# Daylight and Sunlight Report
## for the Proposed Extension at
## 25 Old Gloucester Street, London, WC1N 4AF

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|---|---|
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# 1. Executive Summary

## 1.1 Scope of Service

1.1.1 We have been instructed by Buchanan Hartley Architects Ltd to consider the potential impact upon the amenity of the surrounding properties, which may arise from the proposed extension at 25 Gloucester Street, London, WC1N 3AF. We have also been instructed to determine the daylighting potential of the proposed accommodation.

## 1.2 BRE Assessment Criteria

1.2.1 To ensure that this assessment has been appropriately considered, daylight and sunlight assessments have been undertaken in accordance with the Building Research Establishment Report 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 2011 (the "BRE guide") and also on British Standard 8206 – 2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting', to which the BRE report refers.

1.2.2 The standards and tests applied within this assessment are briefly described in Appendix A.

## 1.3 Daylight and Sunlight

1.3.1 For daylight, the buildings assessed meet the BRE guidelines for daylight.

1.3.2 For sunlight, the proposed development meets the BRE guidelines for sunlight over the course of the year and during the winter months, save for one window to Saint Georges. However, the building is non-domestic and located very close to the common boundary. Under these circumstances the transgression is, on balance, considered acceptable.

1.3.3 Nonetheless, we understand that planning permission has already been granted for an additional floor at roof level and the construction is already in progress. We can confirm that there will be no material difference between the approved development and the proposed development.

1.3.4 The proposed accommodation will be comfortably in excess of the Average Daylight Factor criteria, being the principal assessment for determining daylight availability, as set out in BS8206, part 2.

## 1.4 Generally

1.4.1 When considering the numerical results, it is important to approach and interpret the BRE guidelines flexibly along with the following material mitigating factors:

*The BRE guidelines recognises that buildings located uncommonly close to the site boundary, as is the case here, may be considered as "bad" neighbours, taking more than their fair share of light. Accordingly, a greater reduction in daylight or sunlight may be unavoidable.
*Where buildings match the height and proportions of existing surrounding buildings some transgressions will be inevitable.
*Kitchens and bedrooms are given less weighting than that of a living room. By their specific omission studies and utility room are by implication given even less weighting than kitchen and bedrooms.

# 2. Introduction

## 2.1 Scope of Service

2.1.1 We have been instructed by Buchanan Hartley Architects Ltd to consider the potential impact upon the amenity of the surrounding properties, which may arise from the proposed extension at 25 Gloucester Street, London, WC1N 3AF. We have also been instructed to determine the daylighting potential of the proposed accommodation.

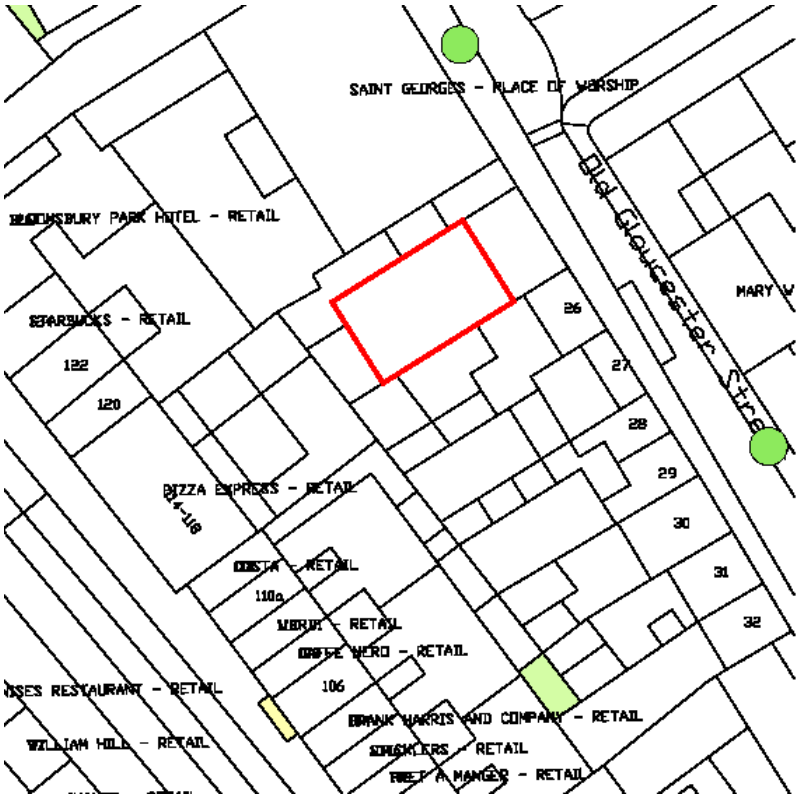
## 2.2 Assessment

2.2.1 To ensure that this assessment has been appropriately considered, daylight and sunlight assessments have been undertaken in accordance with the Building Research Establishment Report 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 2011 (the "BRE guide") and with the British Standard 8206 – 2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting', to which the BRE report refers.

2.2.2 The standards and tests applied within this assessment are briefly described in Appendix A.

2.2.3 The existing buildings adjacent to the site are shown on the Site Location Plan below.

Site Location Plan




2.2.4 The existing buildings adjacent to the site considered for this report are listed in the following table. Some of these buildings may not require a comprehensive assessment with the reasons for these findings given later in this report under section 3: Results and Consideration.

| Adjacent Building Summary Table | | |
|---|---|---|
| **Name/Address of Building** | **Assumed Use of Building** | **Position in Relation to the Proposed Development** |
| Bloomsbury Park Hotel | Commercial | West |
| Bloomsbury Thistle Hotel | Commercial | Northwest |
| Saint Georges | Community | North |
| 26 Old Gloucester Street (including the rear building) | Commercial /Residential | South |
| Rear of 27 Old Gloucester Street | Commercial | South |
| Ormande Mansions | Commercial /Residential | South West |
| Russel Square Mansions | Residential | South West |

## 2.3 Limitations

2.3.1 Our assessment is based on the proposed development drawings by Buchanan Hartley Architects Ltd.

2.3.2 A site inspection was undertaken to record the location of windows of the surrounding properties. Our site inspection included an external inspection of the existing site and surrounding buildings.

2.3.3 Limited topographical survey information was provided with relation to the existing buildings on site and ground levels across the site. Where buildings were not surveyed, the locations and heights were derived from photographs taken during the site inspection and oblique aerial photography.

2.3.4 We refer you to the drawings which accompany this report for a list of the third party information relied upon which our 3D computer model and resultant analyses are based.

2.3.5 Evergreen trees, hedges and shrubs have been represented in our 3D model where appropriate, but deciduous trees have not.

# 3. BRE Criteria and Mitigating Factors

## 3.1 BRE Daylight Criteria

3.1.1 The BRE guide target value for the Vertical Sky Component Assessment (VSC) is 27%. However, where the values are lower than this in the existing situation, the BRE allows a reduction of 20%, *subject to mitigating factors*.

3.1.2 For Daylight Distribution, namely, sky visibility at table level, the BRE allows a reduction of 20%, *subject to mitigating factors*.

3.1.3 These criteria are, however, purely numerical guidelines. They can be misinterpreted as a hard and fast rule, which is of course an unsustainable argument at planning. A loss of greater than 20% implies that the loss may be noticeable by its occupants, but noticeable does not mean, significant or adverse, it just means that it needs to be considered in the broader context. Namely, is the development acceptable in respect of all of the surrounding circumstances? This leads us on to the mitigating factors.

## 3.2 BRE Sunlight Criteria

3.2.1 The BRE guide target value for the Annual Probable Sunlight Hours (APSH) to a living room, is 25%, 5% of which should be enjoyed during the winter months. However, where the values are lower than this in the existing situation, the BRE allows a reduction of 20%, again, *subject to mitigating factors*.

3.2.2 The overshadowing assessment is undertaken on 21 March, the spring equinox. This assessment shows areas of a subject amenity area where less than 2 hours of sunlight will be available during the winter period, however, the subject area may still receive some sunlight during the summer. if an open amenity area, is more than 50% in shade for more than 2 hours in either existing or proposed situations, and is reduced by more than 20% of its existing value of a new development, then that loss is likely to be noticeable.

## 3.3 Mitigating Factors

3.3.1 As with all development sites, it would be helpful at this stage to outline the mitigating factors.

3.3.2 Mitigating factors are to be considered in conjunction with the numerical data, particularly with regards to the specific surrounding circumstances, to arrive at a more balanced view.

3.3.3 By balanced, it is meant that the two often conflicting material considerations at planning, (to have amenity protected (neighbours) and to utilise adjacent land in a reasonable manner (developer), need to be considered fairly.

3.3.4 The BRE guidelines states at the beginning and throughout that it is "to be interpreted flexibly"; "not intended to constrain but help the designer"; and "not to be used as an instrument of planning policy".

3.3.5 The simplest way of approaching all of the above is to keep in mind one basic question – "is it [the development] fair/balanced/acceptable in consideration of all the surrounding circumstances".

Mitigating Factor #1

3.3.6 The main mitigating factor is, that where buildings located uncommonly close to the site boundary, they may be considered as "bad" neighbours, taking more than their fair share of light. Accordingly, a greater reduction in daylight or sunlight may be unavoidable and so the local authority may wish to apply different target values.

Mitigating Factor #2

3.3.7 Where sites are undeveloped or are infill sites, again a higher degree of obstruction may be unavoidable, leading to a higher frequency of non-compliance. So, for example, you have a gap in a line of terraced properties, or an existing street scape of 6-storey high buildings. Where a developer wishes to fill this gap, or indeed reinstate a previous building, it would certainly be acceptable in planning terms, irrespective of the potential effect on surrounding buildings.

Mitigating Factor #3

3.3.8 The BRE guidelines also recognises that where buildings match the height and proportions of existing surrounding buildings a higher degree of obstruction may be unavoidable, leading to a higher frequency of non-compliance.

Mitigating Factor #4

3.3.9 Additionally, kitchens and bedrooms are generally given less weighting than that of a principal room such as a living room.

# 4. Results and Consideration

## 4.1 Our Approach

4.1.1 We have assessed the surrounding residential buildings that are most likely to be affected by the proposed development. Other properties are either not residential, aligned at an oblique angle, or are considered to be too far away to be affected. They have therefore not been assessed.

4.1.2 We have also considered the windows and the rooms of each building listed. With some buildings, we generally obtain floor plans from the local authority planning portal, or sales brochures. Where building plans are not readily available, generally, we designate the windows and rooms as habitable within the BRE framework, unless there are obvious clues that would suggest otherwise.

4.1.3 Things such as opaque glazing, soil pipes, stairwells etc., suggest toilets, bathrooms or circulation spaces, which in accordance with the BRE guidelines need not be assessed.

4.1.4 For habitable rooms, we look for paraphernalia in the windows, blinds, flue pipes, which might suggest a kitchen, smaller windows with net curtains which suggests bedrooms and say larger windows for living rooms etc.

## 4.2 Our 3D Model

4.2.1 We have constructed our 3D model using the data provided by the survey and BHA Ltd proposed planning drawings.

## 4.3 Daylight

4.3.1 The table below shows a summary of the results for the buildings tested for daylight availability in accordance with the BRE recommendations. Detailed test results are shown in Appendix C.

Existing Baseline Condition

4.3.2 The existing baseline condition is at present a dilapidated 5-storey period building fronting Old Gloucester Street, with a smaller 3-storey rear projection to the rear, see accompanying drawing no. 1608/DSO/01 and 03.

The Proposed Scheme

4.3.3 The proposed extension will comprise an additional storey to the rear projection of the building, in place of the current metal netting, see accompanying drawings 1608/DSO/02 and 03.

4.3.4 We have considered and/or assessed the habitable windows and rooms of the adjacent buildings at that are most likely to be affected by the proposed development.

Bloomsbury Park Hotel

4.3.5 This hotel is located west of the Site, see accompanying drawing 1608/DSO/03. This building comprises single rooms/suites arranged over several stories. Some windows (W1 to W3) to the rear elevations face over the Site.

4.3.6 Turning now to the assessment results, the windows and habitable rooms were assessed for Vertical Sky Component (VSC), Daylight Distribution (DD) respectively.

4.3.7 Regarding VSC, all windows assessed meet the BRE criteria.

4.3.8 Regarding DD, all rooms meet the BRE guidelines.

4.3.9 It is considered that this building would not be adversely affected by the proposed development.

Bloomsbury Thistle Hotel

4.3.10 This hotel is located immediately north and northwest of the Site. This building comprises single rooms/suites arranged over several stories. Some windows to the rear elevations face over the Site.

4.3.11 With reference to accompanying drawing 1608/DSO/03, taking each window in turn, W1 and W2 serve a dual aspect bedroom. W3 serves a bathroom. The remaining windows serve a stairwell/fire exit.

4.3.12 In accordance with the BRE guidelines, circulation space, hallways, storerooms, toilets and bathrooms, need not be assessed.

4.3.13 Regarding VSC, at least one of the windows to each room assessed meets the BRE guidelines.

4.3.14 Regarding DD, all rooms assessed meet the BRE guidelines.

4.3.15 It is considered that this building would not be adversely affected by the proposed development.

Saint Georges

4.3.16 This building is a community (religious) building located immediately north of the Site.

4.3.17 There is one window located to the south elevation of this building, some 3.6m from the boundary, that faces directly over the Site. This window (W1, Ground), serves the rear potion of the nave/sanctuary, which is also served by several lofty windows to the east and west elevations, see the photograph below.

Photograph 1: East Elevation of Saint George's Church showing side windows

4.3.18 Regarding VSC, this window (W1) falls below the criteria BRE criteria, nonetheless, the windows the aforementioned side windows will remain unaffected. Accordingly, the nave/sanctuary will remain largely unaffected in terms of BRE daylighting thresholds. It is also for this reason we did not undertake a DD assessment.

26 Old Gloucester Street

4.3.19 This building is a commercial/residential property located immediately south of the Site.

4.3.20 The windows to the rear elevation of the main portion of this building appear to serve circulation space and toilet areas. For the avoidance of doubt, we have included the windows (W5 and W6) and rooms, closest to the proposed extension located to the rear of this building, in our assessments.

4.3.21 Regarding VSC all windows assessed meets the BRE guidelines.

4.3.22 Regarding DD, all rooms assessed meet the BRE guidelines.

4.3.23 It is considered that this building would not be adversely affected by the proposed development.

Rear of 26 Old Gloucester Street

4.3.24 This building is a commercial property located immediately south west of the Site along the common boundary at the rear portion of 26 Gloucester Street. The windows (W1 to W3) we have assessed face east.

4.3.25 Regarding VSC, at least one of the windows to each room assessed meets the BRE guidelines.

4.3.26 Regarding DD, all rooms assessed meet the BRE guidelines.

4.3.27 It may, therefore, be concluded that this building meets the BRE guidelines.

4.3.28 It is considered that this building would not be adversely affected by the proposed development.

Rear of 27 Old Gloucester Street

4.3.29 This building is located immediately south west of the Site along the common boundary at the rear portion of 27 Gloucester Street. The windows W1 to W2 face north over the site.

4.3.30 Regarding VSC, one meets and one falls just short of the BRE guidelines.

4.3.31 Regarding DD, all rooms assessed meet the BRE guidelines.

4.3.32 Given its juxtaposition to the site boundary, it is considered that this building would not be adversely affected by the proposed development.

Ormande Mansions and Russel Square Mansions

4.3.33 These buildings are located immediately west of the Site.

4.3.34 Regarding VSC, all windows assessed meet the BRE guidelines.

4.3.35 Regarding DD, all rooms assessed meet the BRE guidelines.

4.3.36 It is considered that these buildings would not be adversely affected by the proposed development.

Daylight Summary

4.3.37 In summary, only a single transgression is noted to the south window of Saint Georges Church, however, the nave/sanctuary is also served by several lofty windows to the east and west elevations. Accordingly, it is considered that the surrounding buildings will not be adversely affected by the proposed development.

4.3.38 Nonetheless, we understand that planning permission has already been granted for an additional floor

at roof level and the construction is already in progress. We can confirm that there will be no material difference between the approved development and the proposed development.

## 4.4 Sunlight

4.4.1 In accordance with the BRE report, the buildings outlined below have been assessed for annual probable sunlight hours (APSH), where the windows face within 90 degrees of due south. Detailed test results are shown in Appendix D.

Saint Georges

4.4.2 All windows meet the BRE guidelines for sunlight criteria over the course of the year and during the winter months.

4.4.3 This window to Saint Georges, however, is located very close to the common boundary and under these circumstances the transgression is, on balance, considered acceptable.

Technical points

4.4.4 It is also worth mentioning that the sunlight assessments are really intended for principal living rooms of a dwelling and although kitchens and bedroom should be considered, it should be with less weighting.

4.4.5 Where two windows (of an equal size) serve a living room, and where one meets the BRE criteria and the other one does not, then the room is considered to meet the BRE criteria. This is also true of the daylighting criteria.

4.4.6 Also, where sunlight to a living room is reduced by 4% APSH or less, then the room is considered to meet the BRE criteria.

## 4.5 Proposed Accommodation

4.5.1 The proposed dwelling comprises self-contained flats to the front building, from basement to third floor level, with some areas incorporating mezzanine levels. BHA Ltd have carefully considered this site and have incorporated elements within the designs to maximise ambient daylighting potential. These include: -

- Floor to ceiling height windows
- Multiple windows
- Light coloured internal finishes

4.5.2 The contributions made by each window are recorded in the accompanying ADF Results table in Appendix C along with correction factors for windows frames, dirt and glazed areas. To clarify, the KLDs have been assessed against the higher ADF threshold of 2% per BS8206, part 2.

4.5.3 Turning now to the assessment results: -

4.5.4 Regarding the Room Depth (RD) assessment, all rooms comfortably meet the BRE criteria.

4.5.5 Regarding ADF, being the principal daylighting assessment, all habitable rooms will be comfortably in excess of the ADF values as set out in BS8206: Part 2 2008.

4.5.6 Regarding Daylight Distribution (DD), all habitable rooms will generally meet, or be very close to the BRE criteria i.e. 80% sky visibility at table level.

# 5. Conclusion

## 5.1 Daylight and Sunlight

5.1.1 For daylight, the buildings assessed meet the BRE guidelines for daylight.

5.1.2 For sunlight, the proposed development meets the BRE guidelines for sunlight over the course of the year and during the winter months, save for one window to Saint Georges. However, the building is non-domestic and located very close to the common boundary. Under these circumstances the transgression is, on balance, considered acceptable.

5.1.3 Nonetheless, we understand that planning permission has already been granted for an additional floor at roof level and the construction is already in progress. We can confirm that there will be no material difference between the approved development and the proposed development.

5.1.4 The proposed accommodation will be comfortably in excess of the Average Daylight Factor criteria, being the principal assessment for determining daylight availability, as set out in BS8206, part 2.

## 5.2 Generally

5.2.1 When considering the numerical results, it is important to approach and interpret the BRE guidelines flexibly along with the following material mitigating factors:

*The BRE guidelines recognises that buildings located uncommonly close to the site boundary, as is the case here, may be considered as "bad" neighbours, taking more than their fair share of light. Accordingly, a greater reduction in daylight or sunlight may be unavoidable.
*Where buildings match the height and proportions of existing surrounding buildings some transgressions will be inevitable.
*Kitchens and bedrooms are given less weighting than that of a living room. By their specific omission studies and utility room are by implication given even less weighting than kitchen and bedrooms.

# Appendix A

BRE Assessments

# BRE Assessments

## Introduction

The Building Research Establishment Report "Site Layout Planning for Daylight and Sunlight – a guide to good practice 1991" ("the BRE Guidelines") provides advice to building designers on site layout planning in order to achieve good daylight and sunlight amenity, not only to the proposed development and the open spaces between the proposed blocks, but also to the existing surrounding properties.

As part of this advice, the Building Research Establishment (BRE) have developed a series of assessments along with numerical guidelines so that the potential for good daylight and sunlight amenity can be achieved.

In general, the application of the BRE Guidelines are more appropriate for low density suburban development sites where there is a greater flexibility for site layout planning. In dense urban areas, however, development sites are usually constrained to a greater degree, often by immediately adjacent buildings etc. Accordingly, when dealing with dense urban areas the guidelines should be applied flexibly. This point is expressly recognised by the BRE Guidelines, which states in the introduction at page 1:

> *'The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not been seen as an instrument of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design… … In special circumstances the developer or Planning Authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings…..'*

## Daylight

The criteria for assessing daylight to existing surrounding buildings are outlined at pages 4 to 8 of the BRE Guidelines. Generally, daylight assessments should be undertaken to habitable rooms within dwellings and to principal rooms in non-domestic buildings such as schools, hospitals and offices where the occupants have a reasonable expectation of daylight.

Whilst the BRE Guidelines contain a number of rules of thumb that inform site layout design some relate to specific situations, such as domestic extensions to the rear of a property, which although useful may not be considered appropriate for general site layout design.

The principal assessments used to assess daylight to existing surrounding buildings are outlined in more detail below along with a further daylight assessment, usually applied to proposed dwellings, which is admissible provided it is agreed with the local authority, or there are past precedents.

### 25° section line assessment

The first assessment is known as the [modified] 25° section line test. It is a simple rule of thumb that determines whether an existing building should still receive adequate daylight with the proposed development in place.

The BRE guide states at page 11:

> "*If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of a lowest window, subtends an angle of more than 25°to the horizontal may be affected.*"

This assessment is most appropriate for well spaced, low-density or low-rise, uniform proposed developments. It is not an appropriate assessment for dense urban environments, where the existing building on the development site already subtends at an angle greater than 25° to the horizontal from the subject window. It is for this reason this 25° assessment is generally dispensed with and the more detailed assessments outlined below are entered into at the outset.

The Vertical Sky Component ("VSC") Assessment

The Vertical Sky Component ("VSC") assessment represents the amount of available daylight received directly from the sky at a particular window. The reference point for this assessment is the centre of the window, on the plane of the outer window wall.

A VSC is expressed as a percentage, being a ratio of that part of illuminance on a vertical plane (a window) that is received from a Standard Overcast Sky (CIE Sky), to the illuminance received on a horizontal plane on an unobstructed hemisphere of Standard Overcast Sky. To put it another way it is simply the amount of direct sky visibility a window receives, howsoever obstructed, expressed as a percentage of the amount of direct sky a horizontal unobstructed roof-light would receive.

The maximum percentage of direct skylight a vertical window can receive from a Standard Overcast Sky is 39.62%, or 40% when rounded. The BRE have determined that where a VSC value of 27% is achieved, then enough skylight (direct daylight) should reach the window of an existing building. This value is roughly equivalent to a uniform obstruction of 25°, with reference to the above assessment. The Guidelines go on to state:

> "*If the vertical sky component, with the new development in place, is both less than 27% and less than 0.8 times its former value, (a 20% reduction), then the occupants of the existing building will notice the difference.*"

Consequently, the daylight to an existing building, as a result of a proposed development, may be reduced by 20% before that loss becomes noticeable.

The Daylight Distribution ("DD") Assessment

The Daylight Distribution Assessment is undertaken at working plane level from within a subject room and represents the change in skyline when viewed through a subject window. The working plane level is set at 0.85m above floor level in dwellings and 0.70m in offices, however, in practice this distinction in height is not normally made, and so the working plane is generally set at 0.85m.

If significant areas beyond the no-sky line i.e. the point beyond the line where no sky can be seen at working plane level, the room will usually appear gloomy and supplementary electric lighting will be required. The BRE Guidance states:

> "*If, following construction of a new development, the no-sky line moves so that the area of the existing room which does not receive direct skylight is reduced to less than 0.8 times its former value, (a 20% reduction), then this will be noticeable to the occupants, and more of the room will be poorly lit.*"

Consequently, the daylight to an existing building, as a result of a proposed development, may be reduced by 20% before that loss becomes noticeable.

The VSC and DD are the 2 principal assessments that are required to be undertaken in order to assess daylight to existing surrounding buildings.

The Average Daylight Factor ("ADF") Assessment

A further daylight assessment, which may be undertaken, provided it is accepted by the local authority, is known as the Average Daylight Factor (ADF). Strictly speaking ADF assessments are used to determine the daylight availability to units within a proposed development, however, in more recent times the ADF assessment has been accepted by local authorities as a valid assessment for existing surrounding buildings.

An ADF assessment takes into account the amount of direct sky visibility incident on a window serving a subject room, the transmittance of the light through the glass, and the reflectance of that resultant light from the entire surface area of the room, which is then expressed as a percentage.

The ADF values recommended in the British Standard BS8206 Part 2 to which the BRE refers are: 2% for kitchens or open plan living areas, 1.5% for living rooms and 1% for bedrooms, if supplementary electric lighting is provided.

Nb. The guidelines outlined in the latest edition of BS8206 Part 2: 2008 are now applied.

## Sunlight

Sunlight is valued in both residential and commercial buildings. It is seen as providing warmth and cheerfulness to a room, whilst also giving the occupants a therapeutic effect and a sense of wellbeing.

In residential properties the main requirement for sunlight is in the living room or conservatories, which should be assessed if they have a main window facing within 90° of due south. Sunlight is considered less important in kitchens and bedroom, although care should be taken not to block out too much.

In commercial or non-domestic buildings, the requirement for sunlight varies according to the use of the building. The BRE recommends that for a commercial building any space that has a particular or special requirement for sunlight should be assessed.

Annual Probable Sunlight Hours (APSH) Assessment

The APSH assessment is undertaken to the main window of residential and commercial buildings, where the window faces within 90° of due south. "Probable Sunlight Hours" may be defined as the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness.

At page 17 of the BRE guidelines the criteria for the APSH assessment are as follows: -

> *'If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely effected. This will be the case if a point at the centre of the window, in the plane of the inner window wall, received in the year less than one quarter (25%) of annual probable sunlight hours including at least 5% of annual probable sunlight hours between 21 September and 21 March, and less than 0.8 times its former sunlight hours during either period.'*

Consequently, the sunlight to an existing building, as a result of a proposed development, may be reduced by 20% in either the annual or winter periods before that loss becomes noticeable.

## Overshadowing

The BRE guidance also offers advice on how to preserve sunlight to both existing and proposed open amenity spaces. Areas such as main back gardens of dwellings, parks, playing fields, playgrounds, waterways and public spaces such should be assessed. Small front gardens to dwellings and parking areas need not be assessed.

### The permanent overshadowing assessment

The permanent overshadowing assessment is undertaken on 21 March, the spring equinox. This assessment shows areas of a subject amenity area where no sunlight will be available during the winter period, however, the subject area may still receive some sunlight during the summer.

The BRE states at page 20:

> "*for it to appear adequately sunlight throughout the year, at least half of a garden or amenity area should receive at least 2 hours of sunlight on 21 March. If, as a result of new development, an existing garden or amenity area does not meet these guidelines, and the area which can receive 2 hours of sun on 21 March is less than 0.8 times its former value (a 20% reduction), then the loss of sunlight is likely to be noticeable".*

Consequently, if an open amenity area, is more than 50% in shade for more than 2 hours in either existing or proposed situations, and is reduced by more than 20% of its existing value as a result of new development, then that loss is likely to be noticeable.

### The transient overshadowing assessment

A further overshadowing assessment, sometimes requested by the local authority for larger schemes, is the temporary, or transient overshadowing assessment. This assessment usually comprises hourly overshadowing images of the existing and proposed situations undertaken on key dates during the year such as 21 March, the spring equinox; 21 June, the summer solstice; and 21 December, the winter solstice.

The BRE guidance offers no express numerical values for this type of assessment, consequently it is purely subjective.

# Appendix B

Context Drawings

# Appendix C

Daylight and Sunlight Results

daylight&sunlight

**Vertical Sky Component (VSC) Assessment/ Sunlight (APSH) Assessment**

| Floor Ref. | Room Ref. | Room Use. | Window Ref. | Scenario | VSC | Difference | Condtn | Available Sunlight Hours | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Annual % | Diff | % | Condtn | Winter % | Diff | % | Condtn |
| **Saint Georges** | | | | | | | | | | | | | | | |
| **Ground** | R1 | Pastoral | W1 | Existing | 8.42 | 0.66 | NO | 14 | 0.93 | | YES | 3 | 0.67 | | YES |
| | | | | Proposed | 5.53 | | | 13 | | | | 2 | | | |
| **26 Old Gloucester Street** | | | | | | | | | | | | | | | |
| **Ground** | R1 | Living room | W1 | Existing | 6.86 | 0.88 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 6.06 | | | | | | | | | | |
| | | | W2 | Existing | 6.69 | 0.89 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 5.97 | | | | | | | | | | |
| | | | W3 | Existing | 5.88 | 0.94 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 5.54 | | | | | | | | | | |
| | R2 | Living room | W5 | Existing | 8.94 | 0.94 | YES | 14 | 1.00 | | YES | 0 | 1.00 | | YES |
| | | | | Proposed | 8.42 | | | 14 | | | | 0 | | | |
| | R3 | Living room | W6 | Existing | 9.68 | 0.89 | YES | 11 | 1.00 | | YES | 0 | 1.00 | | YES |
| | | | | Proposed | 8.57 | | | 11 | | | | 0 | | | |
| **First** | R1 | Living room | W1 | Existing | 10.39 | 0.88 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 9.12 | | | | | | | | | | |
| | | | W2 | Existing | 9.94 | 0.86 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 8.55 | | | | | | | | | | |
| | | | W3 | Existing | 8.60 | 0.90 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 7.73 | | | | | | | | | | |
| | R2 | Living room | W5 | Existing | 12.96 | 0.91 | YES | 19 | 1.00 | | YES | 2 | 1.00 | | YES |
| | | | | Proposed | 11.75 | | | 19 | | | | 2 | | | |
| | R3 | Living room | W6 | Existing | 13.01 | 0.84 | YES | 13 | 0.92 | | YES | 0 | 1.00 | | YES |
| | | | | Proposed | 10.98 | | | 12 | | | | 0 | | | |
| **Second** | R1 | Living room | W1 | Existing | 15.82 | 0.87 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 13.70 | | | | | | | | | | |
| | | | W2 | Existing | 15.34 | 0.84 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 12.84 | | | | | | | | | | |
| | | | W3 | Existing | 13.83 | 0.83 | YES | | *North* | | | | *North* | | |
| | | | | Proposed | 11.43 | | | | | | | | | | |
| | R2 | Living room | W5 | Existing | 18.04 | 0.84 | YES | 22 | 1.00 | | YES | 3 | 1.00 | | YES |
| | | | | Proposed | 15.11 | | | 22 | | | | 3 | | | |

daylight&sunlight

**Vertical Sky Component (VSC) Assessment/ Sunlight (APSH) Assessment**

| Floor Ref. | Room Ref. | Room Use. | Window Ref. | Scenario | VSC | Difference | Condtn | Available Sunlight Hours | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Annual % | Diff % | Condtn | Winter % | Diff % | Condtn |
| | R3 | Living room | W6 | Existing | 16.55 | 0.87 | YES | 17 | 0.88 | YES | 2 | 1.00 | YES |
| | | | | Proposed | 14.44 | | | 15 | | | 2 | | |
| **Third** | R2 | Living room | W5 | Existing | 24.60 | 0.86 | YES | 36 | 0.94 | YES | 7 | 1.00 | YES |
| | | | | Proposed | 21.27 | | | 34 | | | 7 | | |
| | R3 | Living room | W6 | Existing | 22.07 | 0.98 | YES | 26 | 0.92 | YES | 3 | 1.00 | YES |
| | | | | Proposed | 21.70 | | | 24 | | | 3 | | |
| **Bloomsbury Park Hotel** | | | | | | | | | | | | | |
| **First** | R1 | Living room | W1 | Existing | 10.70 | 0.89 | YES | | *North* | | | *North* | |
| | | | | Proposed | 9.53 | | | | | | | | |
| | R2 | Living room | W2 | Existing | 8.68 | 0.94 | YES | | *North* | | | *North* | |
| | | | | Proposed | 8.18 | | | | | | | | |
| | | | W3 | Existing | 7.28 | 0.96 | YES | | *North* | | | *North* | |
| | | | | Proposed | 7.01 | | | | | | | | |
| **Second** | R1 | Living room | W1 | Existing | 15.90 | 0.95 | YES | | *North* | | | *North* | |
| | | | | Proposed | 15.08 | | | | | | | | |
| | R2 | Living room | W2 | Existing | 12.98 | 0.97 | YES | | *North* | | | *North* | |
| | | | | Proposed | 12.61 | | | | | | | | |
| | | | W3 | Existing | 10.56 | 0.98 | YES | | *North* | | | *North* | |
| | | | | Proposed | 10.38 | | | | | | | | |
| **Russel Square Mansions** | | | | | | | | | | | | | |
| **First** | R1 | Bedroom | W1 | Existing | 14.29 | 0.96 | YES | | *North* | | | *North* | |
| | | | | Proposed | 13.77 | | | | | | | | |
| | R2 | Bedroom | W2 | Existing | 20.41 | 0.89 | YES | | *North* | | | *North* | |
| | | | | Proposed | 18.09 | | | | | | | | |
| | R4 | Bedroom | W4 | Existing | 16.74 | 0.94 | YES | | *North* | | | *North* | |
| | | | | Proposed | 15.74 | | | | | | | | |
| | | | W5 | Existing | 16.65 | 0.94 | YES | | *North* | | | *North* | |
| | | | | Proposed | 15.68 | | | | | | | | |
| | | | W6 | Existing | 15.90 | 0.94 | YES | | *North* | | | *North* | |
| | | | | Proposed | 15.01 | | | | | | | | |

daylight&sunlight

**Vertical Sky Component (VSC) Assessment/ Sunlight (APSH) Assessment**

| Floor Ref. | Room Ref. | Room Use. | Window Ref. | Scenario | VSC | Difference | Condtn | Available Sunlight Hours | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Annual % | Diff % | Condtn | Winter % | Diff % | Condtn | |
| | R5 | Bedroom | W7 | Existing | 13.95 | 0.95 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 13.22 | | | | | | | | | |
| **Second** | R1 | Bedroom | W1 | Existing | 18.67 | 0.97 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 18.12 | | | | | | | | | |
| | R2 | Office | W2 | Existing | 21.91 | 0.97 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 21.31 | | | | | | | | | |
| | R3 | Bedroom | W3 | Existing | 23.57 | 0.97 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 22.79 | | | | | | | | | |
| | R4 | Bedroom | W4 | Existing | 19.78 | 0.97 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 19.14 | | | | | | | | | |
| | | | W5 | Existing | 19.53 | 0.97 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 18.92 | | | | | | | | | |
| | | | W6 | Existing | 18.55 | 0.97 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 18.02 | | | | | | | | | |
| | R5 | Bedroom | W7 | Existing | 16.01 | 0.98 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 15.61 | | | | | | | | | |
| **Ormande Mansions** | | | | | | | | | | | | | | |
| **First** | R1 | Bedroom | W1 | Existing | 2.50 | 0.94 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 2.35 | | | | | | | | | |
| | | | W2 | Existing | 1.78 | 0.94 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 1.68 | | | | | | | | | |
| | R2 | Bedroom | W1 | Existing | 3.83 | 1.00 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 3.82 | | | | | | | | | |
| | | | W2 | Existing | 3.17 | 0.99 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 3.14 | | | | | | | | | |
| **Rear of 27 Old Gloucester Street** | | | | | | | | | | | | | | |
| **First** | R2 | Bedroom | W13 | Existing | 11.92 | 0.80 | YES | *North* | | | *North* | | | |
| | | | | Proposed | 9.53 | | | | | | | | | |
| | R3 | Bedroom | W14 | Existing | 10.30 | 0.78 | NO | *North* | | | *North* | | | |
| | | | | Proposed | 8.02 | | | | | | | | | |

daylight&sunlight

**Vertical Sky Component (VSC) Assessment/ Sunlight (APSH) Assessment**

| Floor Ref. | Room Ref. | Room Use. | Window Ref. | Scenario | VSC | Difference | Condtn | Available Sunlight Hours | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Annual % | Diff | % | Condtn | Winter % | Diff | % | Condtn |
| **Bloomsbury Thistle Hotel** | | | | | | | | | | | | | | | |
| **Ground** | R1 | Unknown | W1 | Existing | 8.11 | 0.37 | NO | 15 | 0.20 | | NO | 1 | 0.00 | | NO |
| | | | | Proposed | 2.98 | | | 3 | | | | 0 | | | |
| **First** | R1 | Bedroom | W1 | Existing | 22.80 | 0.87 | YES | 48 | 0.98 | | YES | 14 | 0.93 | | YES |
| | | | | Proposed | 19.77 | | | 47 | | | | 13 | | | |
| | | | W2 | Existing | 10.80 | 0.75 | NO | | *North* | | | | *North* | | |
| | | | | Proposed | 8.07 | | | | | | | | | | |
| | R2 | Bathroom | W3 | Existing | 13.31 | 0.64 | - | 21 | 0.52 | | NO | 6 | 0.83 | | YES |
| | | | | Proposed | 8.45 | | | 11 | | | | 5 | | | |
| **Second** | R1 | Bedroom | W1 | Existing | 29.93 | 0.84 | YES | 61 | 0.95 | | YES | 21 | 1.00 | | YES |
| | | | | Proposed | 25.26 | | | 58 | | | | 21 | | | |
| | | | W2 | Existing | 20.76 | 0.73 | NO | | *North* | | | | *North* | | |
| | | | | Proposed | 15.11 | | | | | | | | | | |
| | R2 | Bathroom | W3 | Existing | 23.30 | 0.60 | - | 39 | 0.49 | | NO | 11 | 0.73 | | YES |
| | | | | Proposed | 13.94 | | | 19 | | | | 8 | | | |

daylight&sunlight

Daylight Distribution (DD) Assessment

| Floor Ref. | Room Ref. | Room Attribute | Property Type | Room Use. | | Room Area | Lit Area Proposed | Meets BRE Criteria |
|---|---|---|---|---|---|---|---|---|
| **26 Old Gloucester Street** | | | | | | | | |
| **Ground** | R1 | Living room | Area m2 | 31.66 | 5.33 | 4.91 | | |
| | | | % of room | | 17% | 16% | 92.00% | YES |
| | R2 | Living room | Area m2 | 12.35 | 6.29 | 6.29 | | |
| | | | % of room | | 51% | 51% | 100.00% | YES |
| | R3 | Living room | Area m2 | 8.93 | 6.26 | 6.25 | | |
| | | | % of room | | 70% | 70% | 100.00% | YES |
| **First** | R1 | Living room | Area m2 | 31.66 | 7.30 | 6.56 | | |
| | | | % of room | | 23% | 21% | 90.00% | YES |
| | R2 | Living room | Area m2 | 12.35 | 10.15 | 10.05 | | |
| | | | % of room | | 82% | 81% | 99.00% | YES |
| | R3 | Living room | Area m2 | 8.93 | 8.23 | 8.23 | | |
| | | | % of room | | 92% | 92% | 100.00% | YES |
| **Second** | R1 | Living room | Area m2 | 28.85 | 7.88 | 6.71 | | |
| | | | % of room | | 27% | 23% | 85.00% | YES |
| | R2 | Living room | Area m2 | 12.35 | 12.04 | 11.83 | | |
| | | | % of room | | 97% | 96% | 98.00% | YES |
| | R3 | Living room | Area m2 | 8.93 | 8.52 | 8.52 | | |
| | | | % of room | | 95% | 95% | 100.00% | YES |
| **Third** | R2 | Living room | Area m2 | 12.35 | 12.23 | 12.08 | | |
| | | | % of room | | 99% | 98% | 99.00% | YES |
| | R3 | Living room | Area m2 | 8.93 | 8.84 | 8.84 | | |
| | | | % of room | | 99% | 99% | 100.00% | YES |
| **Bloomsbury Park Hotel** | | | | | | | | |
| **First** | R1 | Living room | Area m2 | 16.55 | 5.47 | 4.38 | | |
| | | | % of room | | 33% | 26% | 80.00% | YES |
| | R2 | Living room | Area m2 | 20.04 | 7.83 | 6.18 | | |
| | | | % of room | | 39% | 31% | 79.00% | NO |
| **Second** | R1 | Living room | Area m2 | 16.55 | 10.29 | 10.29 | | |
| | | | % of room | | 62% | 62% | 100.00% | YES |
| | R2 | Living room | Area m2 | 20.04 | 13.27 | 12.86 | | |
| | | | % of room | | 66% | 64% | 97.00% | YES |
| **Russel Square Mansions** | | | | | | | | |
| **First** | R1 | Bedroom | Area m2 | 10.74 | 10.49 | 10.24 | | |
| | | | % of room | | 98% | 95% | 98.00% | YES |
| | R2 | Bedroom | Area m2 | 49.62 | 27.18 | 25.53 | | |
| | | | % of room | | 55% | 51% | 94.00% | YES |
| | R4 | Bedroom | Area m2 | 30.80 | 18.87 | 16.03 | | |
| | | | % of room | | 61% | 52% | 85.00% | YES |
| | R5 | Bedroom | Area m2 | 14.57 | 12.85 | 12.51 | | |
| | | | % of room | | 88% | 86% | 97.00% | YES |

daylight&sunlight

**Daylight Distribution (DD) Assessment**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Second** | R1 | Bedroom | Area m2 | 10.74 | 10.60 | 10.60 | | |
| | | | % of room | | 99% | 99% | 100.00% | YES |
| | R2 | Office | Area m2 | 6.36 | 6.36 | 6.36 | | |
| | | | % of room | | 100% | 100% | 100.00% | YES |
| | R3 | Bedroom | Area m2 | 10.15 | 10.14 | 10.14 | | |
| | | | % of room | | 100% | 100% | 100.00% | YES |
| | R4 | Bedroom | Area m2 | 30.80 | 22.69 | 21.86 | | |
| | | | % of room | | 74% | 71% | 96.00% | YES |
| | R5 | Bedroom | Area m2 | 14.57 | 13.71 | 13.62 | | |
| | | | % of room | | 94% | 94% | 99.00% | YES |
| **Ormande Mansions** | | | | | | | | |
| **First** | R1 | Bedroom | Area m2 | 13.95 | 7.55 | 6.71 | | |
| | | | % of room | | 54% | 48% | 89.00% | YES |
| | R2 | Bedroom | Area m2 | 13.95 | 8.04 | 8.02 | | |
| | | | % of room | | 58% | 58% | 100.00% | YES |
| **Rear of 27 Old Gloucester Street** | | | | | | | | |
| **First** | R2 | Bedroom | Area m2 | 11.42 | 2.75 | 2.23 | | |
| | | | % of room | | 24% | 19% | 81.00% | YES |
| | R3 | Bedroom | Area m2 | 7.30 | 7.01 | 5.30 | | |
| | | | % of room | | 96% | 73% | 76.00% | NO |
| **Bloomsbury Thistle Hotel** | | | | | | | | |
| **Ground** | R1 | Unknown | Area m2 | 3.65 | 2.92 | 0.86 | | |
| | | | % of room | | 80% | 24% | 30.00% | NO |
| **First** | R1 | Bedroom | Area m2 | 14.13 | 12.56 | 12.56 | | |
| | | | % of room | | 89% | 89% | 100.00% | YES |
| | R2 | Bathroom | Area m2 | 3.55 | 3.15 | 3.15 | | |
| | | | % of room | | 89% | 89% | 100.00% | YES |
| **Second** | R1 | Bedroom | Area m2 | 14.13 | 13.50 | 13.50 | | |
| | | | % of room | | 96% | 96% | 100.00% | YES |
| | R2 | Bathroom | Area m2 | 3.55 | 3.43 | 3.43 | | |
| | | | % of room | | 97% | 97% | 100.00% | YES |
| | | | % of room | | #DIV/0! | #DIV/0! | 1.00 | YES |
| **Second** | R1 | Bedroom | Area m2 | 14.13 | 13.50 | 13.50 | | |
| | | | % of room | | 96% | 96% | 1.00 | YES |
| | R2 | Bathroom | Area m2 | 3.55 | 3.43 | 3.43 | | |
| | | | % of room | | 97% | 97% | 1.00 | YES |

# Appendix D

Proposed Accommodation Results

daylight&sunlight

Average Daylight Factor (ADF) Assessment

| Floor Ref. | Room Ref. | Room Use. | Window Ref. | Glass Transmittance | Glazed Area | Clear Sky Angle Proposed | Room Surface Area | Average Surface Reflectance | Below Working Plane Factor | ADF Proposed | Req'd Value | Meets BRE Criteria |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Proposed Accommodation** | | | | | | | | | | | | |
| **First** | R1 | LKD | W3-L | 0.80 | 0.03 | 57.10 | 67.09 | 0.67 | 0.15 | 0.01 | | |
| | | | W3-U | 0.80 | 1.28 | 59.25 | 67.09 | 0.67 | 1.00 | 1.63 | | |
| | | | W4-L | 0.80 | 0.03 | 59.32 | 67.09 | 0.67 | 0.15 | 0.01 | | |
| | | | W4-U | 0.80 | 1.28 | 61.31 | 67.09 | 0.67 | 1.00 | 1.69 | | |
| | | | | | | | | | | 3.34 | 2.00 | YES |
| **First** | R2 | Bedroom | W5-L | 0.80 | 0.05 | 64.89 | 58.61 | 0.67 | 0.15 | 0.01 | | |
| | | | W5-U | 0.80 | 1.58 | 66.56 | 58.61 | 0.67 | 1.00 | 2.59 | | |
| | | | | | | | | | | 2.60 | 1.00 | YES |
| **Second** | R1 | Living Room | W1-L | 0.80 | 0.14 | 62.59 | 60.53 | 0.67 | 0.15 | 0.03 | | |
| | | | W1-U | 0.80 | 1.04 | 65.73 | 60.53 | 0.67 | 1.00 | 1.63 | | |
| | | | W2-L | 0.80 | 0.14 | 63.42 | 60.53 | 0.67 | 0.15 | 0.03 | | |
| | | | W2-U | 0.80 | 1.04 | 66.46 | 60.53 | 0.67 | 1.00 | 1.65 | | |
| | | | | | | | | | | 3.34 | 1.50 | YES |
| **Second** | R2 | Kitchen | W3-L | 0.80 | 0.14 | 65.45 | 49.52 | 0.67 | 0.15 | 0.04 | | |
| | | | W3-U | 0.80 | 1.04 | 68.26 | 49.52 | 0.67 | 1.00 | 2.07 | | |
| | | | W4-L | 0.80 | 0.14 | 67.10 | 49.52 | 0.67 | 0.15 | 0.04 | | |
| | | | W4-U | 0.80 | 1.04 | 69.73 | 49.52 | 0.67 | 1.00 | 2.11 | | |
| | | | | | | | | | | 4.26 | 2.00 | YES |
| **Second** | R3 | Bedroom | W5-L | 0.80 | 0.14 | 71.38 | 68.27 | 0.67 | 0.15 | 0.03 | | |
| | | | W5-U | 0.80 | 1.04 | 73.55 | 68.27 | 0.67 | 1.00 | 1.62 | | |
| | | | W6-L | 0.80 | 0.03 | 59.81 | 68.27 | 0.67 | 0.15 | 0.01 | | |
| | | | W6-U | 0.80 | 1.17 | 66.80 | 68.27 | 0.67 | 1.00 | 1.64 | | |
| | | | W7-L | 0.80 | 0.03 | 51.24 | 68.27 | 0.67 | 0.15 | 0.01 | | |
| | | | W7-U | 0.80 | 1.17 | 60.28 | 68.27 | 0.67 | 1.00 | 1.48 | | |
| | | | | | | | | | | 4.78 | 1.00 | YES |
| **Third** | R1 | LKD | W1-L | 0.80 | 0.03 | 74.51 | 102.17 | 0.67 | 0.15 | 0.00 | | |
| | | | W1-U | 0.80 | 0.99 | 78.65 | 102.17 | 0.67 | 1.00 | 1.09 | | |
| | | | W2-L | 0.80 | 0.03 | 74.91 | 102.17 | 0.67 | 0.15 | 0.00 | | |
| | | | W2-U | 0.80 | 0.99 | 78.94 | 102.17 | 0.67 | 1.00 | 1.10 | | |
| | | | W3-L | 0.80 | 0.03 | 76.12 | 102.17 | 0.67 | 0.15 | 0.01 | | |
| | | | W3-U | 0.80 | 1.25 | 79.86 | 102.17 | 0.67 | 1.00 | 1.41 | | |
| | | | W4-L | 0.80 | 0.03 | 77.09 | 102.17 | 0.67 | 0.15 | 0.01 | | |
| | | | W4-U | 0.80 | 1.25 | 80.59 | 102.17 | 0.67 | 1.00 | 1.42 | | |
| | | | | | | | | | | 5.04 | 2.00 | YES |
| **Third** | R2 | Bedroom | W5-L | 0.80 | 0.03 | 79.13 | 68.55 | 0.67 | 0.15 | 0.01 | | |
| | | | W5-U | 0.80 | 0.99 | 82.10 | 68.55 | 0.67 | 1.00 | 1.70 | | |

daylight&sunlight

Average Daylight Factor (ADF) Assessment

| Floor Ref. | Room Ref. | Room Use. | Window Ref. | Glass Transmittance | Glazed Area | Clear Sky Angle Proposed | Room Surface Area | Average Surface Reflectance | Below Working Plane Factor | ADF Proposed | Req'd Value | Meets BRE Criteria |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | W6-L | 0.80 | 0.03 | 80.25 | 68.55 | 0.67 | 0.15 | 0.01 | | |
| | | | W6-U | 0.80 | 0.99 | 82.93 | 68.55 | 0.67 | 1.00 | 1.72 | | |
| | | | W7 | 0.80 | 1.13 | 80.52 | 68.55 | 0.67 | 1.00 | 1.91 | | |
| | | | | | | | | | | 5.34 | 1.00 | YES |

daylight&sunlight

**Daylight Distribution (DD) Assessment**

| Floor Ref. | Room Ref. | Room Attribute | Property Type | Room Use. | | Room Area | Lit Area Proposed | Meets BRE Criteria |
|---|---|---|---|---|---|---|---|---|
| **Proposed Accommodation** | | | | | | | | |
| **First** | R1 | | Residential | LKD | Area m2 | 14.24 | 11.04 | |
| | | | | | % of room | | 78% | NO |
| | R2 | | Residential | Bedroom | Area m2 | 10.44 | 8.89 | |
| | | | | | % of room | | 85% | YES |
| **Second** | R1 | | Residential | Living Room | Area m2 | 12.17 | 11.86 | |
| | | | | | % of room | | 97% | YES |
| | R2 | | Residential | Kitchen | Area m2 | 7.98 | 7.74 | |
| | | | | | % of room | | 97% | YES |
| | R3 | | Residential | Bedroom | Area m2 | 14.03 | 14.01 | |
| | | | | | % of room | | 100% | YES |
| **Third** | R1 | | Residential | LKD | Area m2 | 21.13 | 17.66 | |
| | | | | | % of room | | 84% | NO |
| | R2 | | Residential | Bedroom | Area m2 | 14.43 | 14.15 | |
| | | | | | % of room | | 98% | YES |