchen/Living	2.0	5.17	Yes
Duplex C	FF-01	Living Room	1.5	6.66	Yes
Duplex C	FF-01	Kitchen	2.0	10.61	Yes
Duplex C	FF-01	Bedroom 1	1.0	4.32	Yes
Duplex C	FF-01	Bedroom 2	1.0	4.83	Yes
Duplex C	FF-01	Bedroom 3	1.0	3.59	Yes
Duplex C	FF-02	Living Room	1.5	5.04	Yes
Duplex C	FF-02	Kitchen	2.0	7.65	Yes
Duplex C	FF-02	Bedroom 1	1.0	4.22	Yes
Duplex C	FF-02	Bedroom 2	1.0	4.85	Yes
Duplex C	FF-02	Bedroom 3	1.0	3.63	Yes
Duplex C	FF-03	Living Room	1.5	5.13	Yes
Duplex C	FF-03	Kitchen	2.0	7.83	Yes
Duplex C	FF-03	Bedroom 1	1.0	3.96	Yes
Duplex C	FF-03	Bedroom 2	1.0	4.87	Yes
Duplex C	FF-03	Bedroom 3	1.0	3.60	Yes

Duplex C	FF-04	Living Room	1.5	4.54	Yes
Duplex C	FF-04	Kitchen	2.0	7.34	Yes
Duplex C	FF-04	Bedroom 1	1.0	3.65	Yes
Duplex C	FF-04	Bedroom 2	1.0	5.11	Yes
Duplex C	FF-04	Bedroom 3	1.0	3.02	Yes
Duplex C	FF-05	Living Room	1.5	4.62	Yes
Duplex C	FF-05	Kitchen	2.0	7.35	Yes
Duplex C	FF-05	Bedroom 1	1.0	3.93	Yes
Duplex C	FF-05	Bedroom 2	1.0	5.08	Yes
Duplex C	FF-05	Bedroom 3	1.0	3.01	Yes
Duplex C	FF-06	Living Room	1.5	4.97	Yes
Duplex C	FF-06	Kitchen	2.0	7.76	Yes
Duplex C	FF-06	Bedroom 1	1.0	4.14	Yes
Duplex C	FF-06	Bedroom 2	1.0	4.89	Yes
Duplex C	FF-06	Bedroom 3	1.0	3.63	Yes
Duplex C	FF-07	Living Room	1.5	5.19	Yes
Duplex C	FF-07	Kitchen	2.0	7.83	Yes
Duplex C	FF-07	Bedroom 1	1.0	4.31	Yes
Duplex C	FF-07	Bedroom 2	1.0	4.88	Yes
Duplex C	FF-07	Bedroom 3	1.0	3.61	Yes
Duplex C	FF-08	Living Room	1.5	6.37	Yes
Duplex C	FF-08	Kitchen	2.0	9.57	Yes
Duplex C	FF-08	Bedroom 1	1.0	4.21	Yes
Duplex C	FF-08	Bedroom 2	1.0	4.77	Yes
Duplex C	FF-08	Bedroom 3	1.0	3.62	Yes

Table 9 – Duplex Block C ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex D	GF-01	Bedroom 1	1.0	3.01	Yes
Duplex D	GF-01	Kitchen/Living	2.0	5.17	Yes
Duplex D	GF-02	Bedroom 1	1.0	1.66	Yes
Duplex D	GF-02	Bedroom 2	1.0	2.30	Yes
Duplex D	GF-02	Kitchen/Living	2.0	4.60	Yes
Duplex D	GF-03	Bedroom 1	1.0	1.79	Yes
Duplex D	GF-03	Bedroom 2	1.5	2.44	Yes
Duplex D	GF-03	Kitchen	2.0	4.64	Yes
Duplex D	GF-04	Bedroom 1	1.0	5.50	Yes
Duplex D	GF-04	Bedroom 2	1.0	6.60	Yes
Duplex D	GF-04	Kitchen/Living	2.0	5.12	Yes
Duplex D	FF-01	Living Room	1.5	6.45	Yes

Duplex D	FF-01	Kitchen	2.0	10.22	Yes
Duplex D	FF-01	Bedroom 1	1.0	4.30	Yes
Duplex D	FF-01	Bedroom 2	1.0	5.18	Yes
Duplex D	FF-01	Bedroom 3	1.0	3.65	Yes
Duplex D	FF-02	Living Room	1.5	5.01	Yes
Duplex D	FF-02	Kitchen	2.0	7.58	Yes
Duplex D	FF-02	Bedroom 1	1.0	4.42	Yes
Duplex D	FF-02	Bedroom 2	1.0	5.01	Yes
Duplex D	FF-02	Bedroom 3	1.0	3.67	Yes
Duplex D	FF-03	Living Room	1.5	4.99	Yes
Duplex D	FF-03	Kitchen	2.0	7.62	Yes
Duplex D	FF-03	Bedroom 1	1.0	4.37	Yes
Duplex D	FF-03	Bedroom 2	1.0	4.97	Yes
Duplex D	FF-03	Bedroom 3	1.0	3.65	Yes
Duplex D	FF-04	Living Room	1.5	4.96	Yes
Duplex D	FF-04	Kitchen	2.0	7.60	Yes
Duplex D	FF-04	Bedroom 1	1.0	4.42	Yes
Duplex D	FF-04	Bedroom 2	1.0	5.01	Yes
Duplex D	FF-04	Bedroom 3	1.0	3.66	Yes
Duplex D	FF-05	Living Room	1.5	4.62	Yes
Duplex D	FF-05	Kitchen	2.0	7.61	Yes
Duplex D	FF-05	Bedroom 1	1.0	4.30	Yes
Duplex D	FF-05	Bedroom 2	1.0	4.96	Yes
Duplex D	FF-05	Bedroom 3	1.0	3.64	Yes
Duplex D	FF-06	Living Room	1.5	5.76	Yes
Duplex D	FF-06	Kitchen	2.0	9.87	Yes
Duplex D	FF-06	Bedroom 1	1.0	4.43	Yes
Duplex D	FF-06	Bedroom 2	1.0	4.97	Yes
Duplex D	FF-06	Bedroom 3	1.0	3.65	Yes

Table 10 – Duplex Block D ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex E	GF-01	Bedroom 1	1.0	2.53	Yes
Duplex E	GF-01	Kitchen/Living	2.0	4.42	Yes
Duplex E	GF-02	Bedroom 1	1.0	3.38	Yes
Duplex E	GF-02	Bedroom 2	1.0	2.62	Yes
Duplex E	GF-02	Kitchen/Living	2.0	4.62	Yes
Duplex E	GF-03	Bedroom 1	1.0	4.95	Yes
Duplex E	GF-03	Kitchen/Living	2.0	2.56	Yes
Duplex E	GF-03	Home Office	1.5	7.81	Yes

Duplex E	GF-04	Bedroom 1	1.0	3.64	Yes
Duplex E	GF-04	Bedroom 2	1.0	2.65	Yes
Duplex E	GF-04	Kitchen/Living	2.0	4.66	Yes
Duplex E	GF-05	Bedroom 1	1.0	5.04	Yes
Duplex E	GF-05	Bedroom 2	1.0	5.97	Yes
Duplex E	GF-05	Kitchen/Living	2.0	4.83	Yes
Duplex E	FF-01	Living Room	1.5	6.37	Yes
Duplex E	FF-01	Kitchen	2.0	9.56	Yes
Duplex E	FF-01	Bedroom 1	1.0	4.50	Yes
Duplex E	FF-01	Bedroom 2	1.0	4.85	Yes
Duplex E	FF-01	Bedroom 3	1.0	3.56	Yes
Duplex E	FF-02	Living Room	1.5	5.12	Yes
Duplex E	FF-02	Kitchen	2.0	7.35	Yes
Duplex E	FF-02	Bedroom 1	1.0	4.45	Yes
Duplex E	FF-02	Bedroom 2	1.0	4.88	Yes
Duplex E	FF-02	Bedroom 3	1.0	3.55	Yes
Duplex E	FF-03	Living Room	1.5	5.25	Yes
Duplex E	FF-03	Kitchen	2.0	7.58	Yes
Duplex E	FF-03	Bedroom 1	1.0	4.45	Yes
Duplex E	FF-03	Bedroom 2	1.0	4.88	Yes
Duplex E	FF-03	Bedroom 3	1.0	3.56	Yes
Duplex E	FF-04	Living Room	1.5	4.64	Yes
Duplex E	FF-04	Kitchen	2.0	7.08	Yes
Duplex E	FF-04	Bedroom 1	1.0	4.05	Yes
Duplex E	FF-04	Bedroom 2	1.0	5.02	Yes
Duplex E	FF-04	Bedroom 3	1.0	3.25	Yes
Duplex E	FF-05	Living Room	1.5	5.17	Yes
Duplex E	FF-05	Kitchen	2.0	7.39	Yes
Duplex E	FF-05	Bedroom 1	1.0	4.48	Yes
Duplex E	FF-05	Bedroom 2	1.0	4.88	Yes
Duplex E	FF-05	Bedroom 3	1.0	3.55	Yes
Duplex E	FF-06	Living Room	1.5	5.18	Yes
Duplex E	FF-06	Kitchen	2.0	7.61	Yes
Duplex E	FF-06	Bedroom 1	1.0	4.50	Yes
Duplex E	FF-06	Bedroom 2	1.0	4.88	Yes
Duplex E	FF-06	Bedroom 3	1.0	3.57	Yes
Duplex E	FF-07	Living Room	1.5	6.03	Yes
Duplex E	FF-07	Kitchen	2.0	9.03	Yes
Duplex E	FF-07	Bedroom 1	1.0	4.44	Yes
Duplex E	FF-07	Bedroom 2	1.0	4.98	Yes
Duplex E	FF-07	Bedroom 3	1.0	3.57	Yes

Table 11 – Duplex Block E ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex F	GF-01	Bedroom 1	1.0	3.01	Yes
Duplex F	GF-01	Kitchen/Living	2.0	5.17	Yes
Duplex F	GF-02	Bedroom 1	1.0	3.38	Yes
Duplex F	GF-02	Bedroom 2	1.0	2.62	Yes
Duplex F	GF-02	Kitchen/Living	2.0	4.62	Yes
Duplex F	GF-03	Bedroom 1	1.0	3.64	Yes
Duplex F	GF-03	Bedroom 2	1.0	2.65	Yes
Duplex F	GF-03	Kitchen/Living	2.0	4.66	Yes
Duplex F	FF-01	Living Room	1.5	6.45	Yes
Duplex F	FF-01	Kitchen	2.0	10.22	Yes
Duplex F	FF-01	Bedroom 1	1.0	4.30	Yes
Duplex F	FF-01	Bedroom 2	1.0	5.18	Yes
Duplex F	FF-01	Bedroom 3	1.0	3.65	Yes
Duplex F	FF-02	Living Room	1.5	5.01	Yes
Duplex F	FF-02	Kitchen	2.0	7.58	Yes
Duplex F	FF-02	Bedroom 1	1.0	4.42	Yes
Duplex F	FF-02	Bedroom 2	1.0	5.01	Yes
Duplex F	FF-02	Bedroom 3	1.0	3.67	Yes
Duplex F	FF-03	Living Room	1.5	4.99	Yes
Duplex F	FF-03	Kitchen	2.0	7.62	Yes
Duplex F	FF-03	Bedroom 1	1.0	4.37	Yes
Duplex F	FF-03	Bedroom 2	1.0	4.97	Yes
Duplex F	FF-03	Bedroom 3	1.0	3.65	Yes
Duplex F	FF-04	Living Room	1.5	4.96	Yes
Duplex F	FF-04	Kitchen	2.0	7.60	Yes
Duplex F	FF-04	Bedroom 1	1.0	4.42	Yes
Duplex F	FF-04	Bedroom 2	1.0	5.01	Yes
Duplex F	FF-04	Bedroom 3	1.0	3.66	Yes
Duplex F	FF-05	Living Room	1.5	4.62	Yes
Duplex F	FF-05	Kitchen	2.0	7.61	Yes
Duplex F	FF-05	Bedroom 1	1.0	4.30	Yes
Duplex F	FF-05	Bedroom 2	1.0	4.96	Yes
Duplex F	FF-05	Bedroom 3	1.0	3.64	Yes
Duplex F	FF-06	Living Room	1.5	5.76	Yes
Duplex F	FF-06	Kitchen	2.0	9.87	Yes
Duplex F	FF-06	Bedroom 1	1.0	4.43	Yes
Duplex F	FF-06	Bedroom 2	1.0	4.97	Yes
Duplex F	FF-06	Bedroom 3	1.0	3.65	Yes

Table 12 – Duplex Block F ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex G	GF-01	Bedroom 1	1.0	2.98	Yes
Duplex G	GF-01	Kitchen/Living	2.0	4.64	Yes
Duplex G	GF-02	Bedroom 1	1.0	1.84	Yes
Duplex G	GF-02	Bedroom 2	1.0	2.50	Yes
Duplex G	GF-02	Kitchen/Living	2.0	4.40	Yes
Duplex G	GF-03	Home Office	2.0	7.47	Yes
Duplex G	GF-03	Bedroom 1	1.0	5.34	Yes
Duplex G	GF-03	Kitchen/Living	2.0	2.18	Yes
Duplex G	GF-04	Bedroom 1	1.0	4.87	Yes
Duplex G	GF-04	Kitchen/Living	2.0	2.20	Yes
Duplex G	GF-04	Home Office	2.0	7.52	Yes
Duplex G	GF-05	Bedroom 1	1.0	1.77	Yes
Duplex G	GF-05	Bedroom 2	1.0	2.55	Yes
Duplex G	GF-05	Kitchen/Living	2.0	4.36	Yes
Duplex G	GF-06	Bedroom 1	1.0	5.77	Yes
Duplex G	GF-06	Bedroom 2	1.0	5.28	Yes
Duplex G	GF-06	Kitchen/Living	2.0	4.18	Yes
Duplex G	FF-01	Living Room	1.5	6.37	Yes
Duplex G	FF-01	Kitchen	2.0	9.56	Yes
Duplex G	FF-01	Bedroom 1	1.0	4.50	Yes
Duplex G	FF-01	Bedroom 2	1.0	4.85	Yes
Duplex G	FF-01	Bedroom 3	1.0	3.56	Yes
Duplex G	FF-02	Living Room	1.5	5.12	Yes
Duplex G	FF-02	Kitchen	2.0	7.35	Yes
Duplex G	FF-02	Bedroom 1	1.0	4.45	Yes
Duplex G	FF-02	Bedroom 2	1.0	4.88	Yes
Duplex G	FF-02	Bedroom 3	1.0	3.55	Yes
Duplex G	FF-03	Living Room	1.5	5.25	Yes
Duplex G	FF-03	Kitchen	2.0	7.58	Yes
Duplex G	FF-03	Bedroom 1	1.0	4.45	Yes
Duplex G	FF-03	Bedroom 2	1.0	4.88	Yes
Duplex G	FF-03	Bedroom 3	1.0	3.56	Yes
Duplex G	FF-04	Living Room	1.5	4.64	Yes
Duplex G	FF-04	Kitchen	2.0	7.08	Yes
Duplex G	FF-04	Bedroom 1	1.0	4.05	Yes
Duplex G	FF-04	Bedroom 2	1.0	5.02	Yes
Duplex G	FF-04	Bedroom 3	1.0	3.25	Yes
Duplex G	FF-05	Living Room	1.5	5.17	Yes
Duplex G	FF-05	Kitchen	2.0	7.39	Yes
Duplex G	FF-05	Bedroom 1	1.0	4.48	Yes

Duplex G	FF-05	Bedroom 2	1.0	4.88	Yes
Duplex G	FF-05	Bedroom 3	1.0	3.55	Yes
Duplex G	FF-06	Living Room	1.5	5.18	Yes
Duplex G	FF-06	Kitchen	2.0	7.61	Yes
Duplex G	FF-06	Bedroom 1	1.0	4.50	Yes
Duplex G	FF-06	Bedroom 2	1.0	4.88	Yes
Duplex G	FF-06	Bedroom 3	1.0	3.57	Yes
Duplex G	FF-07	Living Room	1.5	6.03	Yes
Duplex G	FF-07	Kitchen	2.0	9.03	Yes
Duplex G	FF-07	Bedroom 1	1.0	4.44	Yes
Duplex G	FF-07	Bedroom 2	1.0	4.98	Yes
Duplex G	FF-07	Bedroom 3	1.0	3.57	Yes

Table 13 – Duplex Block G ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex H	GF-01	Bedroom 1	1.0	2.24	Yes
Duplex H	GF-01	Bedroom 2	1.0	2.55	Yes
Duplex H	GF-01	Kitchen/Living	2.0	5.16	Yes
Duplex H	GF-02	Bedroom 1	1.0	3.72	Yes
Duplex H	GF-02	Bedroom 2	1.0	6.78	Yes
Duplex H	GF-02	Kitchen/Living	2.0	4.46	Yes
Duplex H	FF-01	Living Room	1.5	6.55	Yes
Duplex H	FF-01	Kitchen	2.0	7.44	Yes
Duplex H	FF-01	Bedroom 1	1.0	4.55	Yes
Duplex H	FF-01	Bedroom 2	1.0	4.60	Yes
Duplex H	FF-01	Bedroom 3	1.0	3.43	Yes
Duplex H	FF-02	Living Room	1.5	5.20	Yes
Duplex H	FF-02	Kitchen	2.0	7.34	Yes
Duplex H	FF-02	Bedroom 1	1.0	4.43	Yes
Duplex H	FF-02	Bedroom 2	1.0	4.60	Yes
Duplex H	FF-02	Bedroom 3	1.0	3.43	Yes
Duplex H	FF-03	Living Room	1.5	6.70	Yes
Duplex H	FF-03	Kitchen	2.0	10.55	Yes
Duplex H	FF-03	Bedroom 1	1.0	4.51	Yes
Duplex H	FF-03	Bedroom 2	1.0	5.00	Yes
Duplex H	FF-03	Bedroom 3	1.0	3.42	Yes

Table 14 – Duplex Block H ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex I	GF-01	Bedroom 1	1.0	3.36	Yes
Duplex I	GF-01	Kitchen/Living	2.0	5.19	Yes
Duplex I	GF-02	Bedroom 1	1.0	1.67	Yes
Duplex I	GF-02	Bedroom 2	1.0	2.44	Yes
Duplex I	GF-02	Kitchen/Living	2.0	4.38	Yes
Duplex I	GF-03	Bedroom 1	1.0	6.58	Yes
Duplex I	GF-03	Kitchen/Living	2.0	2.97	Yes
Duplex I	GF-03	Home Office	2.0	7.93	Yes
Duplex I	FF-01	Living Room	1.5	6.21	Yes
Duplex I	FF-01	Kitchen	2.0	9.92	Yes
Duplex I	FF-01	Bedroom 1	1.0	4.27	Yes
Duplex I	FF-01	Bedroom 2	1.0	4.99	Yes
Duplex I	FF-01	Bedroom 3	1.0	3.87	Yes
Duplex I	FF-02	Living Room	1.5	4.87	Yes
Duplex I	FF-02	Kitchen	2.0	7.48	Yes
Duplex I	FF-02	Bedroom 1	1.0	4.29	Yes
Duplex I	FF-02	Bedroom 2	1.0	5.18	Yes
Duplex I	FF-02	Bedroom 3	1.0	3.79	Yes
Duplex I	FF-03	Living Room	1.5	4.85	Yes
Duplex I	FF-03	Kitchen	2.0	7.50	Yes
Duplex I	FF-03	Bedroom 1	1.0	4.25	Yes
Duplex I	FF-03	Bedroom 2	1.0	5.19	Yes
Duplex I	FF-03	Bedroom 3	1.0	3.88	Yes
Duplex I	FF-04	Living Room	1.5	5.80	Yes
Duplex I	FF-04	Kitchen	2.0	9.38	Yes
Duplex I	FF-04	Bedroom 1	1.0	3.88	Yes
Duplex I	FF-04	Bedroom 2	1.0	7.28	Yes
Duplex I	FF-04	Bedroom 3	1.0	3.31	Yes

Table 15 – Duplex Block I ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex J	GF-01	Bedroom 1	1.0	3.73	Yes
Duplex J	GF-01	Kitchen/Living	2.0	5.26	Yes
Duplex J	GF-02	Kitchen/Living	2.0	4.47	Yes
Duplex J	GF-02	Bedroom 1	1.0	1.59	Yes

Duplex J	GF-02	Bedroom 2	1.0	2.37	Yes
Duplex J	GF-03	Bedroom 1	1.0	3.33	Yes
Duplex J	GF-03	Kitchen/Living	2.0	5.31	Yes
Duplex J	FF-01	Living Room	1.5	6.48	Yes
Duplex J	FF-01	Kitchen	2.0	10.19	Yes
Duplex J	FF-01	Bedroom 1	1.0	4.36	Yes
Duplex J	FF-01	Bedroom 2	1.0	5.21	Yes
Duplex J	FF-01	Bedroom 3	1.0	3.77	Yes
Duplex J	FF-02	Living Room	1.5	4.79	Yes
Duplex J	FF-02	Kitchen	2.0	7.49	Yes
Duplex J	FF-02	Bedroom 1	1.0	4.18	Yes
Duplex J	FF-02	Bedroom 2	1.0	5.05	Yes
Duplex J	FF-02	Bedroom 3	1.0	3.69	Yes
Duplex J	FF-03	Living Room	2.0	4.96	Yes
Duplex J	FF-03	Kitchen	1.5	7.58	Yes
Duplex J	FF-03	Bedroom 1	1.0	4.42	Yes
Duplex J	FF-03	Bedroom 2	1.0	5.06	Yes
Duplex J	FF-03	Bedroom 3	1.0	3.78	Yes
Duplex J	FF-04	Living Room	1.5	6.16	Yes
Duplex J	FF-04	Kitchen	2.0	9.97	Yes
Duplex J	FF-04	Bedroom 1	1.0	3.81	Yes
Duplex J	FF-04	Bedroom 2	1.0	6.78	Yes
Duplex J	FF-04	Bedroom 3	1.0	3.69	Yes

Table 16 – Duplex Block J ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex K	GF-01	Bedroom 1	1.0	3.13	Yes
Duplex K	GF-01	Kitchen/Living	2.0	4.73	Yes
Duplex K	GF-02	Bedroom 1	1.0	1.81	Yes
Duplex K	GF-02	Bedroom 2	1.0	2.59	Yes
Duplex K	GF-02	Kitchen/Living	2.0	4.44	Yes
Duplex K	GF-03	Bedroom 1	1.0	4.68	Yes
Duplex K	GF-03	Kitchen/Living	2.0	2.10	Yes
Duplex K	GF-03	Home Office	2.0	7.58	Yes
Duplex K	GF-04	Bedroom 1	1.0	4.69	Yes
Duplex K	GF-04	Kitchen/Living	2.0	2.10	Yes
Duplex K	GF-04	Home Office	2.0	7.58	Yes
Duplex K	GF-05	Bedroom 1	1.0	4.76	Yes
Duplex K	GF-05	Kitchen/Living	2.0	2.03	Yes

Duplex K	GF-05	Home Office	2.0	7.60	Yes
Duplex K	GF-06	Bedroom 1	1.0	1.84	Yes
Duplex K	GF-06	Bedroom 2	1.0	2.65	Yes
Duplex K	GF-06	Kitchen/Living	2.0	4.53	Yes
Duplex K	GF-07	Bedroom 1	1.0	3.07	Yes
Duplex K	GF-07	Kitchen/Living	2.0	4.98	Yes
Duplex K	FF-01	Living Room	1.5	6.15	Yes
Duplex K	FF-01	Kitchen	2.0	8.77	Yes
Duplex K	FF-01	Bedroom 1	1.0	4.45	Yes
Duplex K	FF-01	Bedroom 2	1.0	4.58	Yes
Duplex K	FF-01	Bedroom 3	1.0	3.69	Yes
Duplex K	FF-02	Living Room	1.5	5.18	Yes
Duplex K	FF-02	Kitchen	2.0	7.19	Yes
Duplex K	FF-02	Bedroom 1	1.0	4.44	Yes
Duplex K	FF-02	Bedroom 2	1.0	4.96	Yes
Duplex K	FF-02	Bedroom 3	1.0	3.69	Yes
Duplex K	FF-03	Living Room	1.5	5.16	Yes
Duplex K	FF-03	Kitchen	2.0	7.12	Yes
Duplex K	FF-03	Bedroom 1	1.0	4.42	Yes
Duplex K	FF-03	Bedroom 2	1.0	4.95	Yes
Duplex K	FF-03	Bedroom 3	1.0	3.68	Yes
Duplex K	FF-04	Living Room	1.5	4.72	Yes
Duplex K	FF-04	Kitchen	2.0	6.68	Yes
Duplex K	FF-04	Bedroom 1	1.0	3.99	Yes
Duplex K	FF-04	Bedroom 2	1.0	4.99	Yes
Duplex K	FF-04	Bedroom 3	1.0	3.04	Yes
Duplex K	FF-05	Living Room	1.5	5.20	Yes
Duplex K	FF-05	Kitchen	2.0	7.18	Yes
Duplex K	FF-05	Bedroom 1	1.0	4.44	Yes
Duplex K	FF-05	Bedroom 2	1.0	4.97	Yes
Duplex K	FF-05	Bedroom 3	1.0	3.69	Yes
Duplex K	FF-06	Living Room	1.5	5.19	Yes
Duplex K	FF-06	Kitchen	2.0	7.12	Yes
Duplex K	FF-06	Bedroom 1	1.0	4.46	Yes
Duplex K	FF-06	Bedroom 2	1.0	4.97	Yes
Duplex K	FF-06	Bedroom 3	1.0	3.69	Yes
Duplex K	FF-07	Living Room	1.5	5.13	Yes
Duplex K	FF-07	Kitchen	2.0	7.50	Yes
Duplex K	FF-07	Bedroom 1	1.0	4.41	Yes
Duplex K	FF-07	Bedroom 2	1.0	4.56	Yes
Duplex K	FF-07	Bedroom 3	1.0	3.42	Yes
Duplex K	FF-08	Living Room	1.5	5.16	Yes
Duplex K	FF-08	Kitchen	2.0	7.44	Yes

Duplex K	FF-08	Bedroom 1	1.0	4.48	Yes
Duplex K	FF-08	Bedroom 2	1.0	4.57	Yes
Duplex K	FF-08	Bedroom 3	1.0	3.42	Yes
Duplex K	FF-09	Living Room	1.5	8.57	Yes
Duplex K	FF-09	Kitchen	2.0	10.03	Yes
Duplex K	FF-09	Bedroom 1	1.0	4.44	Yes
Duplex K	FF-09	Bedroom 2	1.0	4.96	Yes
Duplex K	FF-09	Bedroom 3	1.0	3.70	Yes

Table 17 – Duplex Block K ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex L	GF-01	Bedroom 1	1.0	3.67	Yes
Duplex L	GF-01	Bedroom 2	1.0	6.91	Yes
Duplex L	GF-01	Kitchen/Living	2.0	4.80	Yes
Duplex L	GF-02	Bedroom 1	1.0	2.19	Yes
Duplex L	GF-02	Bedroom 2	1.0	2.43	Yes
Duplex L	GF-02	Kitchen/Living	2.0	4.47	Yes
Duplex L	GF-03	Home Office	2.0	8.09	Yes
Duplex L	GF-03	Bedroom 1	1.0	4.93	Yes
Duplex L	GF-03	Kitchen/Living	2.0	2.29	Yes
Duplex L	FF-01	Living Room	1.5	6.08	Yes
Duplex L	FF-01	Kitchen	2.0	10.49	Yes
Duplex L	FF-01	Bedroom 1	1.0	3.86	Yes
Duplex L	FF-01	Bedroom 2	1.0	4.57	Yes
Duplex L	FF-01	Bedroom 3	1.0	3.33	Yes
Duplex L	FF-02	Living Room	1.5	4.18	Yes
Duplex L	FF-02	Kitchen	2.0	7.50	Yes
Duplex L	FF-02	Bedroom 1	1.0	3.74	Yes
Duplex L	FF-02	Bedroom 2	1.0	4.39	Yes
Duplex L	FF-02	Bedroom 3	1.0	3.27	Yes
Duplex L	FF-03	Living Room	1.5	4.57	Yes
Duplex L	FF-03	Kitchen	2.0	7.56	Yes
Duplex L	FF-03	Bedroom 1	1.0	3.89	Yes
Duplex L	FF-03	Bedroom 2	1.0	4.39	Yes
Duplex L	FF-03	Bedroom 3	1.0	3.35	Yes
Duplex L	FF-04	Living Room	1.5	4.12	Yes
Duplex L	FF-04	Kitchen	2.0	7.00	Yes
Duplex L	FF-04	Bedroom 1	1.0	3.45	Yes
Duplex L	FF-04	Bedroom 2	1.0	4.49	Yes

Duplex L	FF-04	Bedroom 3	1.0	2.72	Yes
Duplex L	FF-05	Living Room	1.5	2.53	Yes
Duplex L	FF-05	Kitchen	2.0	5.59	Yes
Duplex L	FF-05	Bedroom 1	1.0	2.47	Yes
Duplex L	FF-05	Bedroom 2	1.0	3.17	Yes
Duplex L	FF-05	Bedroom 3	1.0	3.19	Yes

Table 18 – Duplex Block L ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex M	GF-01	Bedroom 1	1.0	5.62	Yes
Duplex M	GF-01	Bedroom 2	1.0	6.53	Yes
Duplex M	GF-01	Kitchen/Living	2.0	4.52	Yes
Duplex M	GF-02	Bedroom 1	1.0	1.76	Yes
Duplex M	GF-02	Bedroom 2	1.0	2.57	Yes
Duplex M	GF-02	Kitchen/Living	2.0	4.18	Yes
Duplex M	GF-03	Bedroom 1	1.0	5.70	Yes
Duplex M	GF-03	Bedroom 2	1.0	6.31	Yes
Duplex M	GF-03	Kitchen/Living	2.0	4.78	Yes
Duplex M	FF-01	Living Room	1.5	5.91	Yes
Duplex M	FF-01	Kitchen	2.0	9.98	Yes
Duplex M	FF-01	Bedroom 1	1.0	4.43	Yes
Duplex M	FF-01	Bedroom 2	1.0	4.86	Yes
Duplex M	FF-01	Bedroom 3	1.0	3.45	Yes
Duplex M	FF-02	Living Room	1.5	4.62	Yes
Duplex M	FF-02	Kitchen	2.0	7.52	Yes
Duplex M	FF-02	Bedroom 1	1.0	4.37	Yes
Duplex M	FF-02	Bedroom 2	1.0	4.71	Yes
Duplex M	FF-02	Bedroom 3	1.0	3.44	Yes
Duplex M	FF-03	Living Room	1.5	4.49	Yes
Duplex M	FF-03	Kitchen	2.0	7.43	Yes
Duplex M	FF-03	Bedroom 1	1.0	4.47	Yes
Duplex M	FF-03	Bedroom 2	1.0	4.71	Yes
Duplex M	FF-03	Bedroom 3	1.0	3.45	Yes
Duplex M	FF-04	Living Room	1.5	4.75	Yes
Duplex M	FF-04	Kitchen	2.0	7.52	Yes
Duplex M	FF-04	Bedroom 1	1.0	4.37	Yes
Duplex M	FF-04	Bedroom 2	1.0	4.71	Yes
Duplex M	FF-04	Bedroom 3	1.0	3.47	Yes
Duplex M	FF-05	Living Room	1.5	6.05	Yes
Duplex M	FF-05	Kitchen	2.0	10.02	Yes

Duplex M	FF-05	Bedroom 1	1.0	4.37	Yes
Duplex M	FF-05	Bedroom 2	1.0	4.86	Yes
Duplex M	FF-05	Bedroom 3	1.0	3.46	Yes

Table 19 – Duplex Block M ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex N	Apt 1	Bedroom 1	1.0	4.88	Yes
Duplex N	Apt 1	Bedroom 2	1.0	3.15	Yes
Duplex N	Apt 1	Kitchen/Living	2.0	9.06	Yes
Duplex N	Apt 2	Bedroom 1	1.0	4.88	Yes
Duplex N	Apt 2	Bedroom 2	1.0	3.14	Yes
Duplex N	Apt 2	Kitchen/Living	2.0	8.97	Yes
Duplex N	Apt 3	Bedroom 1	1.0	5.24	Yes
Duplex N	Apt 3	Bedroom 2	1.0	4.80	Yes
Duplex N	Apt 3	Bedroom 3	1.0	5.92	Yes
Duplex N	Apt 3	Kitchen	2.0	8.78	Yes
Duplex N	Apt 3	Living Room	1.5	7.86	Yes
Duplex N	Apt 4	Bedroom 1	1.0	5.22	Yes
Duplex N	Apt 4	Bedroom 2	1.0	4.82	Yes
Duplex N	Apt 4	Bedroom 3	1.0	6.11	Yes
Duplex N	Apt 4	Kitchen	2.0	8.73	Yes
Duplex N	Apt 4	Living Room	1.5	7.91	Yes

Table 20 – Duplex Block N ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex O	Apt 1	Bedroom 1	1.0	5.56	Yes
Duplex O	Apt 1	Kitchen/Living	2.0	6.64	Yes
Duplex O	Apt 2	Bedroom 1	1.0	5.81	Yes
Duplex O	Apt 2	Kitchen/Living	2.0	5.65	Yes
Duplex O	Apt 3	Bedroom 1	1.0	5.85	Yes
Duplex O	Apt 3	Kitchen/Living	2.0	5.65	Yes
Duplex O	Apt 4	Bedroom 1	1.0	5.80	Yes
Duplex O	Apt 4	Kitchen/Living	2.0	5.65	Yes
Duplex O	Apt 5	Bedroom 1	1.0	5.81	Yes
Duplex O	Apt 5	Bedroom 2	1.0	8.97	Yes
Duplex O	Apt 5	Kitchen/Living	2.0	4.49	Yes

Duplex O	Apt 6	Kitchen	2.0	7.73	Yes
Duplex O	Apt 6	Living Room	1.5	5.86	Yes
Duplex O	Apt 6	Bedroom 1	1.0	6.82	Yes
Duplex O	Apt 6	Bedroom 2	1.0	8.12	Yes
Duplex O	Apt 6	Bedroom 3	1.0	3.63	Yes
Duplex O	Apt 7	Kitchen	2.0	4.97	Yes
Duplex O	Apt 7	Living Room	1.5	4.01	Yes
Duplex O	Apt 7	Bedroom 1	1.0	5.27	Yes
Duplex O	Apt 7	Bedroom 2	1.0	5.47	Yes
Duplex O	Apt 7	Bedroom 3	1.0	3.91	Yes
Duplex O	Apt 8	Kitchen	2.0	4.79	Yes
Duplex O	Apt 8	Living Room	1.5	4.01	Yes
Duplex O	Apt 8	Bedroom 1	1.0	5.26	Yes
Duplex O	Apt 8	Bedroom 2	1.0	5.66	Yes
Duplex O	Apt 8	Bedroom 3	1.0	3.83	Yes
Duplex O	Apt 9	Kitchen	2.0	4.80	Yes
Duplex O	Apt 9	Living Room	1.5	4.02	Yes
Duplex O	Apt 9	Bedroom 1	1.0	5.27	Yes
Duplex O	Apt 9	Bedroom 2	1.0	5.66	Yes
Duplex O	Apt 9	Bedroom 3	1.0	3.91	Yes
Duplex O	Apt 10	Kitchen	2.0	4.78	Yes
Duplex O	Apt 10	Living Room	1.5	4.00	Yes
Duplex O	Apt 10	Bedroom 1	1.0	5.20	Yes
Duplex O	Apt 10	Bedroom 2	1.0	5.66	Yes
Duplex O	Apt 10	Bedroom 3	1.0	3.92	Yes
Duplex O	Apt 11	Kitchen	2.0	7.61	Yes
Duplex O	Apt 11	Living Room	1.5	6.14	Yes
Duplex O	Apt 11	Bedroom 1	1.0	5.27	Yes
Duplex O	Apt 11	Bedroom 2	1.0	8.21	Yes
Duplex O	Apt 11	Bedroom 3	1.0	3.90	Yes

Table 21 – Duplex Block O ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex P	GF-01	Bedroom 1	1.0	2.24	Yes
Duplex P	GF-01	Bedroom 2	1.0	2.55	Yes
Duplex P	GF-01	Kitchen/Living	2.0	5.16	Yes
Duplex P	GF-02	Bedroom 1	1.0	3.72	Yes
Duplex P	GF-02	Bedroom 2	1.0	6.78	Yes
Duplex P	GF-02	Kitchen/Living	2.0	4.46	Yes

Duplex P	FF-01	Living Room	1.5	6.55	Yes
Duplex P	FF-01	Kitchen	2.0	7.44	Yes
Duplex P	FF-01	Bedroom 1	1.0	4.55	Yes
Duplex P	FF-01	Bedroom 2	1.0	4.60	Yes
Duplex P	FF-01	Bedroom 3	1.0	3.43	Yes
Duplex P	FF-02	Living Room	1.5	5.20	Yes
Duplex P	FF-02	Kitchen	2.0	7.34	Yes
Duplex P	FF-02	Bedroom 1	1.0	4.43	Yes
Duplex P	FF-02	Bedroom 2	1.0	4.60	Yes
Duplex P	FF-02	Bedroom 3	1.0	3.43	Yes
Duplex P	FF-03	Living Room	1.5	6.70	Yes
Duplex P	FF-03	Kitchen	2.0	10.55	Yes
Duplex P	FF-03	Bedroom 1	1.0	4.51	Yes
Duplex P	FF-03	Bedroom 2	1.0	5.00	Yes
Duplex P	FF-03	Bedroom 3	1.0	3.42	Yes

Table 22 - Duplex Block P ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex Q	GF-01	Bedroom 1	1.0	5.23	Yes
Duplex Q	GF-01	Kitchen/Living	2.0	4.76	Yes
Duplex Q	GF-02	Kitchen/Living	2.0	4.68	Yes
Duplex Q	GF-02	Bedroom 1	1.0	1.71	Yes
Duplex Q	GF-02	Bedroom 2	1.0	2.25	Yes
Duplex Q	GF-03	Kitchen/Living	2.0	4.74	Yes
Duplex Q	GF-03	Bedroom 1	1.0	1.60	Yes
Duplex Q	GF-03	Bedroom 2	1.0	2.35	Yes
Duplex Q	GF-04	Kitchen/Living	2.0	5.08	Yes
Duplex Q	GF-04	Bedroom 1	1.0	3.98	Yes
Duplex Q	GF-04	Bedroom 2	1.0	2.49	Yes
Duplex Q	GF-05	Kitchen/Living	2.0	4.86	Yes
Duplex Q	GF-05	Bedroom 1	1.0	2.19	Yes
Duplex Q	GF-05	Bedroom 2	1.0	2.31	Yes
Duplex Q	GF-06	Kitchen/Living	2.0	4.98	Yes
Duplex Q	GF-06	Bedroom 1	1.0	3.63	Yes
Duplex Q	GF-06	Bedroom 2	1.0	7.06	Yes
Duplex Q	FF-01	Living Room	1.5	5.96	Yes
Duplex Q	FF-01	Kitchen	2.0	10.09	Yes
Duplex Q	FF-01	Bedroom 1	1.0	4.15	Yes
Duplex Q	FF-01	Bedroom 2	1.0	4.84	Yes
Duplex Q	FF-01	Bedroom 3	1.0	3.66	Yes

Duplex Q	FF-02	Living Room	1.5	4.20	Yes
Duplex Q	FF-02	Kitchen	2.0	7.77	Yes
Duplex Q	FF-02	Bedroom 1	1.0	4.14	Yes
Duplex Q	FF-02	Bedroom 2	1.0	4.94	Yes
Duplex Q	FF-02	Bedroom 3	1.0	3.58	Yes
Duplex Q	FF-03	Living Room	1.5	4.64	Yes
Duplex Q	FF-03	Kitchen	2.0	7.67	Yes
Duplex Q	FF-03	Bedroom 1	1.0	4.12	Yes
Duplex Q	FF-03	Bedroom 2	1.0	4.94	Yes
Duplex Q	FF-03	Bedroom 3	1.0	3.65	Yes
Duplex Q	FF-04	Living Room	1.5	4.16	Yes
Duplex Q	FF-04	Kitchen	2.0	7.79	Yes
Duplex Q	FF-04	Bedroom 1	1.0	4.10	Yes
Duplex Q	FF-04	Bedroom 2	1.0	4.94	Yes
Duplex Q	FF-04	Bedroom 3	1.0	3.59	Yes
Duplex Q	FF-05	Living Room	1.5	4.60	Yes
Duplex Q	FF-05	Kitchen	2.0	7.76	Yes
Duplex Q	FF-05	Bedroom 1	1.0	4.14	Yes
Duplex Q	FF-05	Bedroom 2	1.0	4.94	Yes
Duplex Q	FF-05	Bedroom 3	1.0	3.65	Yes
Duplex Q	FF-06	Living Room	1.5	4.60	Yes
Duplex Q	FF-06	Kitchen	2.0	7.16	Yes
Duplex Q	FF-06	Bedroom 1	1.0	4.13	Yes
Duplex Q	FF-06	Bedroom 2	1.0	4.20	Yes
Duplex Q	FF-06	Bedroom 3	1.0	5.42	Yes
Duplex Q	FF-07	Living Room	1.5	4.63	Yes
Duplex Q	FF-07	Kitchen	2.0	7.16	Yes
Duplex Q	FF-07	Bedroom 1	1.0	4.08	Yes
Duplex Q	FF-07	Bedroom 2	1.0	4.94	Yes
Duplex Q	FF-07	Bedroom 3	1.0	3.59	Yes
Duplex Q	FF-08	Living Room	1.5	3.99	Yes
Duplex Q	FF-08	Kitchen	2.0	7.78	Yes
Duplex Q	FF-08	Bedroom 1	1.0	4.14	Yes
Duplex Q	FF-08	Bedroom 2	1.0	4.95	Yes
Duplex Q	FF-08	Bedroom 3	1.0	3.65	Yes
Duplex Q	FF-09	Living Room	1.5	5.69	Yes
Duplex Q	FF-09	Kitchen	2.0	10.31	Yes
Duplex Q	FF-09	Bedroom 1	1.0	4.13	Yes
Duplex Q	FF-09	Bedroom 2	1.0	4.94	Yes
Duplex Q	FF-09	Bedroom 3	1.0	3.59	Yes

Table 23 – Duplex Block Q ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex R	GF-01	Bedroom 1	1.0	3.73	Yes
Duplex R	GF-01	Kitchen/Living	2.0	5.26	Yes
Duplex R	GF-02	Kitchen/Living	2.0	4.47	Yes
Duplex R	GF-02	Bedroom 1	1.0	1.59	Yes
Duplex R	GF-02	Bedroom 2	1.0	2.37	Yes
Duplex R	GF-03	Bedroom 1	1.0	3.33	Yes
Duplex R	GF-03	Kitchen/Living	2.0	5.31	Yes
Duplex R	FF-01	Living Room	1.5	6.48	Yes
Duplex R	FF-01	Kitchen	2.0	10.19	Yes
Duplex R	FF-01	Bedroom 1	1.0	4.36	Yes
Duplex R	FF-01	Bedroom 2	1.0	5.21	Yes
Duplex R	FF-01	Bedroom 3	1.0	3.77	Yes
Duplex R	FF-02	Living Room	1.5	4.79	Yes
Duplex R	FF-02	Kitchen	2.0	7.49	Yes
Duplex R	FF-02	Bedroom 1	1.0	4.18	Yes
Duplex R	FF-02	Bedroom 2	1.0	5.05	Yes
Duplex R	FF-02	Bedroom 3	1.0	3.69	Yes
Duplex R	FF-03	Living Room	2.0	4.96	Yes
Duplex R	FF-03	Kitchen	1.5	7.58	Yes
Duplex R	FF-03	Bedroom 1	1.0	4.42	Yes
Duplex R	FF-03	Bedroom 2	1.0	5.06	Yes
Duplex R	FF-03	Bedroom 3	1.0	3.78	Yes
Duplex R	FF-04	Living Room	1.5	6.16	Yes
Duplex R	FF-04	Kitchen	2.0	9.97	Yes
Duplex R	FF-04	Bedroom 1	1.0	3.81	Yes
Duplex R	FF-04	Bedroom 2	1.0	6.78	Yes
Duplex R	FF-04	Bedroom 3	1.0	3.69	Yes

Table 24 – Duplex Block R ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex S	GF-01	Kitchen/Living	2.0	5.62	Yes
Duplex S	GF-01	Bedroom 1	1.0	4.43	Yes
Duplex S	GF-01	Bedroom 2	1.0	4.98	Yes
Duplex S	GF-01	Bedroom 3	1.0	3.92	Yes
Duplex S	GF-02	Kitchen/Living	2.0	4.96	Yes

Duplex S	GF-02	Bedroom 1	1.0	4.07	Yes
Duplex S	GF-02	Bedroom 2	1.0	4.96	Yes
Duplex S	GF-02	Bedroom 3	1.0	4.27	Yes
Duplex S	GF-03	Kitchen/Living	2.0	8.48	Yes
Duplex S	GF-03	Bedroom 1	1.0	4.80	Yes
Duplex S	GF-03	Bedroom 2	1.0	8.27	Yes
Duplex S	SF-01	Bedroom 1	1.0	5.11	Yes
Duplex S	SF-01	Kitchen/Living	2.0	9.87	Yes
Duplex S	SF-02	Kitchen/Living	2.0	9.10	Yes
Duplex S	SF-02	Bedroom 1	1.0	4.48	Yes
Duplex S	SF-02	Bedroom 2	1.0	5.24	Yes

Table 25 – Duplex Block S ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex T	GF-01	Kitchen/Living	2.0	5.62	Yes
Duplex T	GF-01	Bedroom 1	1.0	4.43	Yes
Duplex T	GF-01	Bedroom 2	1.0	4.98	Yes
Duplex T	GF-01	Bedroom 3	1.0	3.92	Yes
Duplex T	GF-02	Kitchen/Living	2.0	4.96	Yes
Duplex T	GF-02	Bedroom 1	1.0	4.07	Yes
Duplex T	GF-02	Bedroom 2	1.0	4.96	Yes
Duplex T	GF-02	Bedroom 3	1.0	4.27	Yes
Duplex T	GF-03	Kitchen/Living	2.0	8.48	Yes
Duplex T	GF-03	Bedroom 1	1.0	4.80	Yes
Duplex T	GF-03	Bedroom 2	1.0	8.27	Yes
Duplex T	SF-01	Bedroom 1	1.0	5.11	Yes
Duplex T	SF-01	Kitchen/Living	2.0	9.87	Yes
Duplex T	SF-02	Kitchen/Living	2.0	9.10	Yes
Duplex T	SF-02	Bedroom 1	1.0	4.48	Yes
Duplex T	SF-02	Bedroom 2	1.0	5.24	Yes

Table 26 – Duplex Block T ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex U	GF-01	Kitchen/Living	2.0	5.62	Yes
Duplex U	GF-01	Bedroom 1	1.0	4.43	Yes
Duplex U	GF-01	Bedroom 2	1.0	4.98	Yes

Duplex U	GF-01	Bedroom 3	1.0	3.92	Yes
Duplex U	GF-02	Kitchen/Living	2.0	4.96	Yes
Duplex U	GF-02	Bedroom 1	1.0	4.07	Yes
Duplex U	GF-02	Bedroom 2	1.0	4.96	Yes
Duplex U	GF-02	Bedroom 3	1.0	4.27	Yes
Duplex U	GF-03	Kitchen/Living	2.0	8.48	Yes
Duplex U	GF-03	Bedroom 1	1.0	4.80	Yes
Duplex U	GF-03	Bedroom 2	1.0	8.27	Yes
Duplex U	SF-01	Bedroom 1	1.0	5.11	Yes
Duplex U	SF-01	Kitchen/Living	2.0	9.87	Yes
Duplex U	SF-02	Kitchen/Living	2.0	9.10	Yes
Duplex U	SF-02	Bedroom 1	1.0	4.48	Yes
Duplex U	SF-02	Bedroom 2	1.0	5.24	Yes

Table 27 – Duplex Block U ADF Results

Block	Unit	Type	ADF Required (%)	ADF Results (%)	BRE Compliance
Duplex V	Apt 1	Kitchen/Living	2.0	4.88	Yes
Duplex V	Apt 1	Bedroom 1	1.0	3.15	Yes
Duplex V	Apt 1	Bedroom 2	1.0	9.06	Yes
Duplex V	Apt 3	Kitchen	2.0	5.24	Yes
Duplex V	Apt 3	Living	1.5	4.80	Yes
Duplex V	Apt 3	Bedroom 1	1.0	5.92	Yes
Duplex V	Apt 3	Bedroom 2	1.0	8.78	Yes
Duplex V	Apt 3	Bedroom 3	1.0	7.86	Yes
Duplex V	Apt 4	Kitchen	2.0	5.22	Yes
Duplex V	Apt 4	Living	1.5	4.82	Yes
Duplex V	Apt 4	Bedroom 1	1.0	6.11	Yes
Duplex V	Apt 4	Bedroom 2	1.0	8.73	Yes
Duplex V	Apt 4	Bedroom 3	1.0	7.91	Yes

Table 28 – Duplex Block V ADF Results

5. Sunlight on the Proposed Amenity Areas

BRE Guidelines recommend that for external amenity spaces to appear adequately sunlit throughout the year, at 50% of the garden or amenity space should receive a minimum two hours of sunlight on March 21st.

A sunlight study has been carried out using IES VE SunCast which is based on a model of the entire site, including all proposed building structures and the proposed communal amenity areas. The communal amenity areas and pocket parks are identified in Figure 17. The IES model and SunCast simulation was used to assess the sunlight that each of these communal amenity spaces will receive, the results of which are presented in Figures 18 – 31.

The high-resolution grid with 1m² sections to identify the direct sunlight hours for each proposed amenity space. The colour coding transitions from blue (0 hours) to red (12 hours) signifying varying hourly totals of direct sunlight for a particular 1m² section.

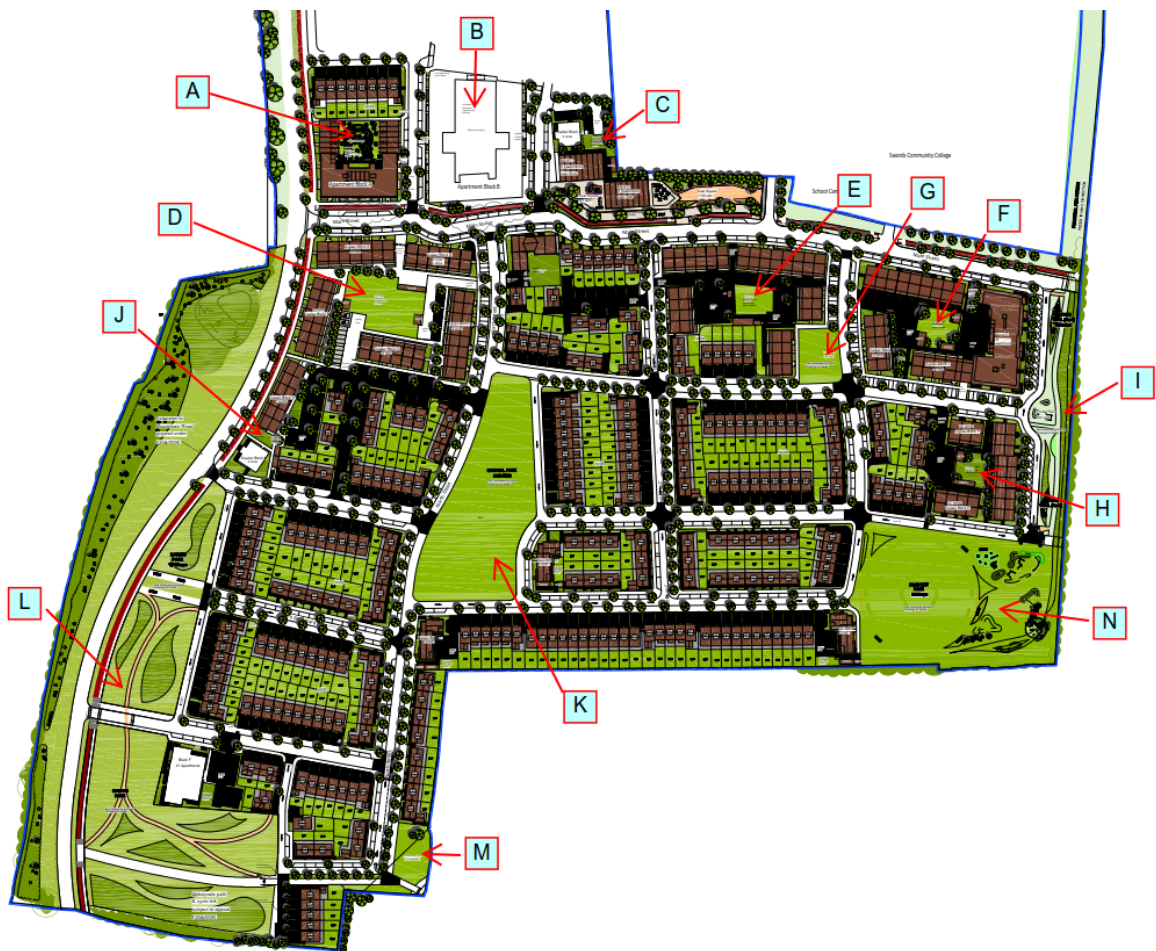


Figure 18 – Proposed Communal Amenity Spaces & Pocket Parks indicated in green and red with associated references

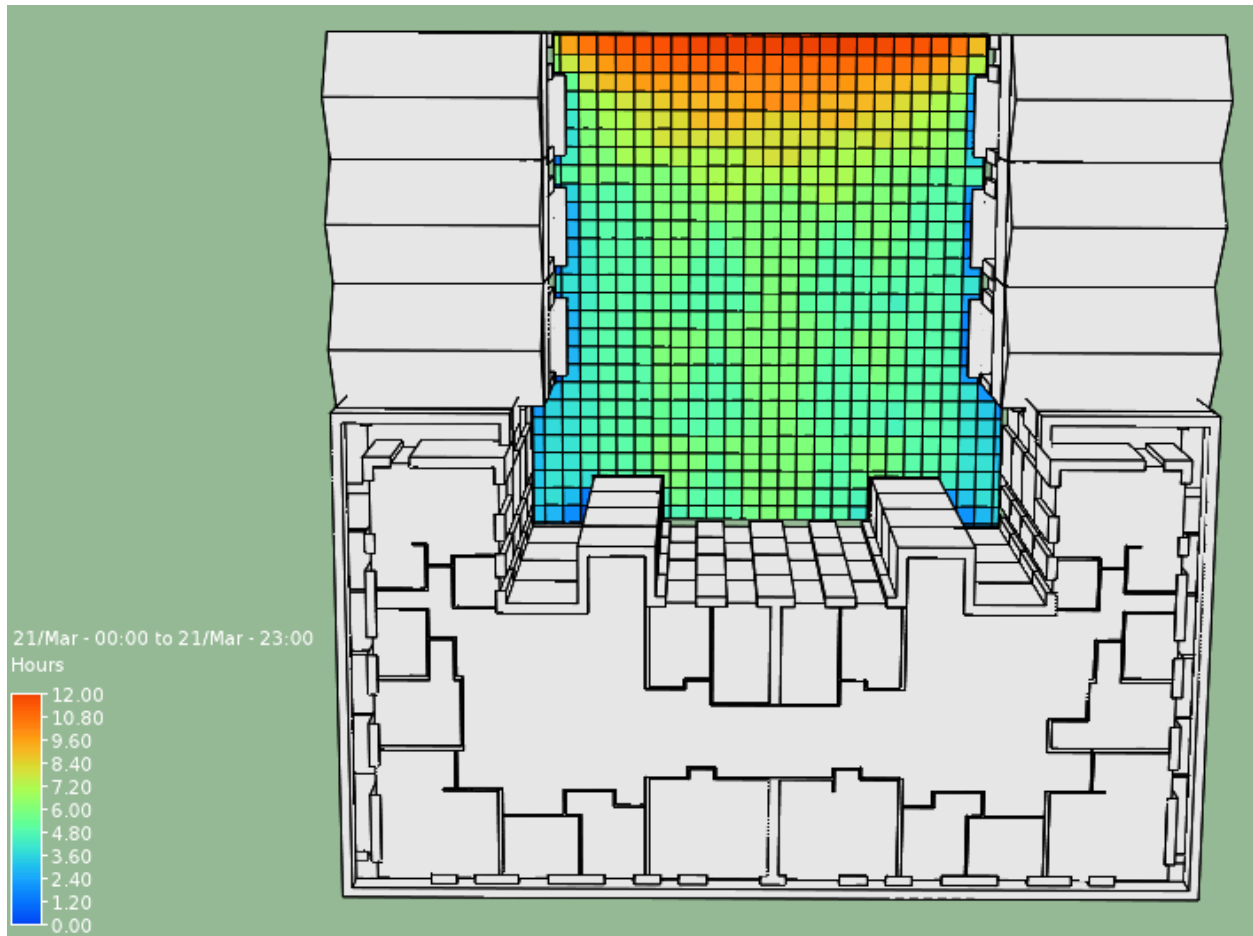


Figure 19 – Sunlight to Apartment Block A – Pocket Park (**A**) – More than 50% > 2 hours (Source IES VE SunCast)

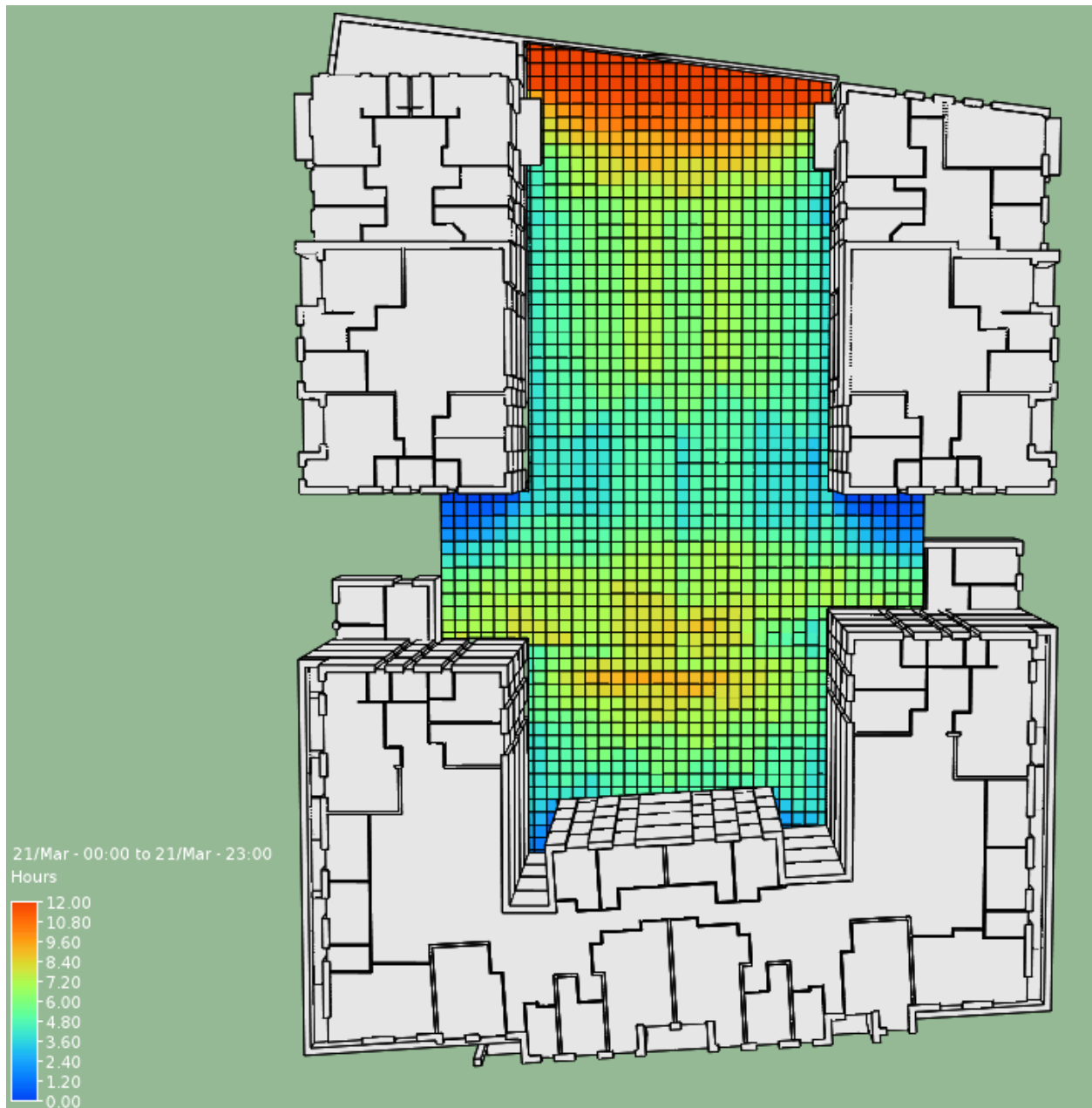


Figure 20 – Apartment Block B – Pocket Park (**B**) – More than 50% > 2 hours (Source IES VE SunCast)

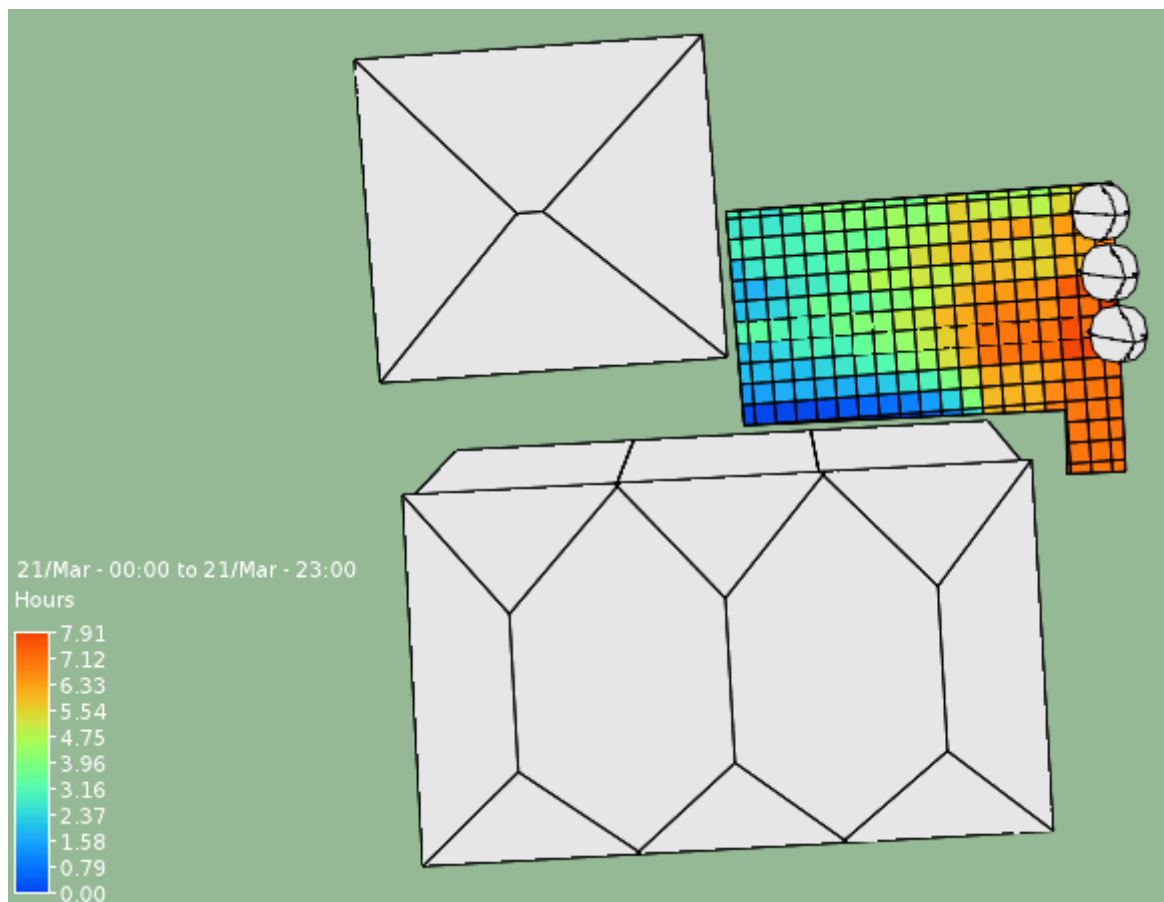


Figure 21 – Apartment Block C & Duplex Block N – Communal Space (C) – More than 50% > 2 hours
(Source IES VE SunCast)

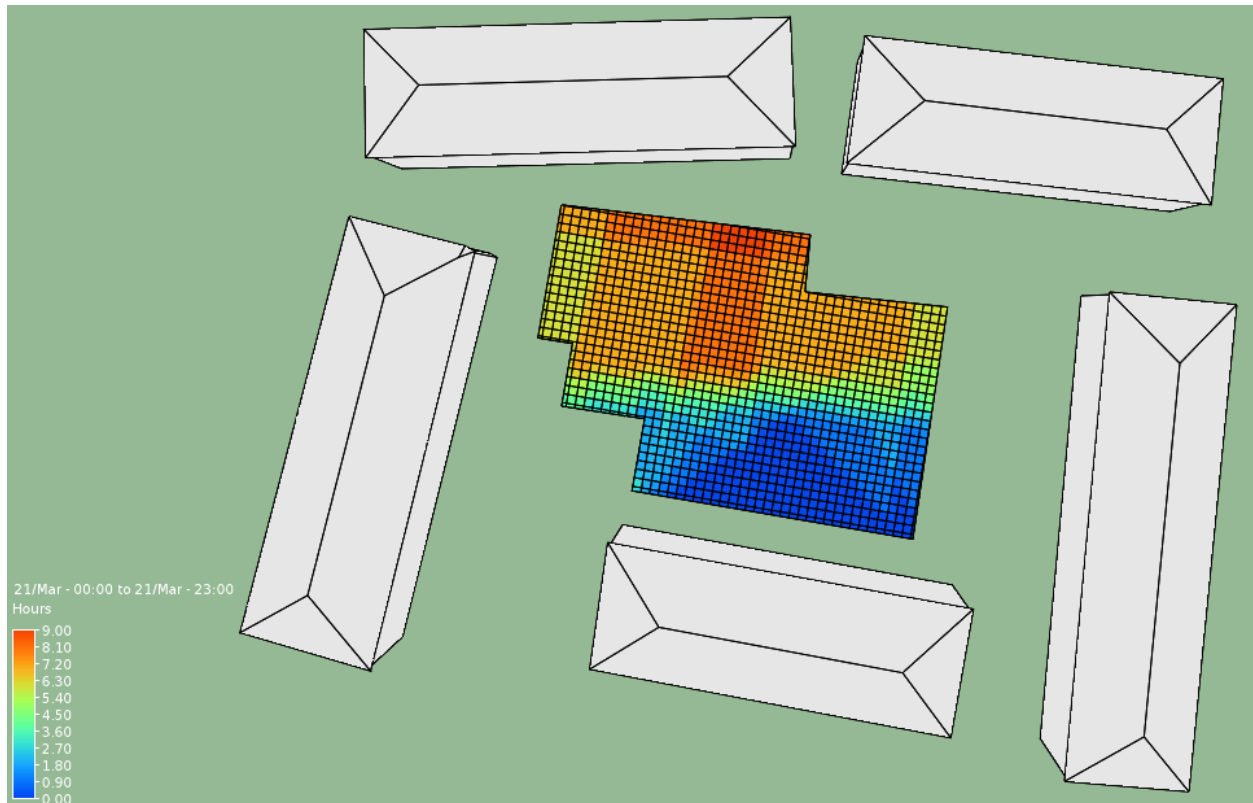


Figure 22 - Duplex Block A to E - Communal Space (**D**) – More than 50% > 2 hours (Source IES VE SunCast)

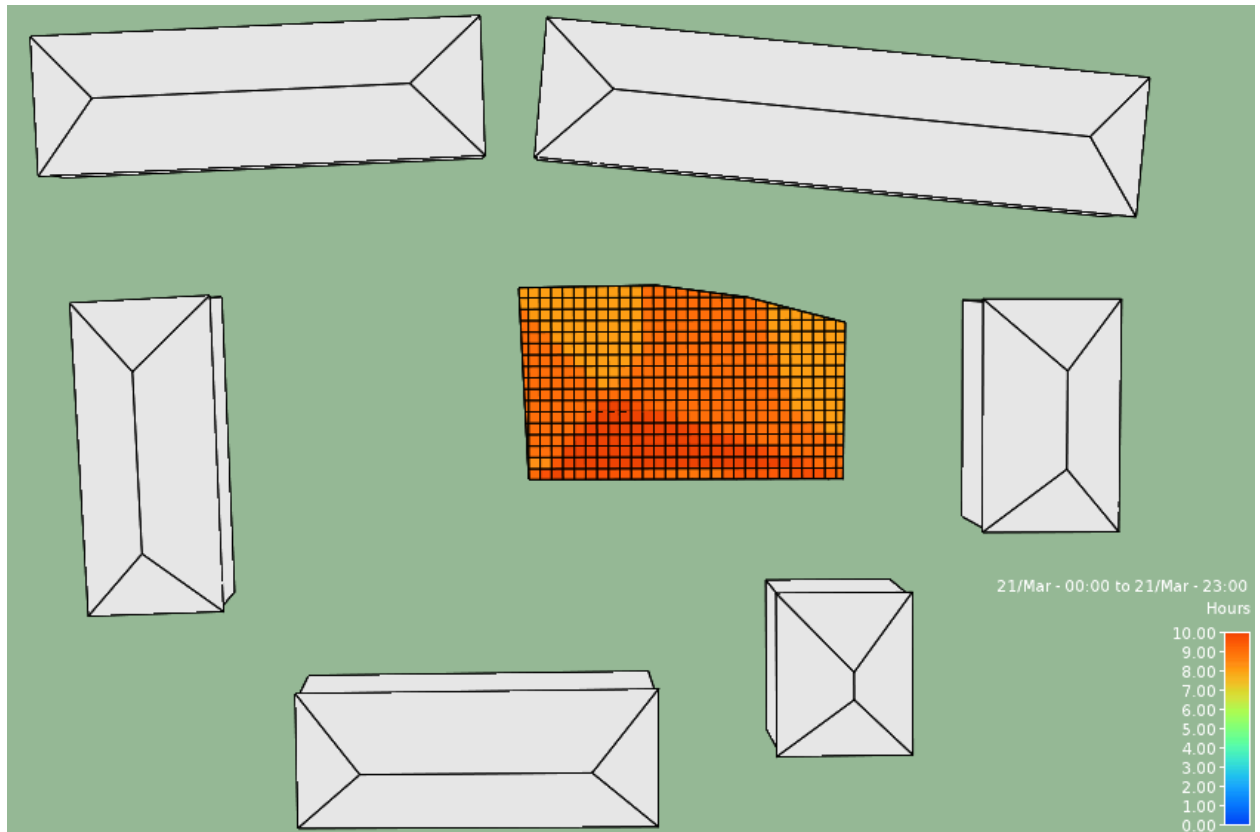


Figure 23 - Sunlight to Communal Space (E) – More than 50% > 2 hours (Source IES VE SunCast)

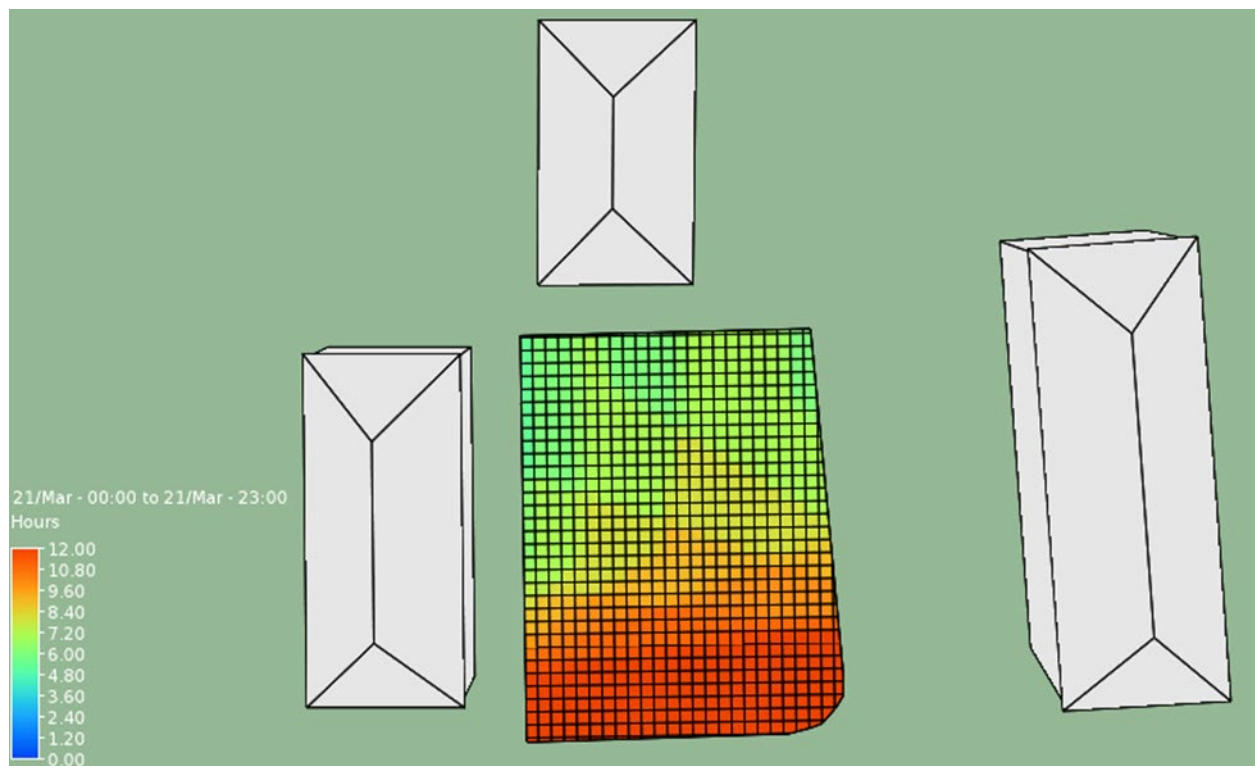


Figure 24 - Sunlight to Communal Space (**H**) – More than 50% > 2 hours (Source IES VE SunCast)

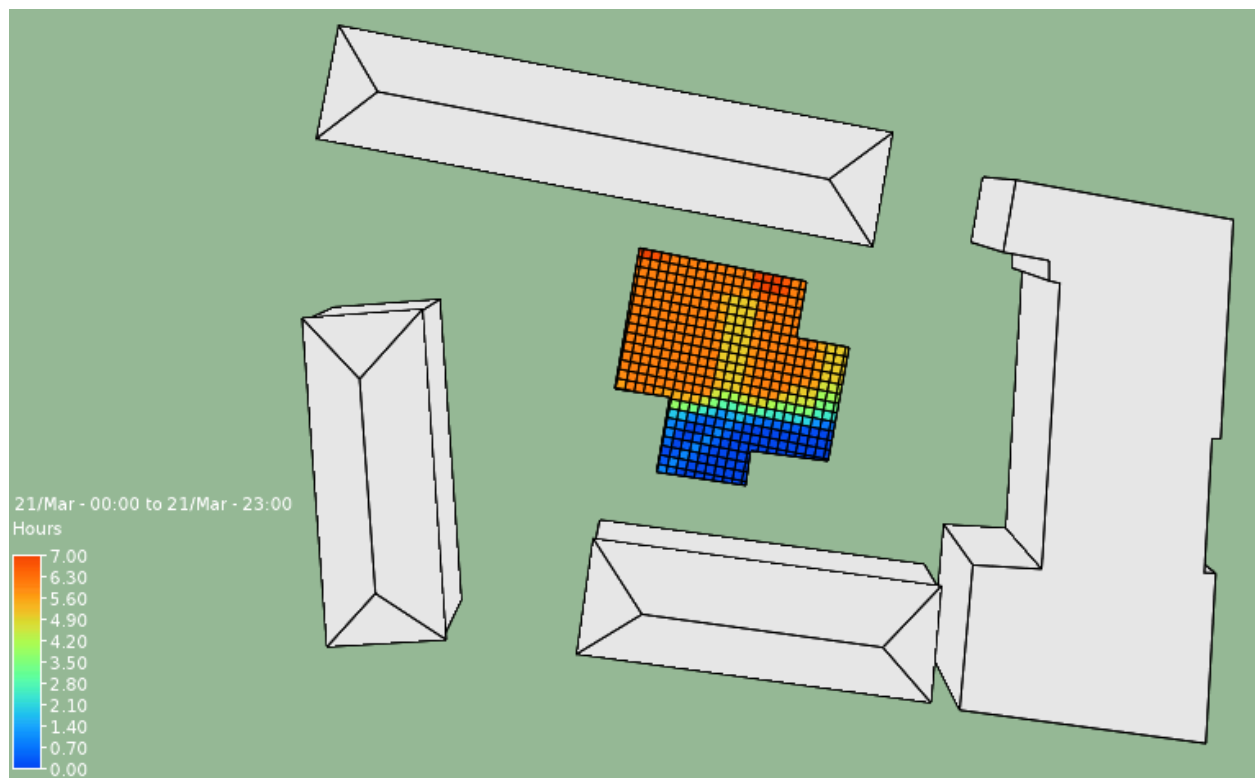


Figure 25 - Sunlight to Communal Space (G) – More than 50% > 2 hours (Source IES VE SunCast)

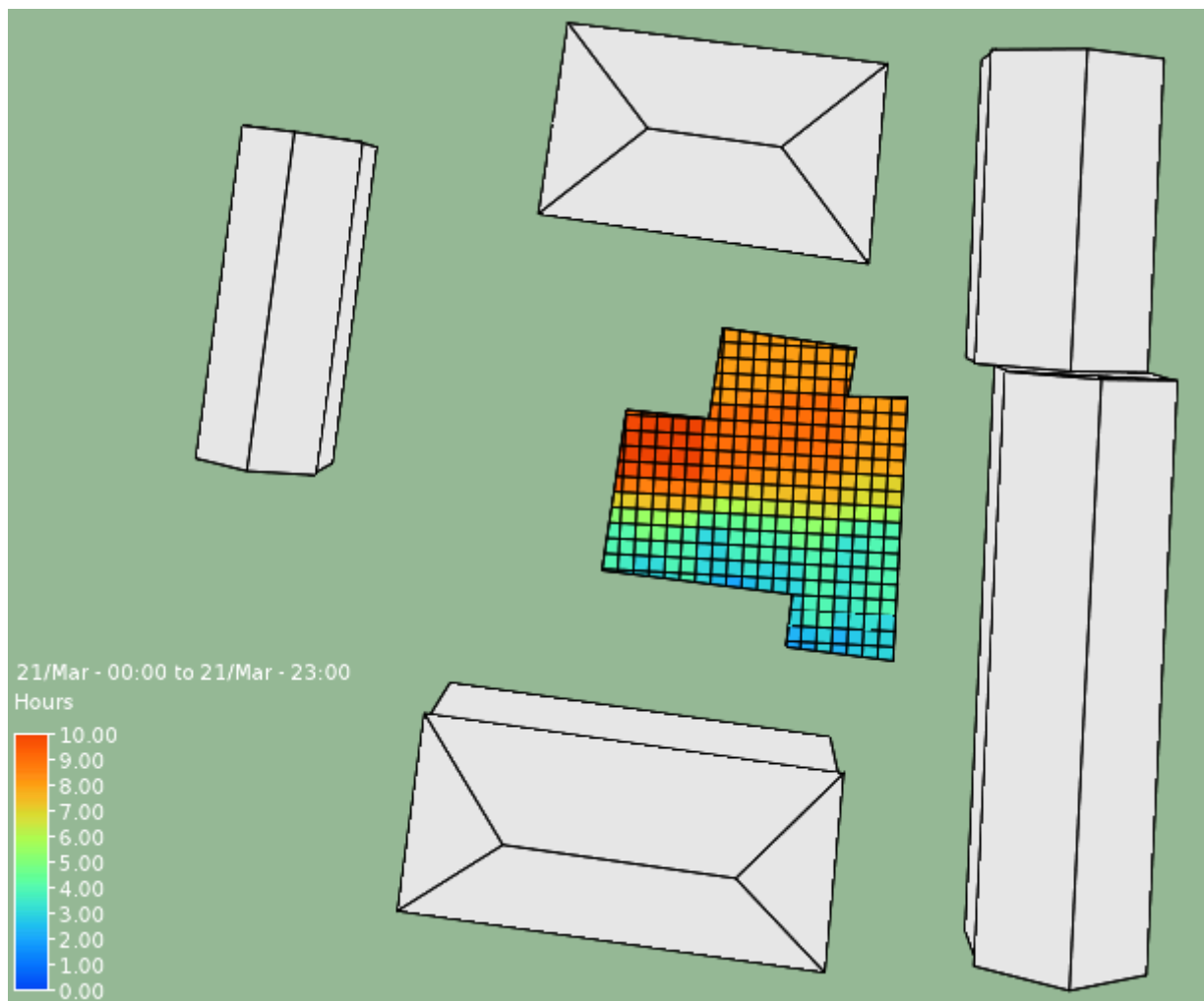


Figure 26 - Sunlight to Communal Space (**H**) – More than 50% > 2 hours (Source IES VE SunCast)



Figure 27 - Sunlight to Pocket Park (I) – More than 50% > 2 hours (Source IES VE SunCast)

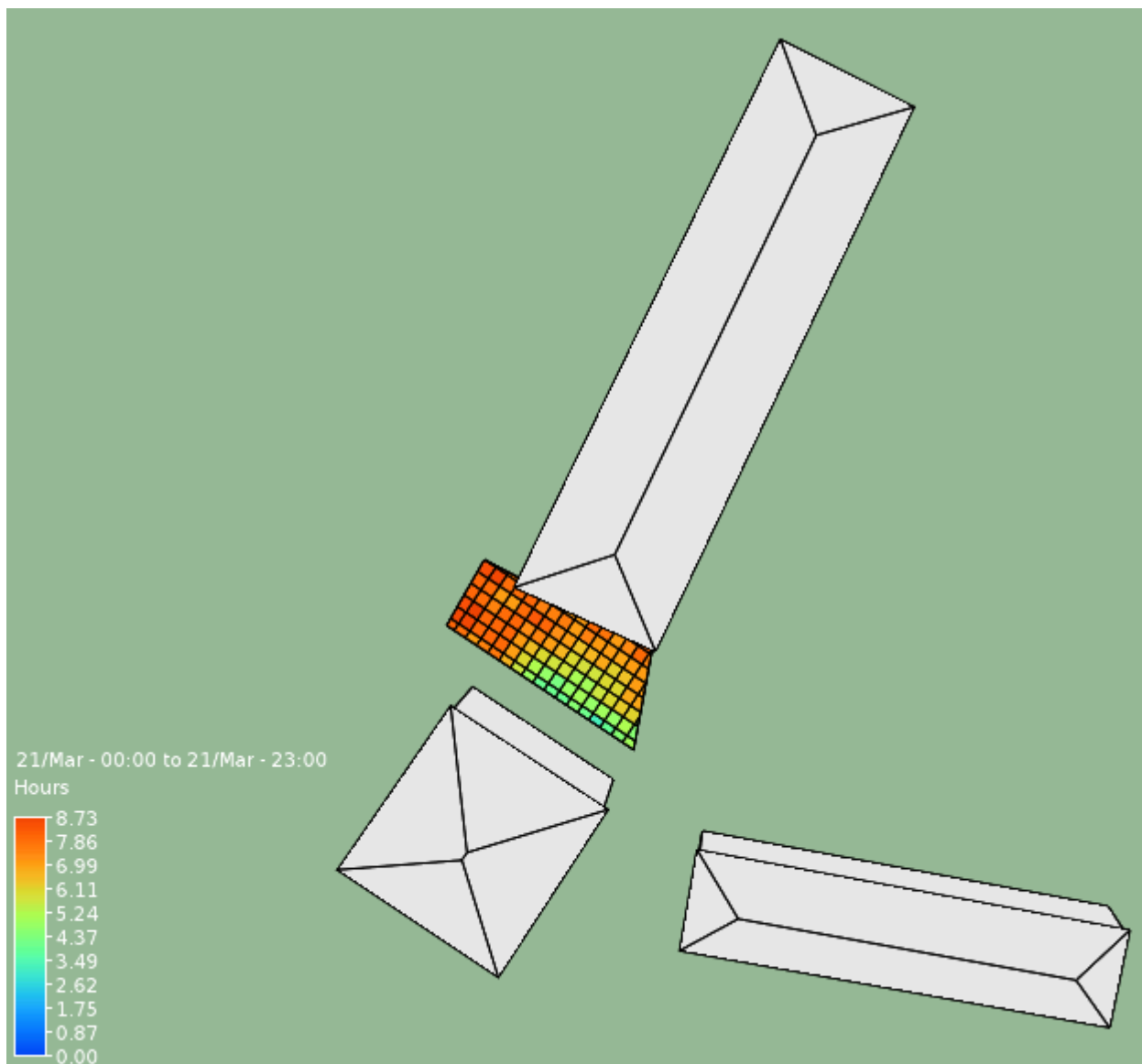


Figure 28 - Sunlight to Communal Open Space (J) – More than 50% > 2 hours (Source IES VE SunCast)



Figure 29 - Sunlight to Central Park (**K**) – More than 50% > 2 hours (Source IES VE SunCast)

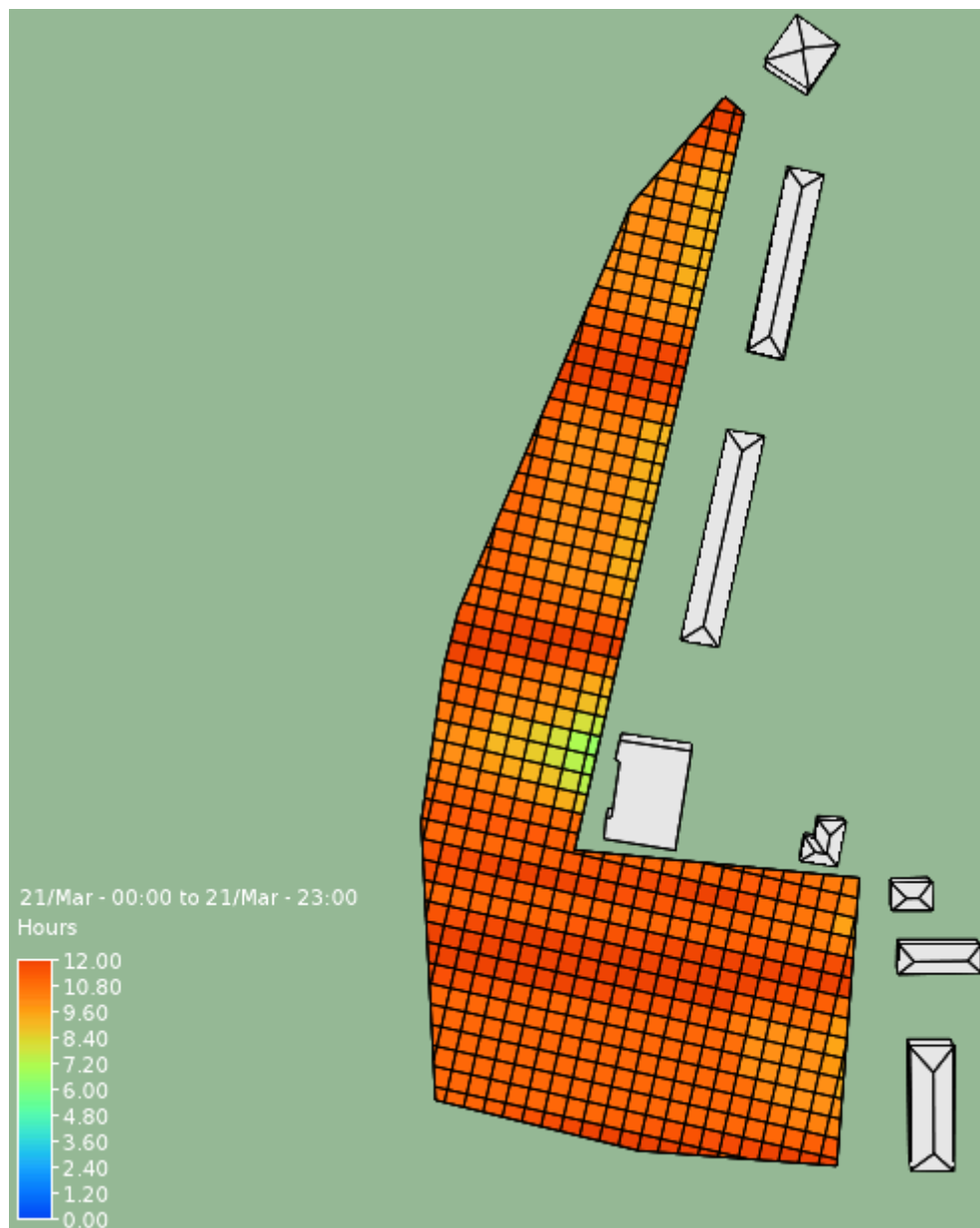


Figure 30 - Sunlight to Nature Park (L) – More than 50% > 2 hours (Source IES VE SunCast)

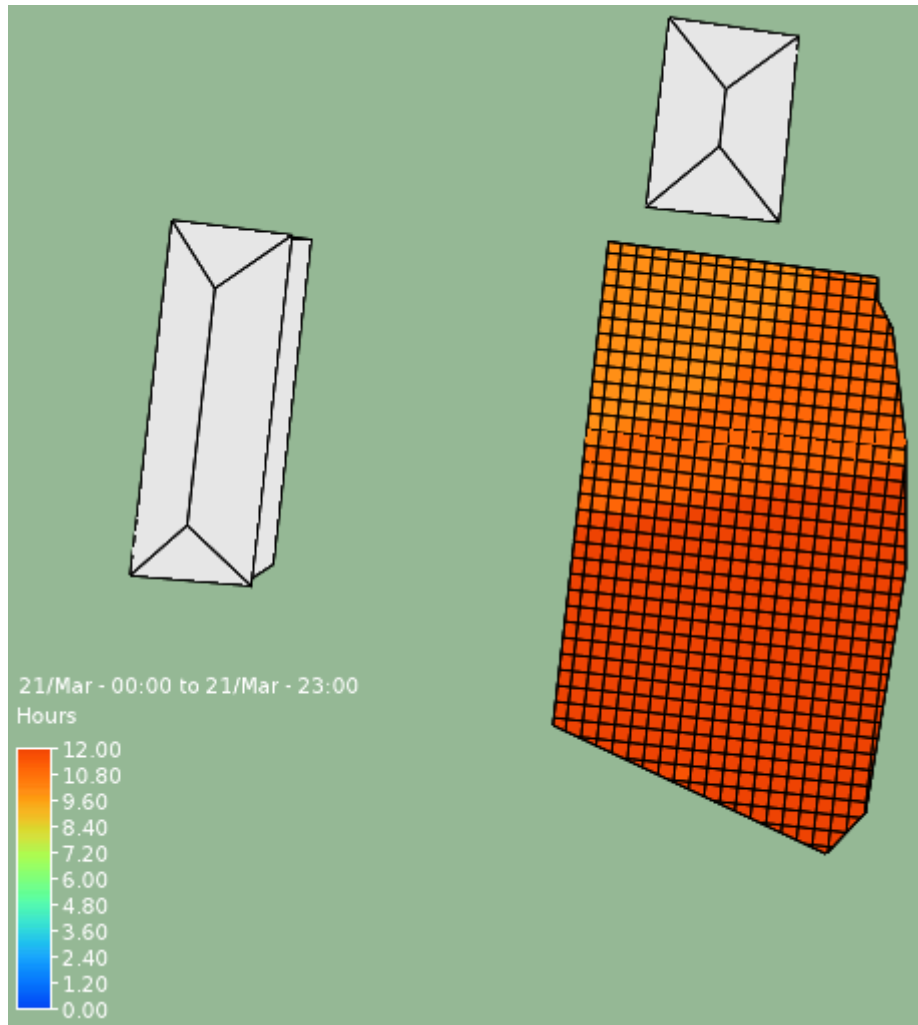


Figure 31 - Sunlight to Communal Space (**M**) on March 21st – More than 50% > 2 hours (Source IES VE IES VE SunCast)

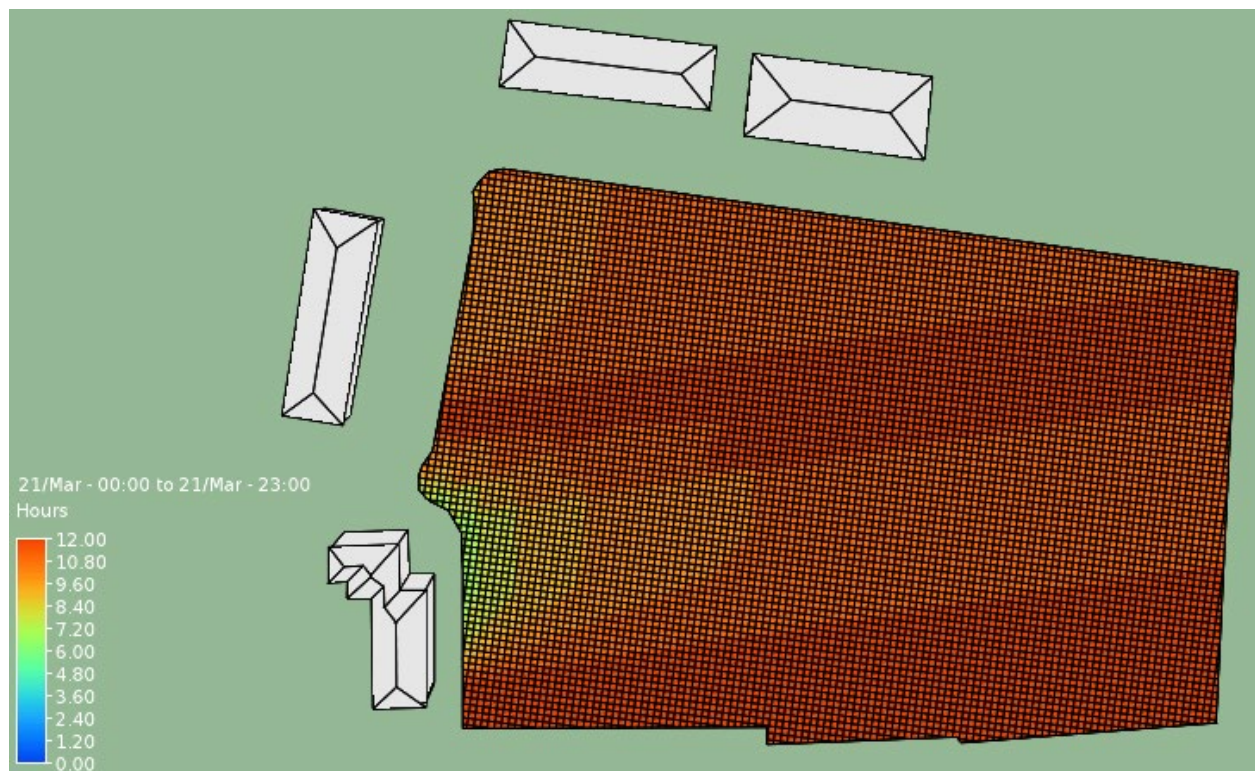


Figure 32 - Sunlight to Communal Space (N) on March 21st – More than 50% > 2 hours (Source IES VE SunCast)

6. Overshadowing on the Proposed Development

The overshadowing impact within the proposed development has been analysed.

6.1 Proposed Development

The overshadowing images illustrate the impact on the proposed development and adjacent existing dwellings during the Spring Equinox - March 21st (7am to 5pm), Summer Solstice – June 21st (6am to 7pm) and Winter Solstice - December 21st (8am to 4pm).



Figure 33 – Proposed Development Overview (Source IES VE model)



Figure 34 – Overshadowing image on March 21st at 7am (Source IES VE model)

21 Mar 08:00



Figure 35 –Overshadowing image on March 21st at 8am (Source IES VE model)

21 Mar 09:00



Figure 36 - Overshadowing image on March 21st at 9am (Source IES VE model)

21 Mar 10:00



Figure 37 – Overshadowing image on March 21st at 10am (Source IES VE model)

21 Mar 11:00



Figure 38 – Overshadowing image on March 21st at 11am (Source IES VE model)

21 Mar 12:00



Figure 39 – Overshadowing image on March 21st at 12pm (Source IES VE model)

21 Mar 13:00



Figure 40 – Overshadowing image on March 21st at 1pm (Source IES VE model)

21 Mar 14:00



Figure 41 – Overshadowing image on March 21st at 2pm (Source IES VE model)

21 Mar 15:00



Figure 42 – Overshadowing image on March 21st at 3pm (Source IES VE model)

21 Mar 16:00



Figure 43 – Overshadowing image on March 21st at 4pm (Source IES VE model)

21 Mar 17:00



Figure 44 – Overshadowing image on March 21st at 5pm (Source IES VE model)

21 Jun 06:00



Figure 45 – Overshadowing image on June 21st at 6am (Source IES VE model)

21 Jun 07:00



Figure 46 – Overshadowing image on June 21st at 7am (Source IES VE model)



Figure 47 – Overshadowing image on June 21st at 8am (Source IES VE model)



Figure 48 – Overshadowing image on June 21st at 9am (Source IES VE model)



Figure 49 - Overshadowing image on June 21st at 10am (Source IES VE model)



Figure 50 - Overshadowing image on June 21st at 11am (Source IES VE model)

21 Jun 12:00



Figure 51 - Overshadowing image on June 21st at 12pm (Source IES VE model)

21 Jun 13:00



Figure 52 - Overshadowing image on June 21st at 1pm (Source IES VE model)

21 Jun 14:00



Figure 53 - Overshadowing image on June 21st at 2pm (Source IES VE model)

21 Jun 15:00



Figure 54 - Overshadowing image on June 21st at 3pm (Source IES VE model)

21 Jun 16:00



Figure 55 - Overshadowing image on June 21st at 4pm (Source IES VE model)

21 Jun 17:00



Figure 56 - Overshadowing image on June 21st at 5pm (Source IES VE model)

21 Jun 18:00



Figure 57 - Overshadowing image on June 21st at 6pm (Source IES VE model)

21 Jun 19:00



Figure 58 - Overshadowing image on June 21st at 7pm (Source IES VE model)



Figure 59 - Overshadowing image on December 21st at 8am (Source IES VE model)



Figure 60 - Overshadowing image on December 21st at 9am (Source IES VE model)



Figure 61 - Overshadowing image on December 21st at 10am (Source IES VE model)



Figure 62 - Overshadowing image on December 21st at 11am (Source IES VE model)



Figure 63 - Overshadowing image on December 21st at 12pm (Source IES VE model)



Figure 64 - Overshadowing image on December 21st at 1pm (Source IES VE model)

21 Dec 14:00



Figure 65 - Overshadowing image on December 21st at 2pm (Source IES VE model)



Figure 66 - Overshadowing image on December 21st at 3pm (Source IES VE model)



Figure 67 - Overshadowing image on December 21st at 4pm (Source IES VE model)

7. Impact on Adjacent Existing Properties

The BRE guidance report suggests that analyses of the impact of new developments on existing adjacent properties should be considered. In order to assess the potential impacts of a new structure or structures the report identifies a number of conditions that can be assessed, to determine if further detailed numerical daylight analysis is required.

The guidance suggests that if either of the following criteria are met that the development can be deemed to have no discernible impact on the daylight levels of the existing building.

- If the distance of each part of the new development is three or more times greater than its height above the midpoint of the of a window in the existing property or
- If the angle from the horizontal between the mid pane of a window of the existing dwelling and the highest point of the new structure is less than 25 degrees



Figure 68 - Proximity of the proposed development to existing properties

Due to the general low-rise nature of the proposed housing units and duplex block U to the southern boundary of the subject site, the impact on these surrounding existing dwellings is expected to be minimal. Section 7.2 and 7.3 assess the potential impacts of the subject site on the dwellings along Abbeyvale Grove and Berwick Grove with the worst-case scenarios modelled as indicated in Figure 68.

7.1 Vertical Sky Component (VSC)

The VSC assessment for each existing dwelling and the impact of the proposed development was carried out. All selected windows (receptors) show compliance with the VSC method by achieving $\geq 80\%$ of its former value, therefore no further impact will be perceived over the permitted development.

Note: Glazing geometry to the rear of the existing dwelling were assumed for the purpose generating the results indicated below.

Existing Dwelling	IES Receptor Index Reference	VSC of Receptor		Impact of Proposed development on baseline VSC (Target <20%)	Meets BRE Guidelines
		Baseline	Proposed		
1	1	36.45%	35.87%	1.61%	Yes
	2	37.95%	36.61%	3.66%	Yes
2	3	38.82%	38.11%	1.86%	Yes
	4	37.90%	36.63%	3.46%	Yes
3	5	37.31%	35.45%	5.26%	Yes
	6	37.91%	35.09%	8.03%	Yes

Table 29 - Vertical Sky Component Results (Existing Properties)

7.2 Annual Probable Sunlight Hours (APSH)

The APSH assessment measures the impact of the proposed development may have existing adjacent dwellings. Table 30 identifies three existing dwellings along the southern boundary of the subject site and assessed the APSH prior to the development and the subsequent impact of the development.

If the existing dwellings receive more than 25% of APSH, including at least 5% of APSH in the winter months, then the dwelling is perceived to have adequate should sunlight.

The BRE Site Layout Planning for Daylight and Sunlight states “3.1.11 The BS 8206-2 criterion applies to rooms of all orientations, although if a room faces significantly north of due east of west it is unlikely to be met.”

When measuring the effect, a proposed development will have on the APSH of an existing window, the APSH value should not drop below the absolute values of 25% annually or winter 5% during winter months. If the available sunlight the available sunlight hours are both less than the annual and winter BRE guidelines and less than 0.8 times their former value then the occupants of the existing dwelling will notice a loss of sunlight or if the overall annual loss is greater than 4% of ASPH, the room may appear colder and less pleasant.

Property	IES Receptor	APSH of Receptor				Impact of Proposed Development on existing ASPH (Target <25%)		Impact of Proposed Development meet BRE Guidelines
		Annual APSH (Target >25%)		Winter APSH (Target <5%)				
		Baseline	Proposed	Baseline	Propose	Annual	Winter	
1	1	63.35%	62.75%	32.18%	32.02%	0.95%	0.49%	Yes
	2	62.34%	61.82%	31.98%	31.98%	0.84%	0.00%	Yes
2	3	60.31%	59.32%	31.43%	31.40%	1.66%	0.09%	Yes
	4	61.23%	60.13%	30.88%	30.52%	1.82%	1.18%	Yes
3	5	61.13%	58.97%	30.99%	30.68%	3.66%	1.01%	Yes
	6	62.09%	59.86	31.17%	30.85%	3.72%	1.03%	Yes

Table 30 - Annual Probable Sunlight Hours Results (Existing Properties)

8. Results & Conclusions

Average Daylight Factor – Proposed Development

The average daylight analysis for the proposed the development evaluated the living/kitchen/dining space and bedrooms across all apartment blocks A to F and duplex blocks A to V.

The results of the ADF analysis demonstrate the following:

- Combined living/kitchen/dining areas across the scheme demonstrate levels of daylight above the BRE recommended 2% average daylight factor with 100% of the kitchen/living/dining spaces achieving compliance.
- The living areas across the scheme demonstrate levels of daylight above the BRE recommended 1.5% average daylight factor with 100% of the kitchen/dining spaces achieving compliance
- The bedrooms across the entire scheme demonstrate levels of daylight above the BRE recommended 1% average daylight factor with 100% of the bedrooms achieving compliance.
- Overall, across the scheme, 100% of the spaces analysed demonstrate compliance with the BRE daylighting levels.

Sunlight to Proposed Communal Spaces & Pocket Parks

The results of the sunlight analysis to the communal amenity areas and pocket parks are as follows.

- The communal amenity areas demonstrate levels of sunlight above the recommend 2 hours over 50% of the area on the design test day 21st March. The communal amenity areas in blocks A and B were deemed to be the worst performing spaces due to communal area enclosure within each apartment block and due to shading on three sides, however these spaces are shown to be fully compliant with the BRE requirements of more than 50% sunlight > 2 hours on March 21st.
- All other communal amenity areas and pocket parks identified receive significantly more direct sunlight due to their positioning within the development and less obtrusive shading from surrounding apartment blocks.

Overshadowing impact on the proposed development

- The overshadowing analysis of the proposed properties illustrates the various shadows cast at four key dates (March 21st, June 21st and December 21st) and the impact the proposed development may have on these properties at particular times of the day illustrated in Figures 34 to 67.
- The overall shadowing analysis identifies negligible impact on the properties in the proposed development.

Impact on surrounding properties

The Visible Sky Component (VSC) and Annual Probable Sunlight Hours (APSH) analysis that was completed for three existing properties adjacent to the subject site demonstrate full compliance with the BRE guidance.

- The VSC analysis demonstrates that the proposed development has no significant daylight impact to existing adjacent dwellings.
- The APSH analysis demonstrates that the loss of sunlight will not be noticeable as both the annual and winter results (when the modelled with the proposed development included) will meet the recommended BRE Guidelines.

A. Appendix

Figures 69 to 91 below provide visual representations using IES VE Radiance of daylight factor mapping for kitchen/Living/Dining and bedrooms in Blocks A to F.

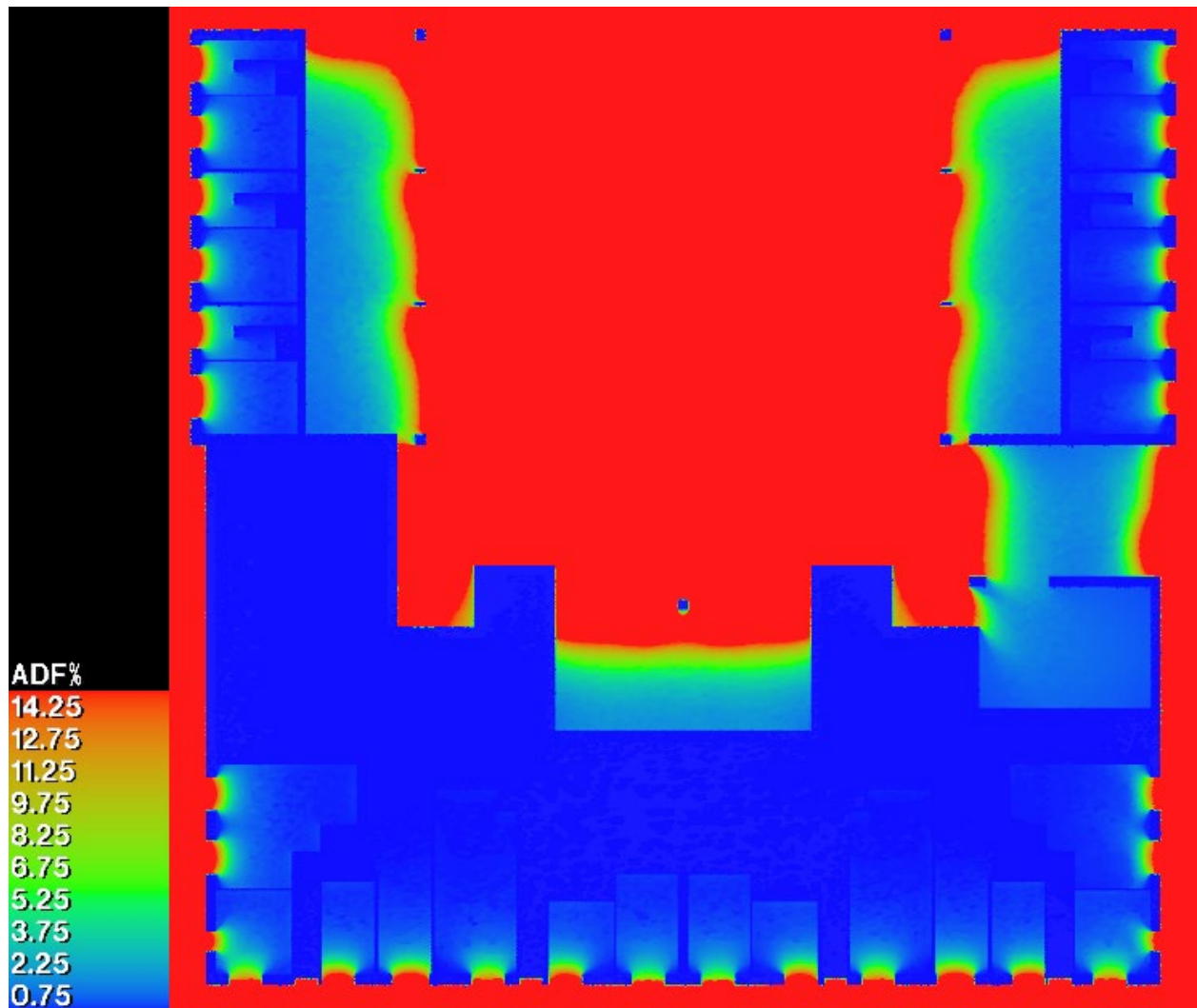


Figure 69 – Apartment Block (A) Ground Floor Daylight Factor Mapping

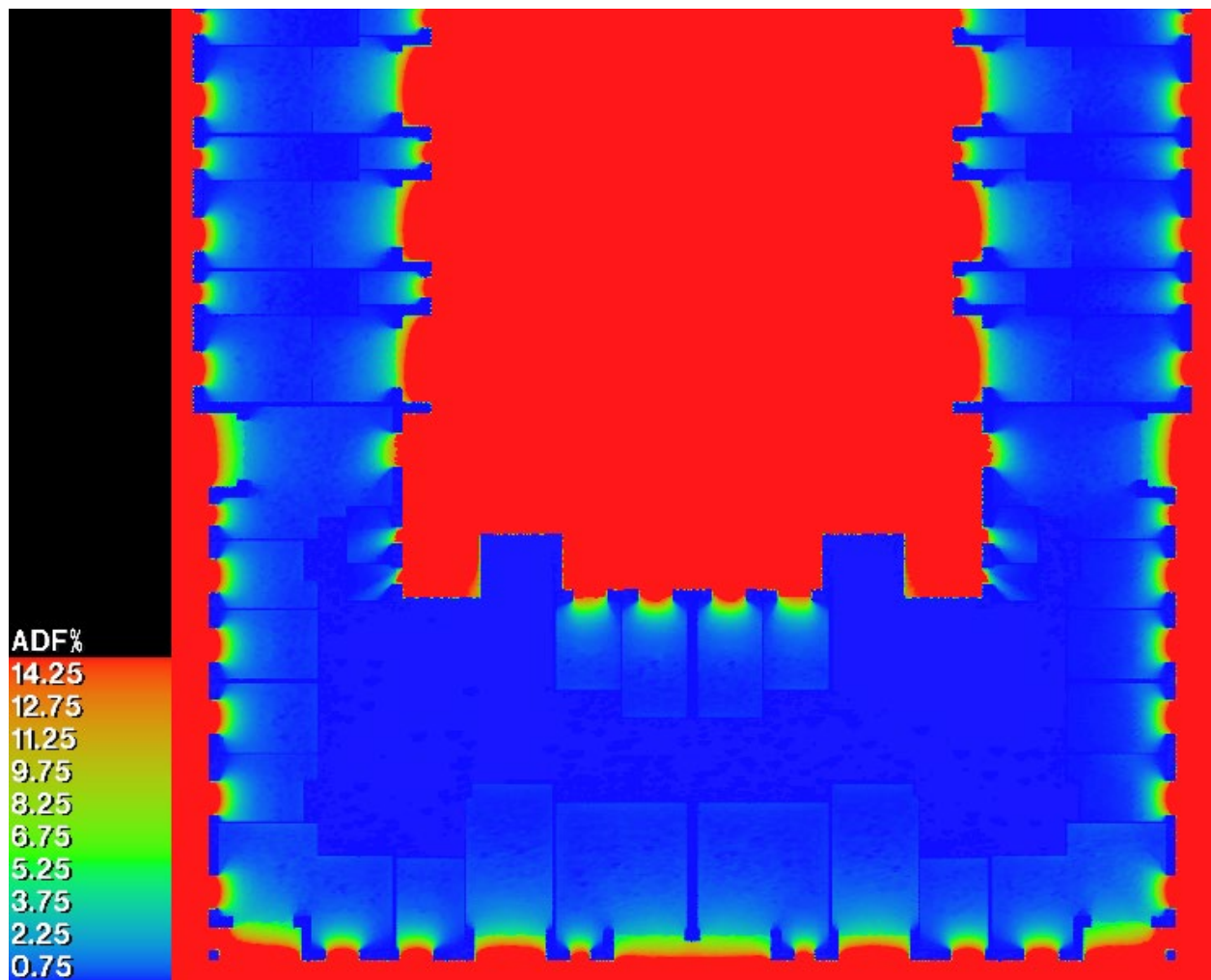


Figure 70 – Apartment Block (A) First Floor Daylight Factor Mapping

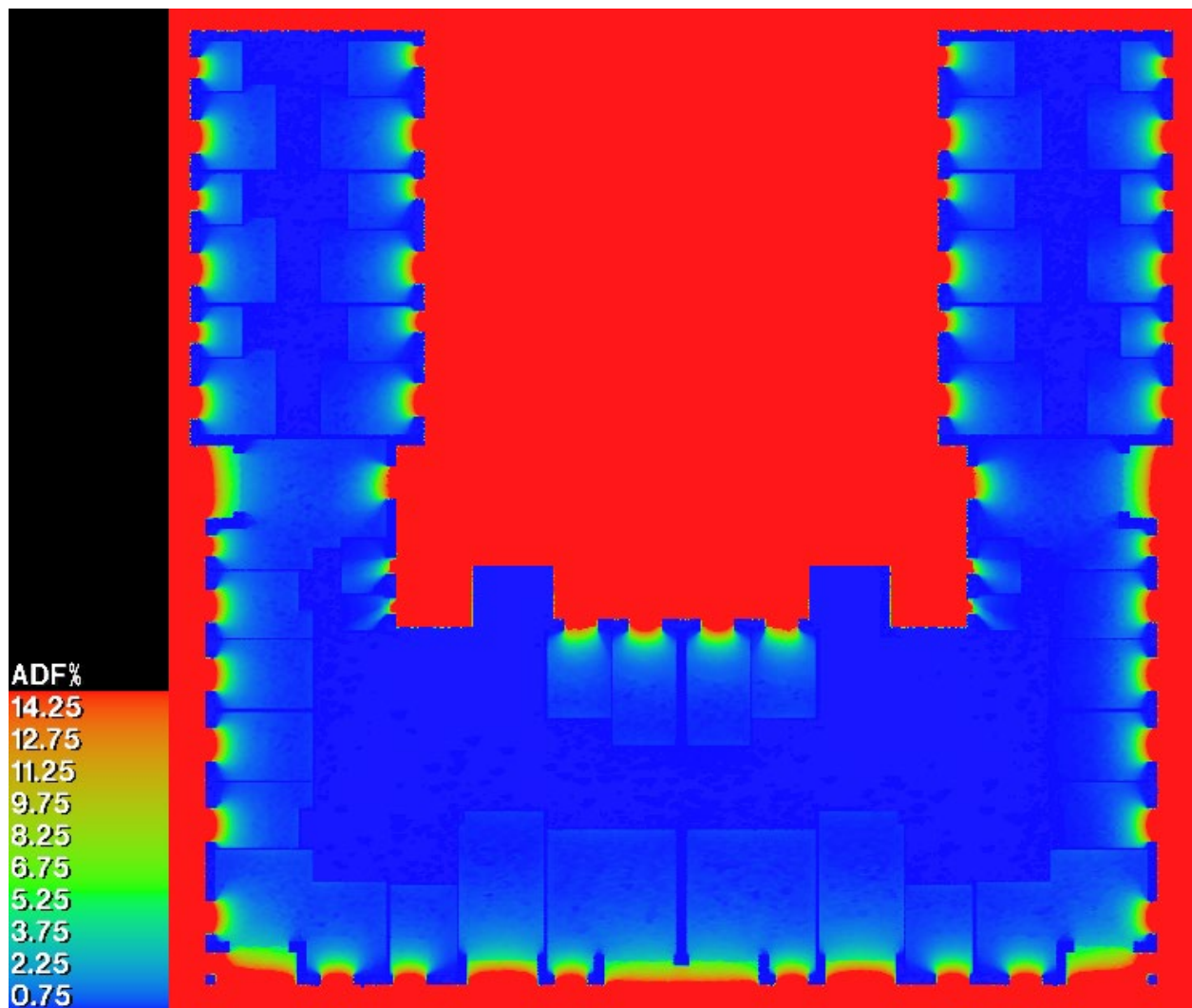


Figure 71 – Apartment Block (A) Second Floor Daylight Factor Mapping

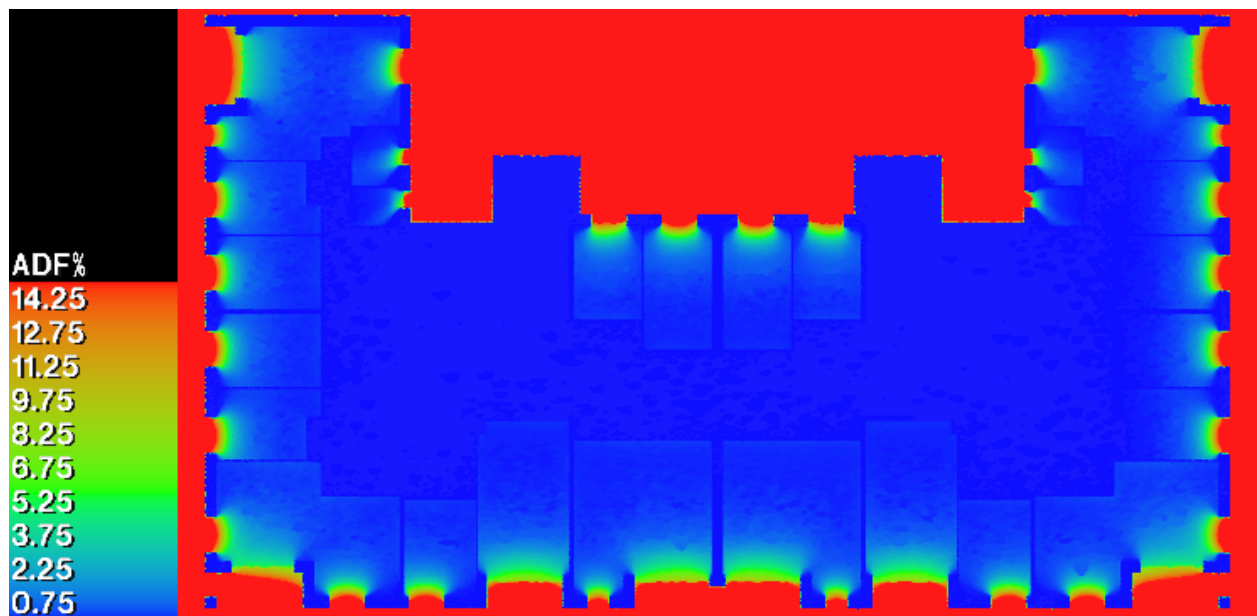


Figure 72 – Apartment Block (A) Third Floor Daylight Factor Mapping

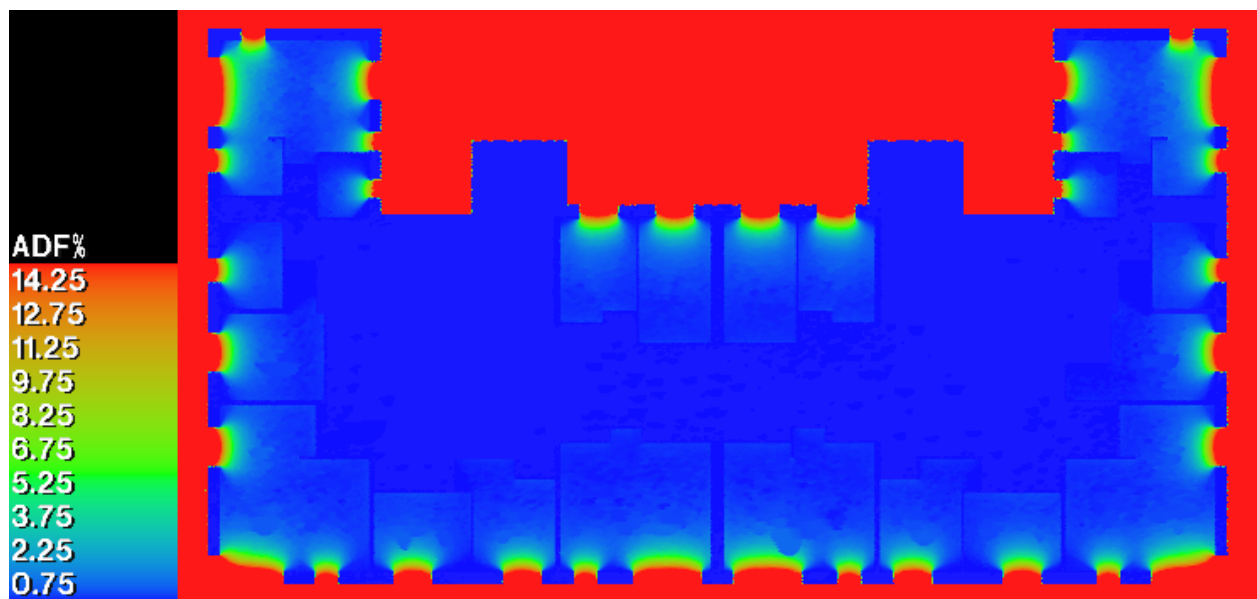


Figure 73 – Apartment Block (A) Penthouse Floor Daylight Factor Mapping

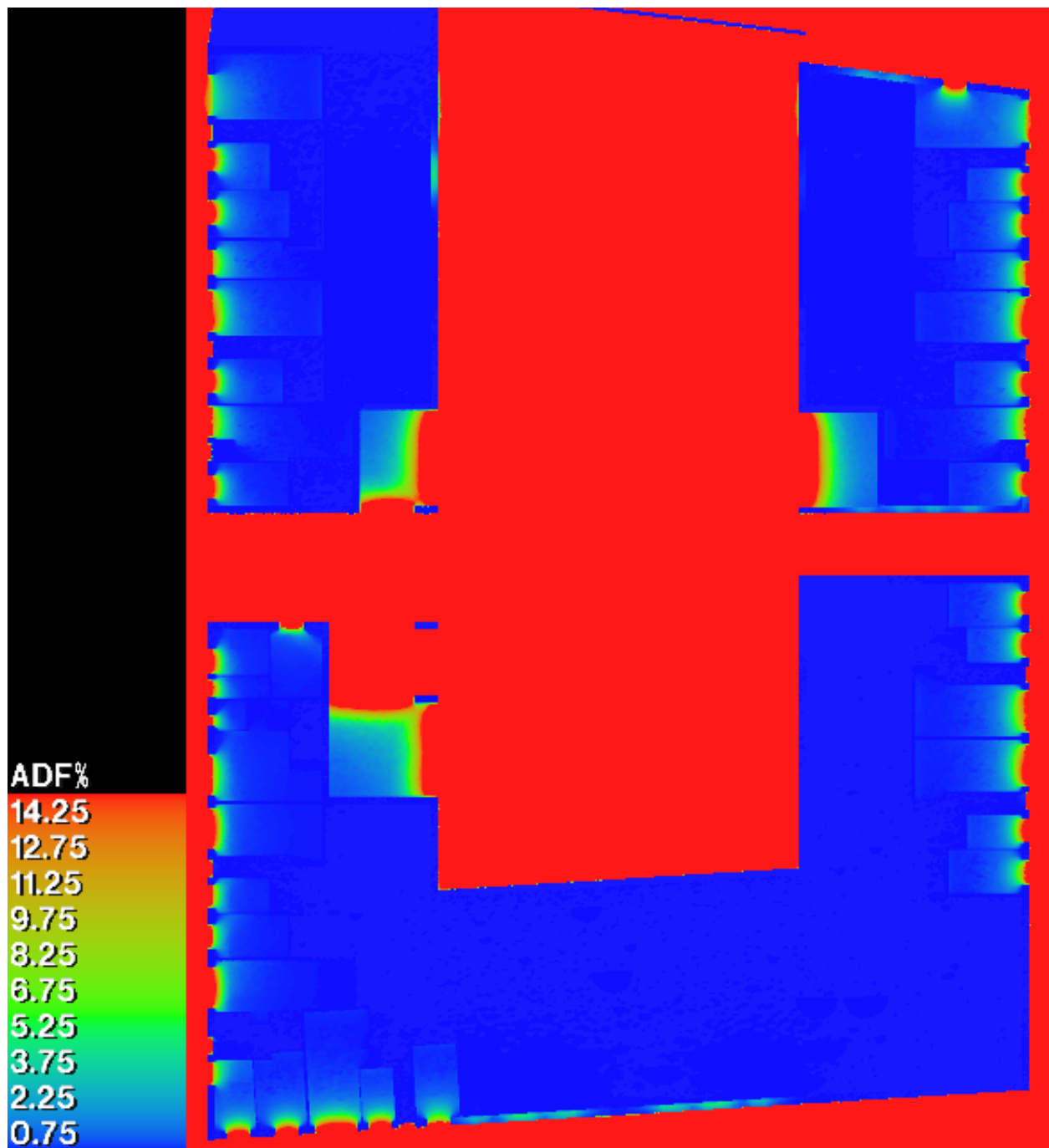


Figure 74 – Apartment Block (B) Ground Floor Daylight Factor Mapping

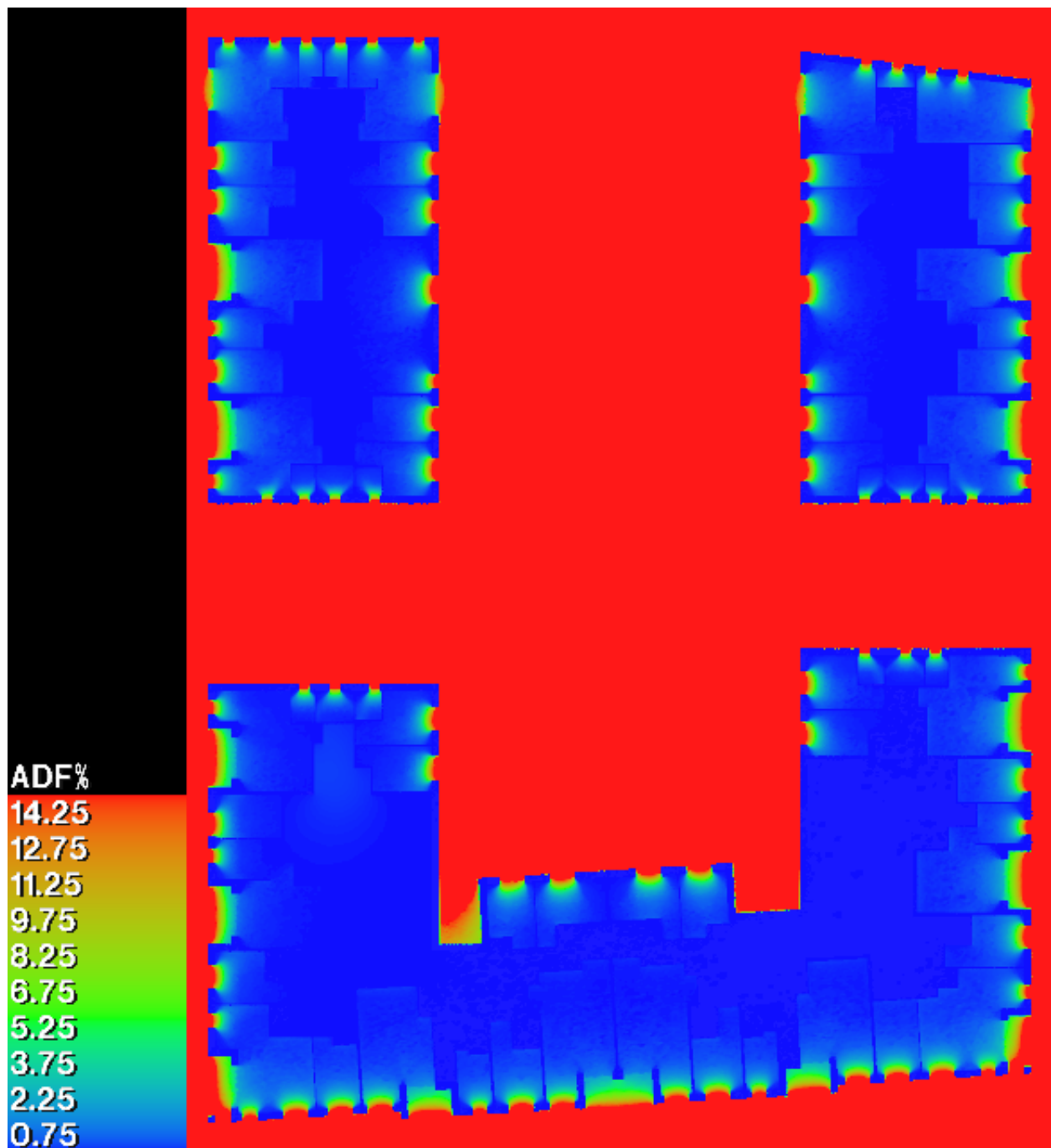


Figure 75 – Apartment Block (B) First Floor Daylight Factor Mapping

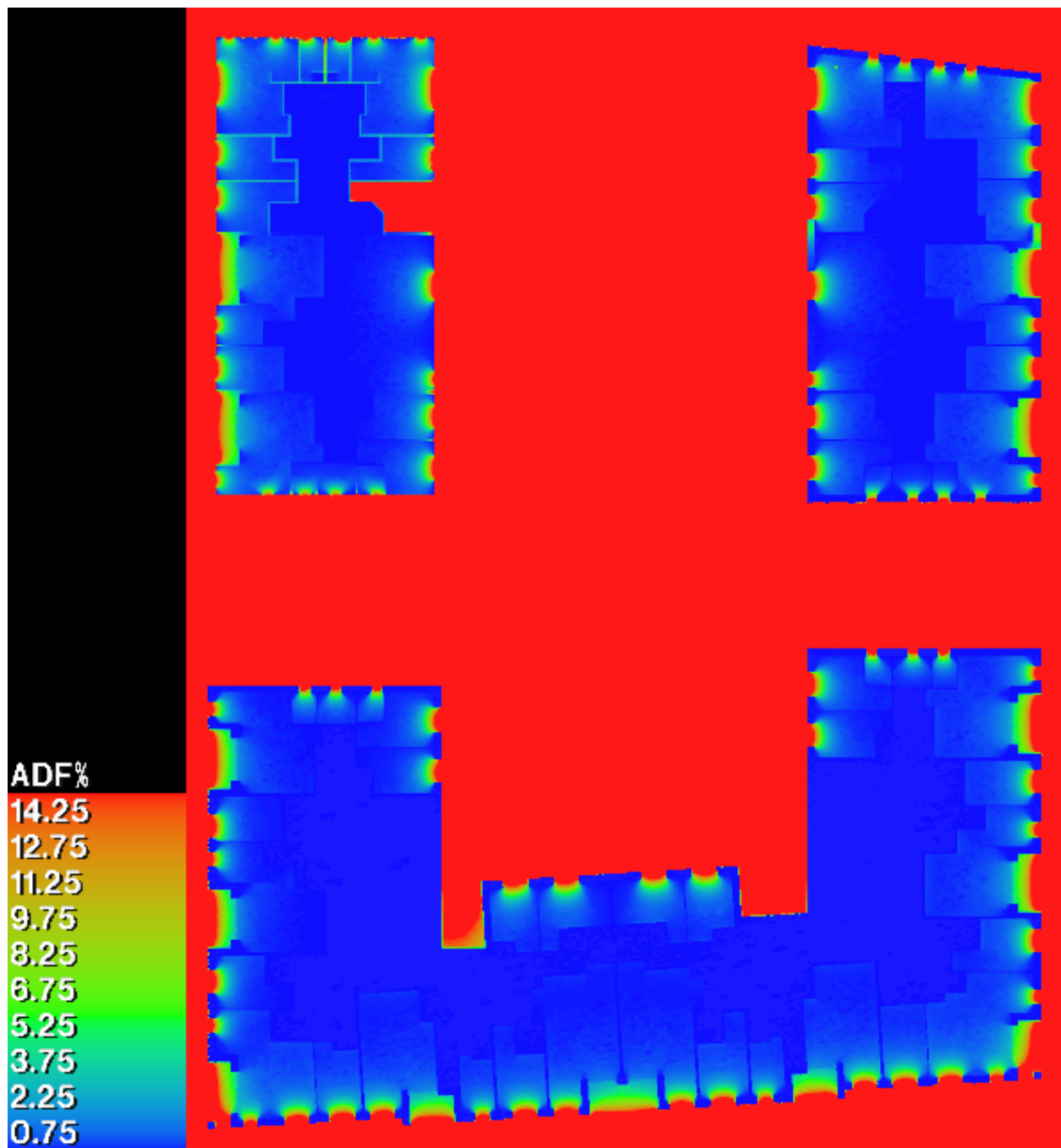


Figure 76 – Apartment Block (B) Second Floor Daylight Factor Mapping

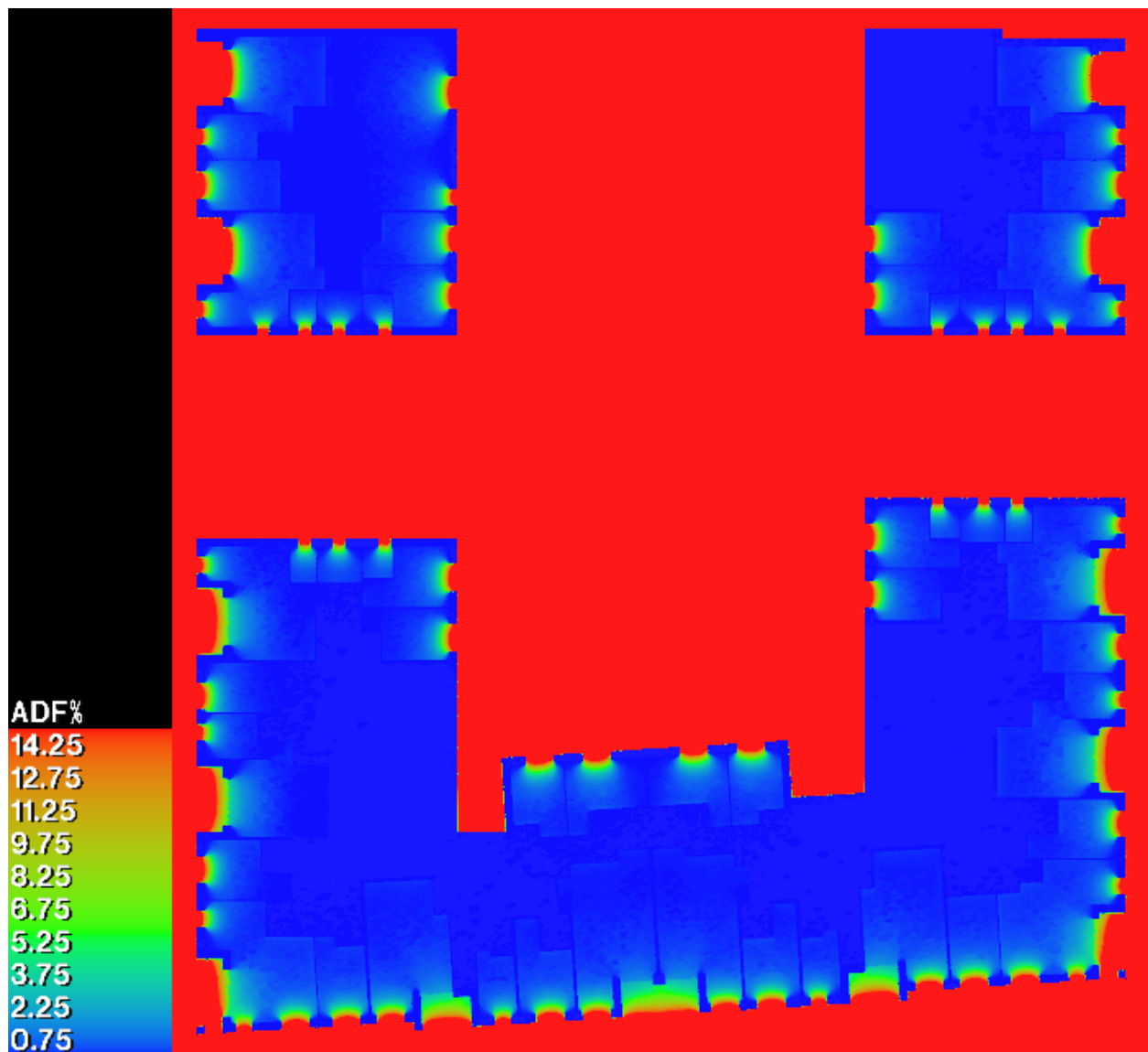


Figure 77 – Apartment Block (B) Third Floor Daylight Factor Mapping

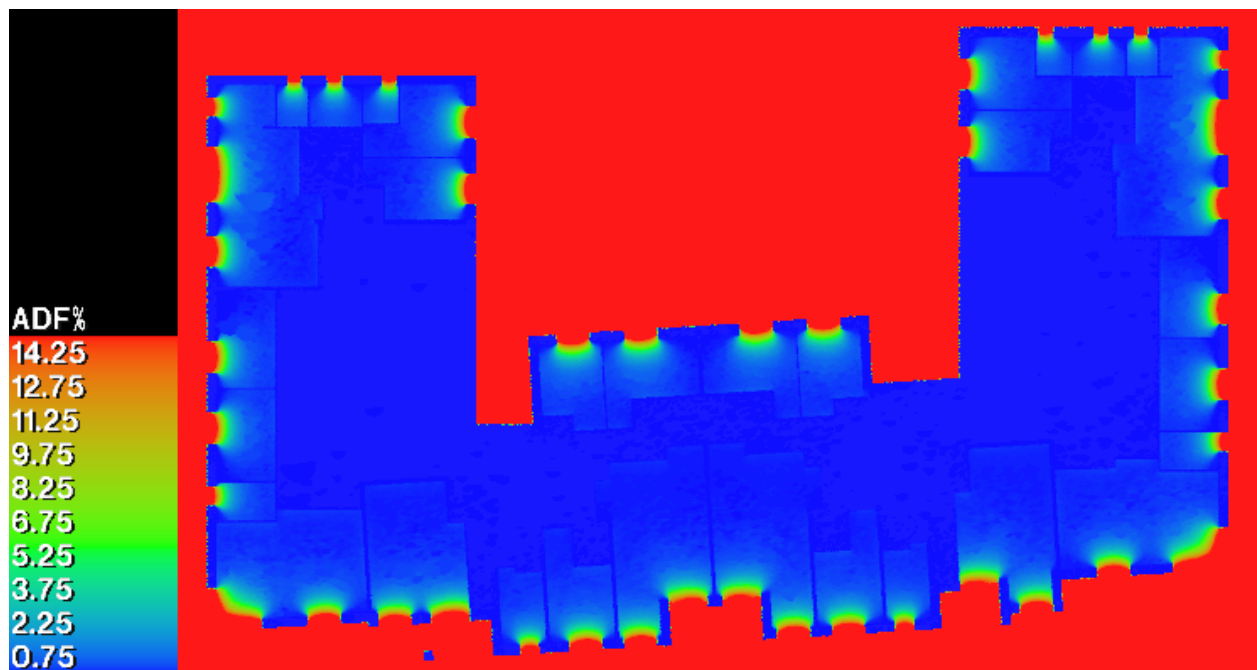


Figure 78 – Apartment Block (B) Penthouse Floor Daylight Factor Mapping

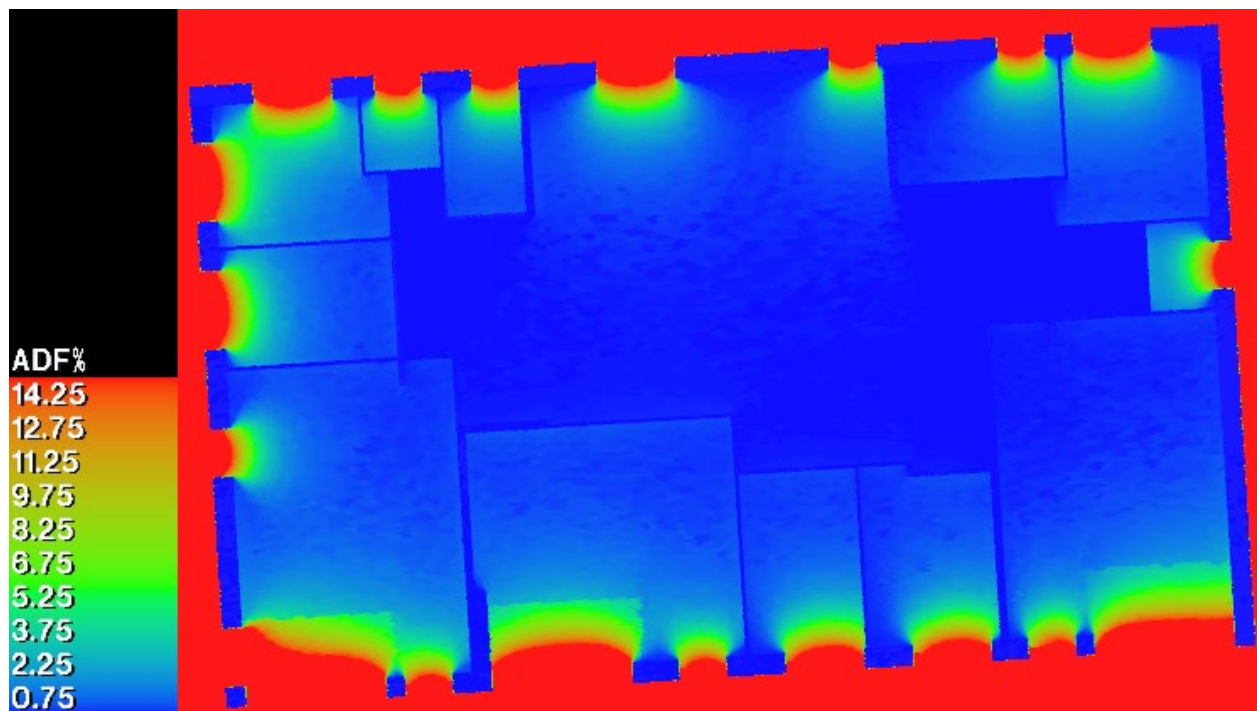


Figure 79 – Apartment Block (C) First Floor Daylight Factor Mapping

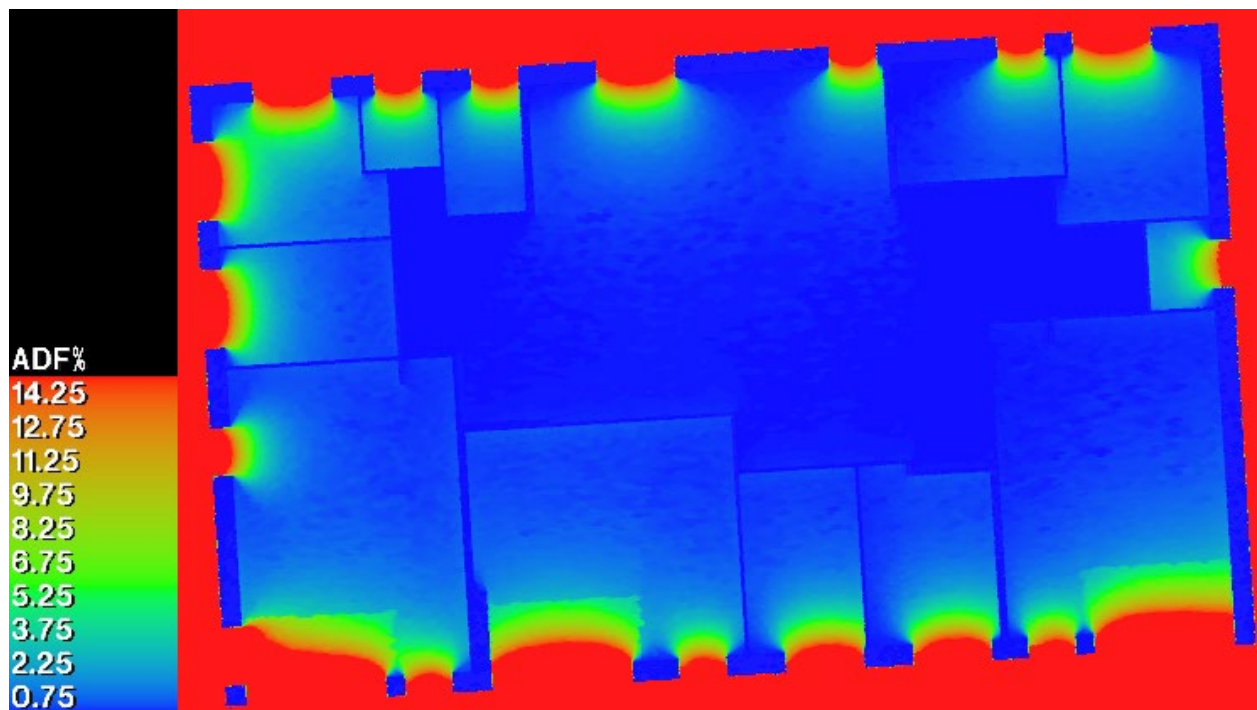


Figure 80 – *Apartment Block (C) Second Floor Daylight Factor Mapping*

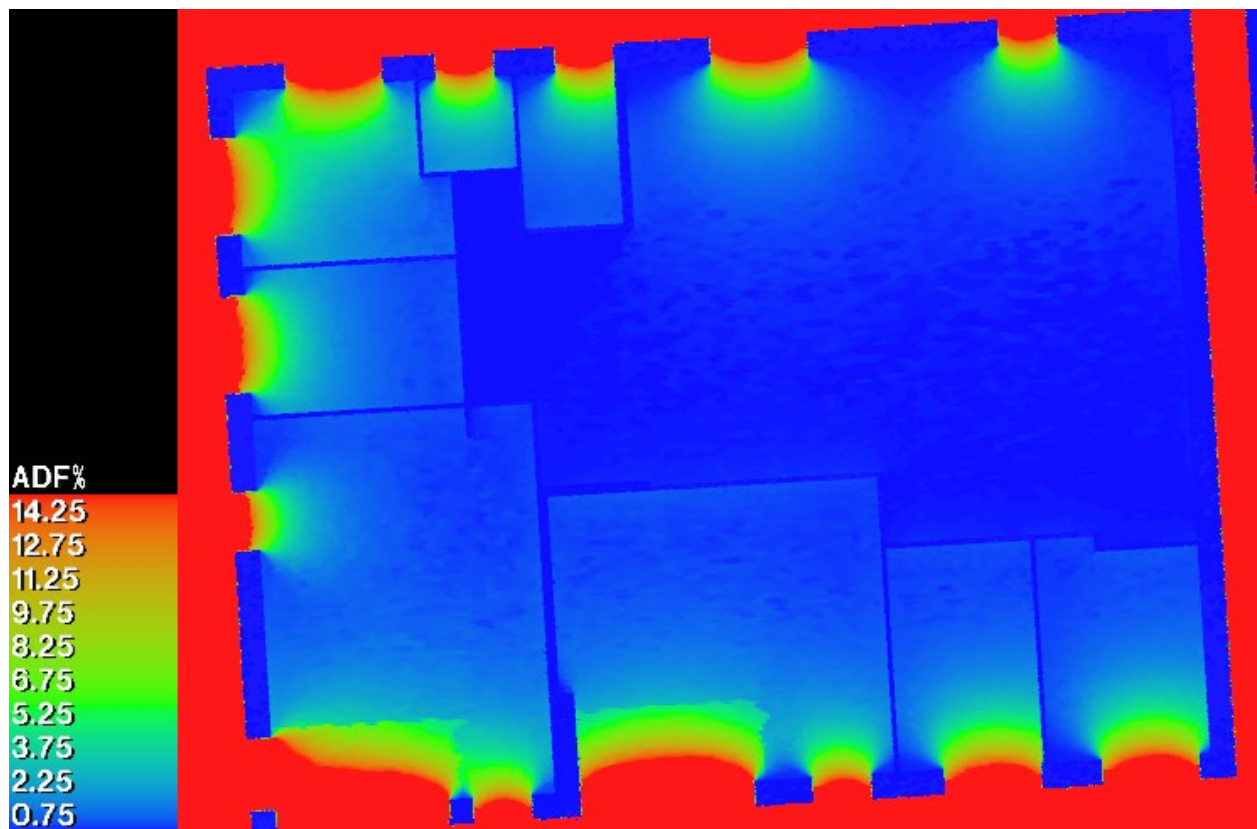


Figure 81 – Apartment Block (C) Third Floor Daylight Factor Mapping

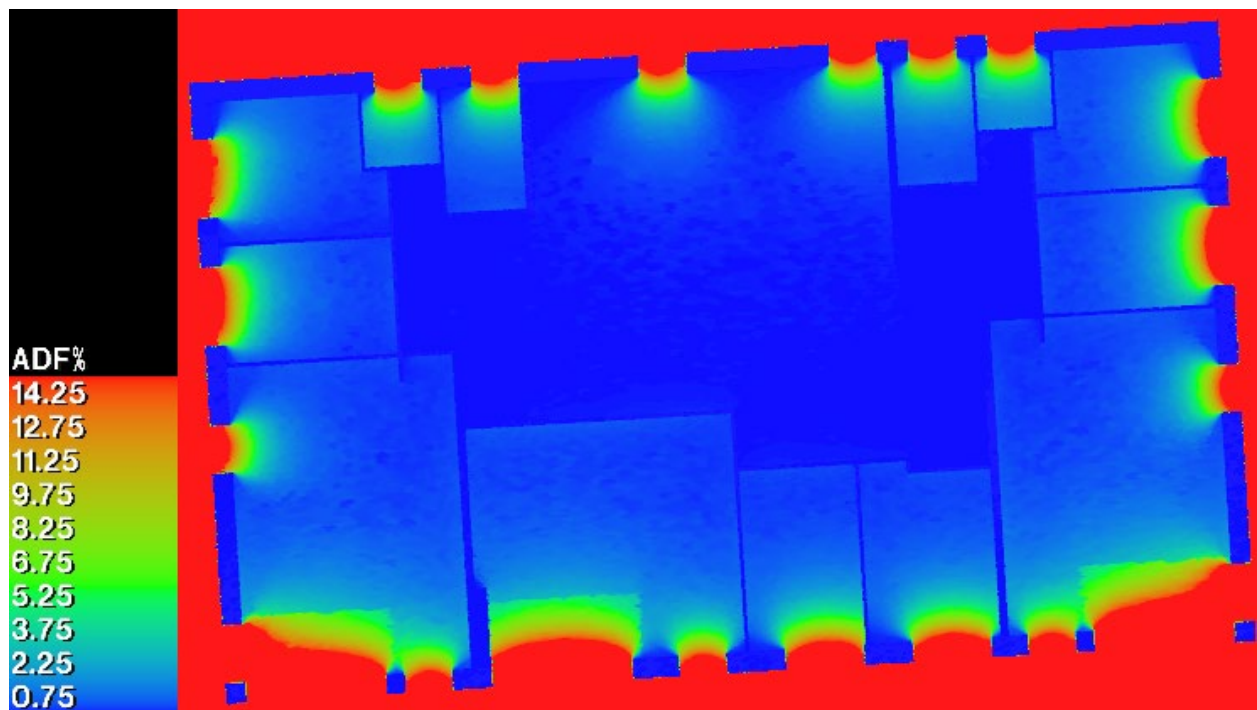


Figure 82 – Apartment Block (D) First Floor Daylight Factor Mapping

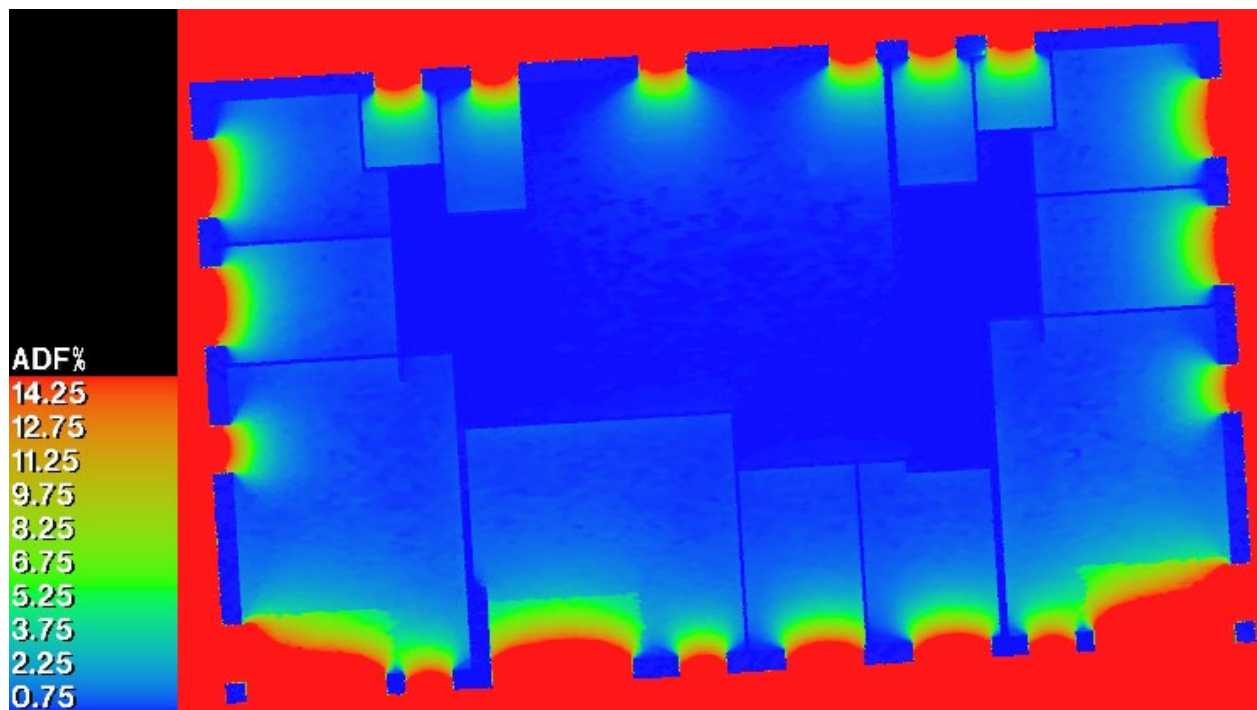


Figure 83 – *Apartment Block (D) Second Floor Daylight Factor Mapping*

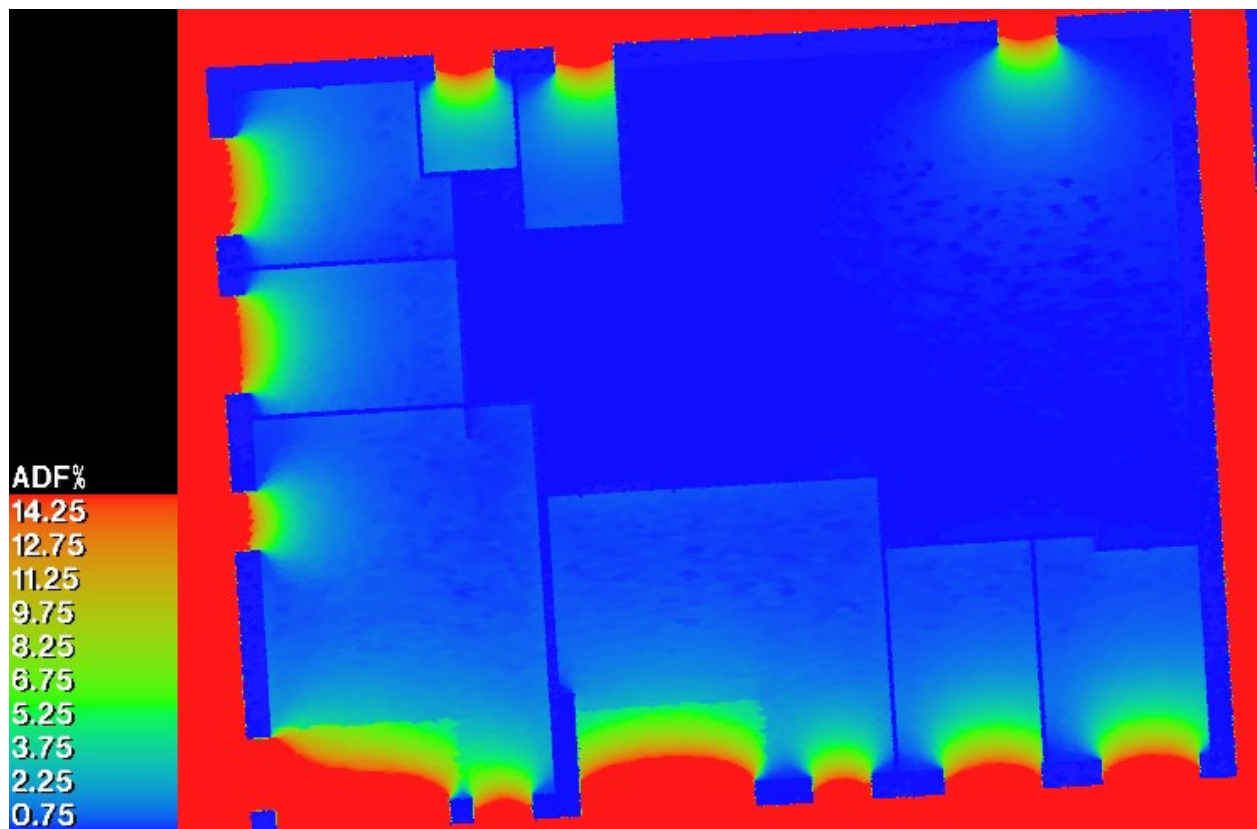


Figure 84 – Apartment Block (D) Third Floor Daylight Factor Mapping

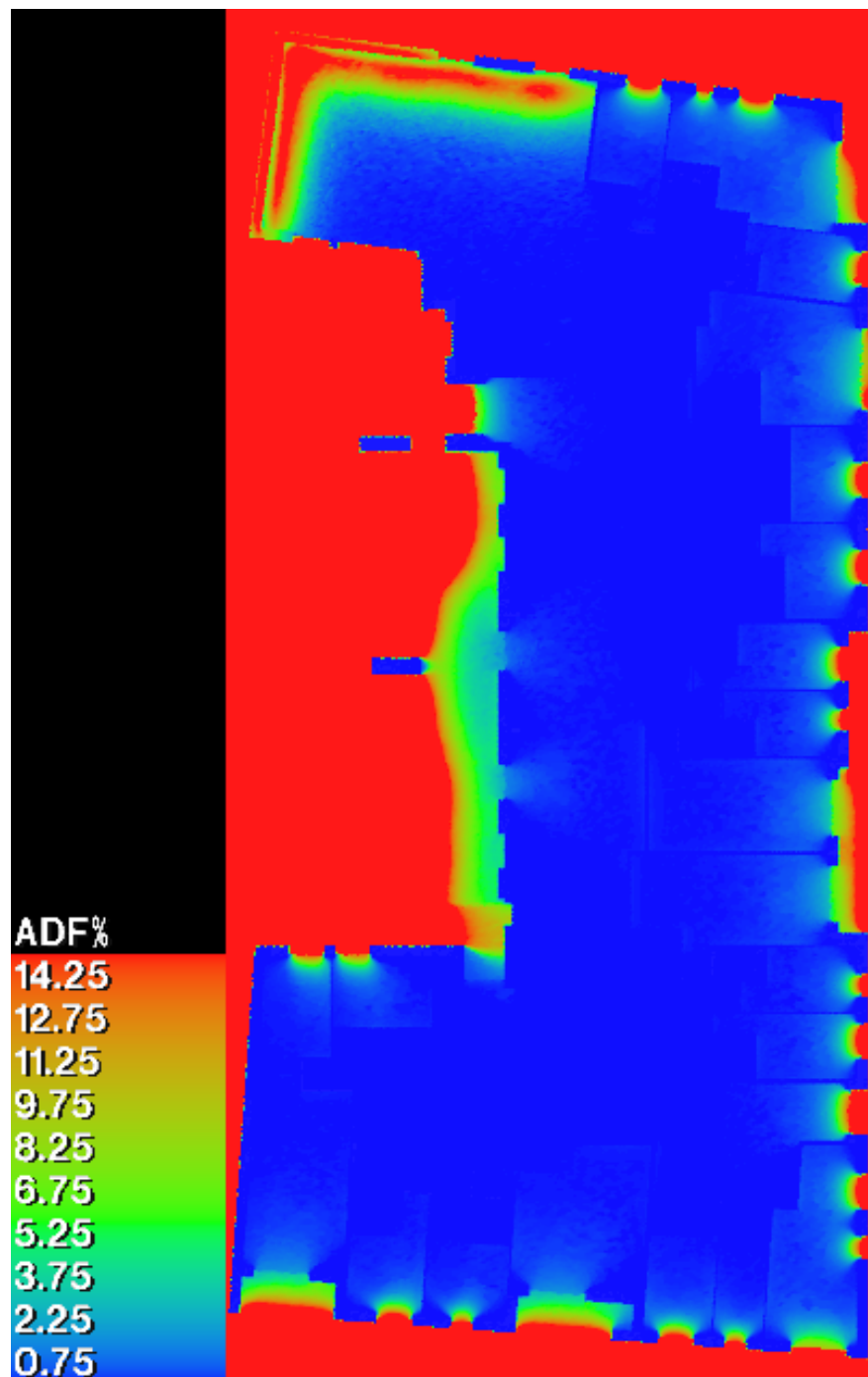


Figure 85 – Apartment Block (E) Ground Floor Daylight Factor Mapping

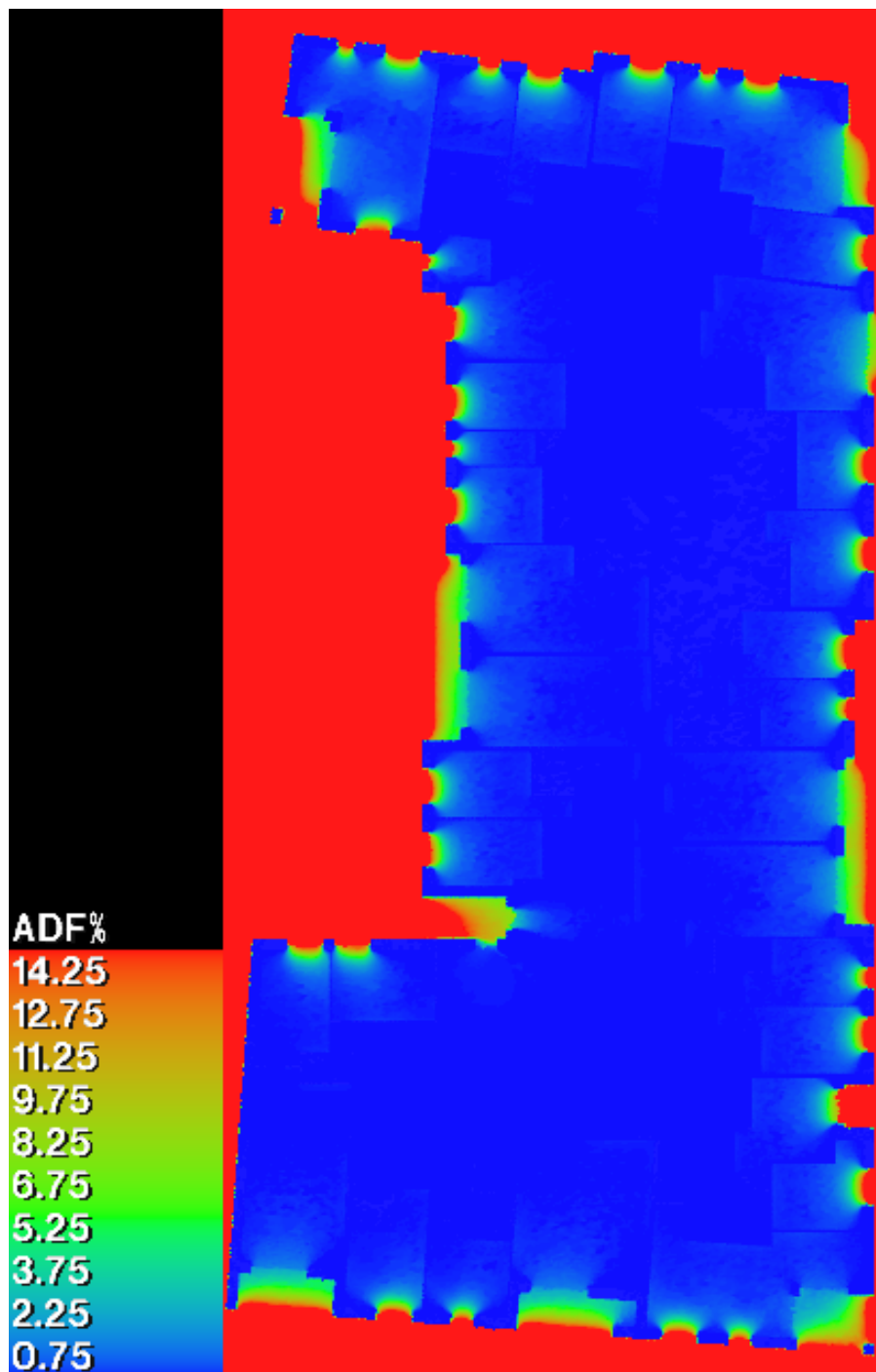


Figure 86 – Apartment Block (E) First Floor Daylight Factor Mapping

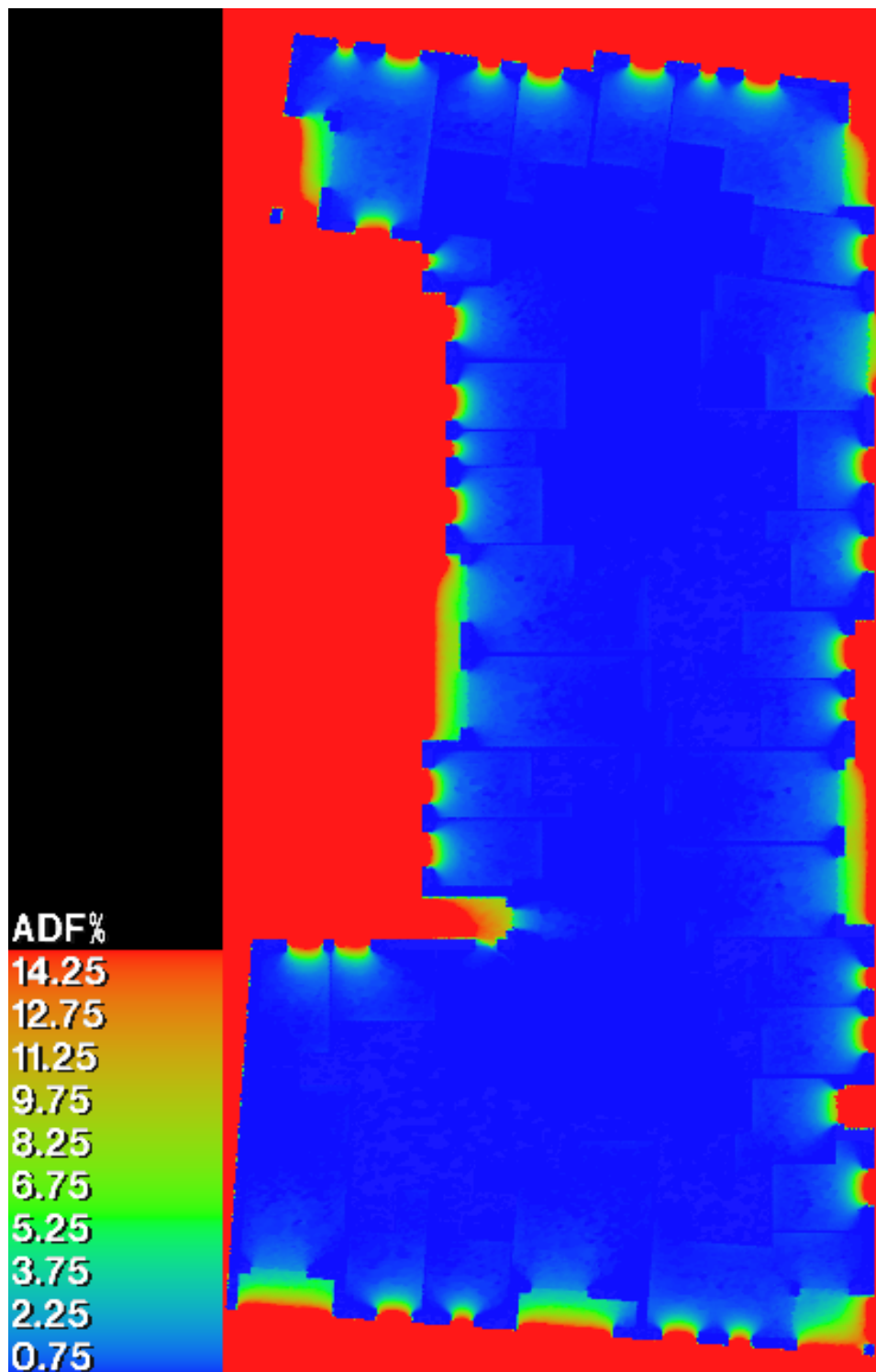


Figure 87 – Apartment Block (E) Second Floor Daylight Factor Mapping

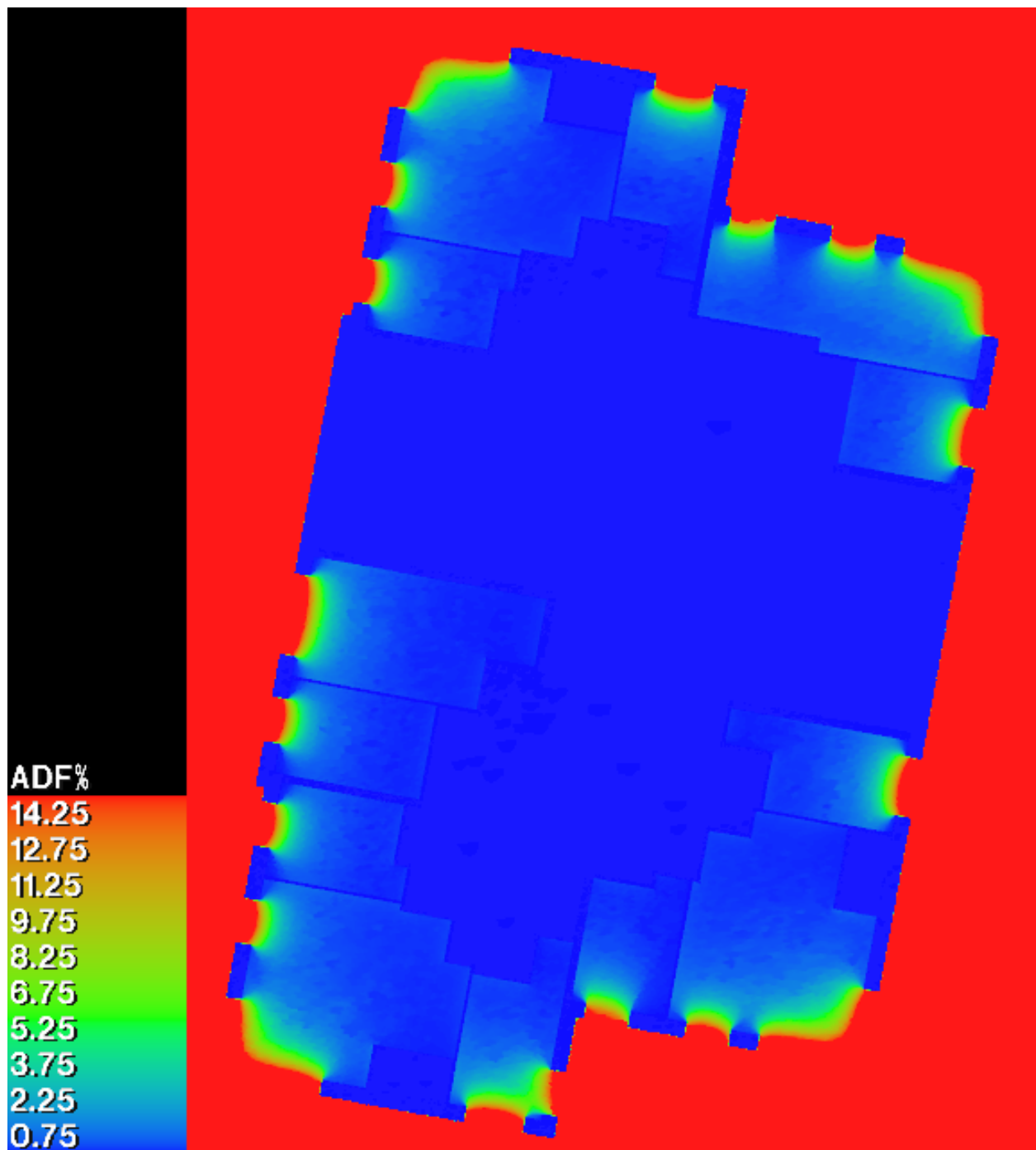


Figure 88 – Apartment Block (F) Ground Floor Daylight Factor Mapping

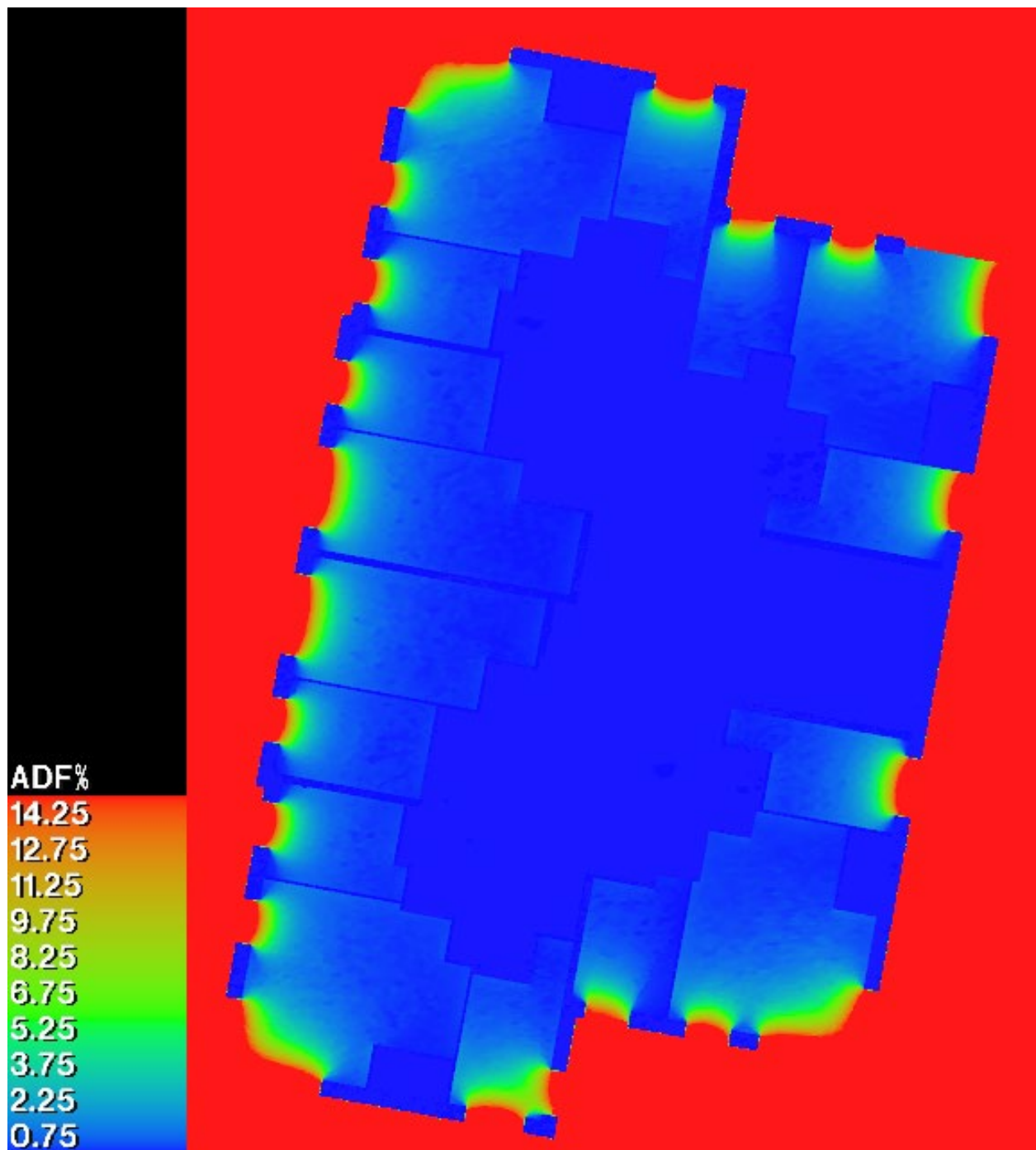


Figure 89 – Apartment Block (F) First Floor Daylight Factor Mapping

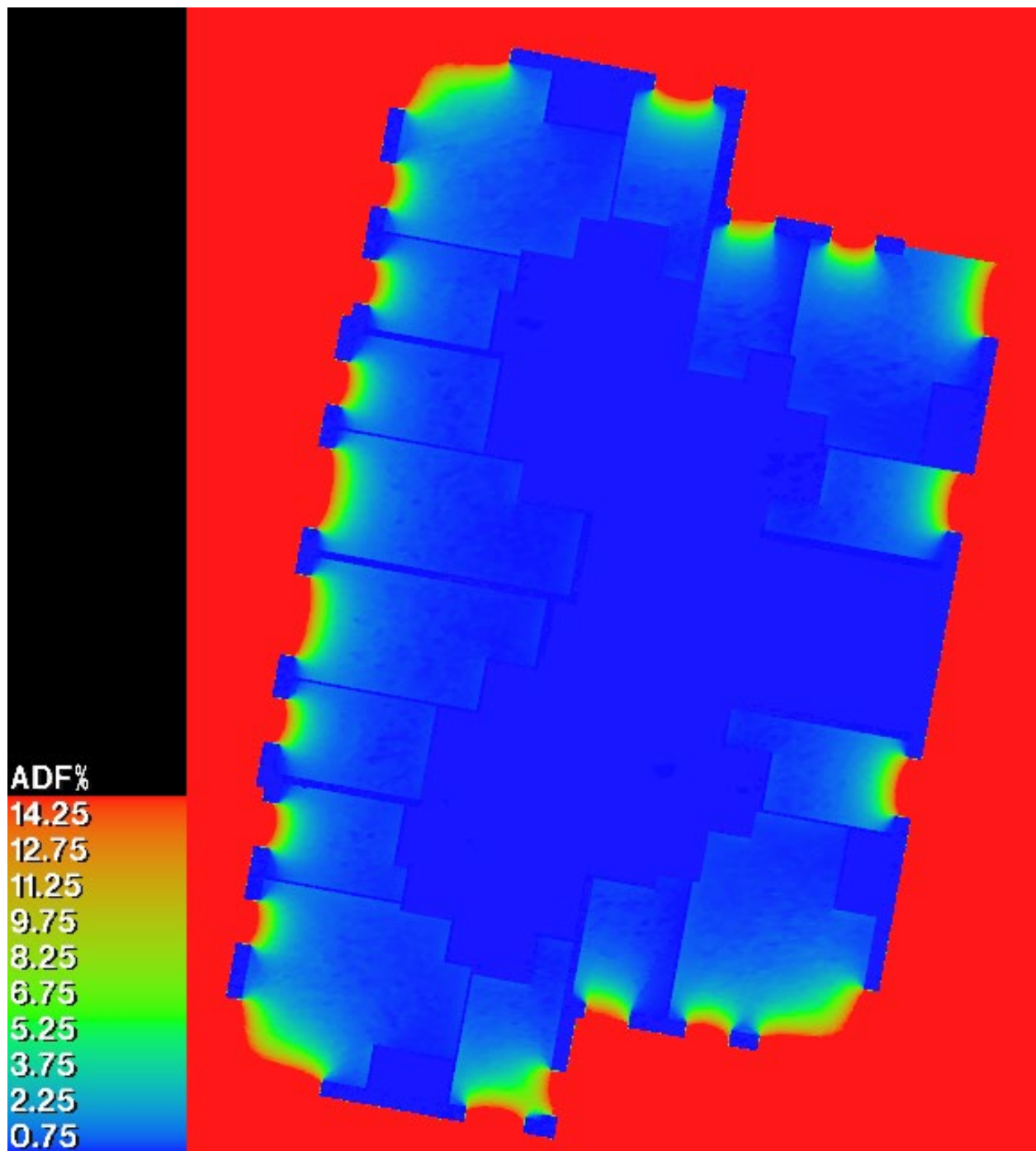


Figure 90 – *Apartment Block F Second Floor Daylight Factor Mapping*

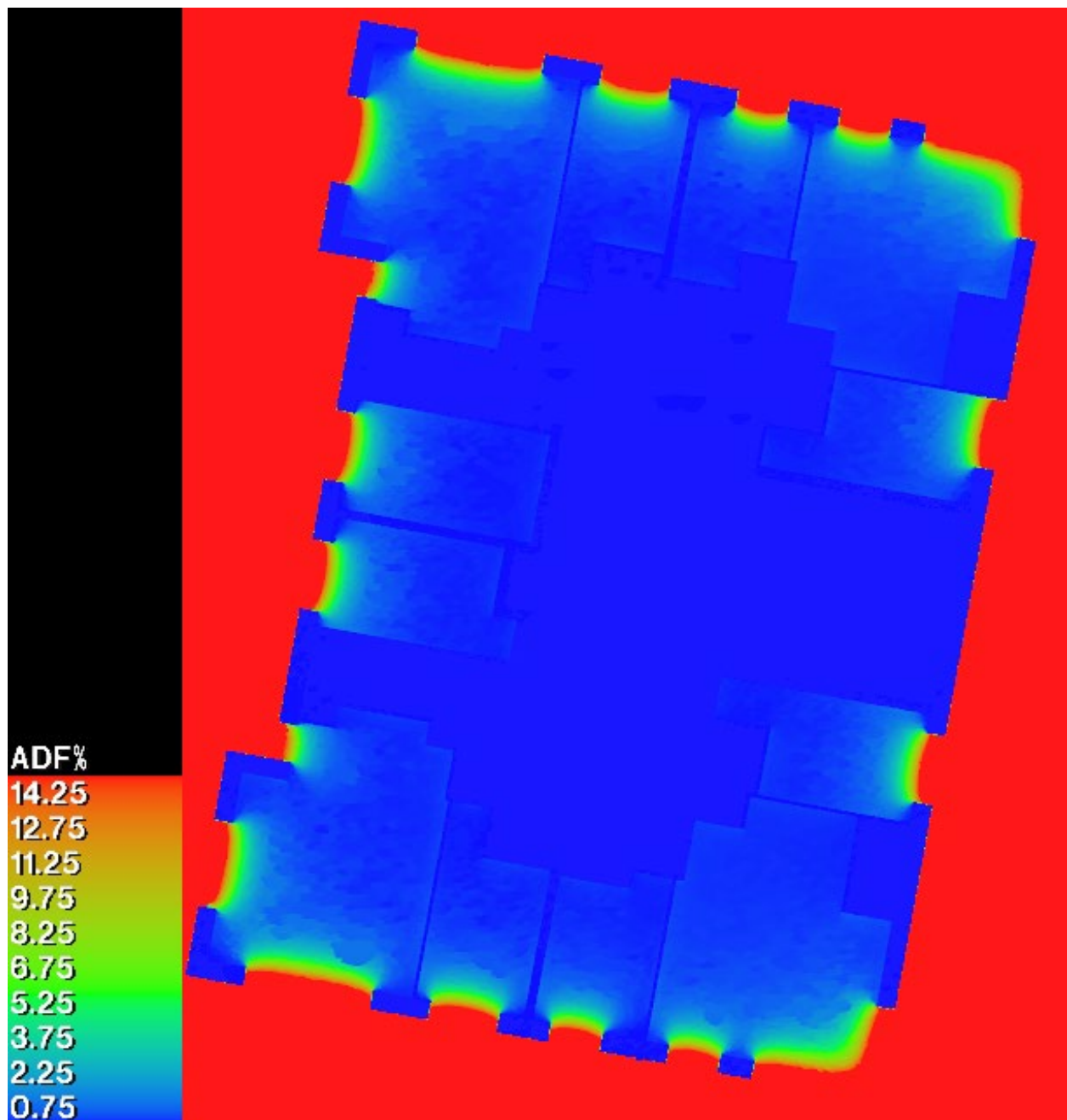


Figure 91 – Apartment Block F Penthouse Floor Daylight Factor Mapping

UK and Ireland Office Locations

