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Daylight and Sunlight Study (Neighbouring Properties)  
2 Dumpton Place, Primrose Hill NW1 8JB

29<sup>th</sup> October 2010

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# 1 EXECUTIVE SUMMARY

## 1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned to undertake a daylight and sunlight study of the proposed development at 2 Dumpton Place, Primrose Hill, London NW1 8JB.
- 1.1.2 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring properties at 68 to 88 Gloucester Avenue. The study is based on the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide' by P J Littlefair 1991.
- 1.1.3 The window key in Appendix 1 identifies the windows analysed in this study. Appendix 2 gives the numerical results of the various daylight and sunlight tests.
- 1.1.4 We are of the opinion that in general the impact of the development will be relatively low. Whilst we have identified some transgression of the BRE daylight recommendations, we are of the opinion that the development design is likely to be acceptable when taking into account all material planning considerations which affect layout design.

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## 2 INFORMATION SOURCE

### 2.1 Documents Considered

2.1.1 This report is based on drawings:

PMA Chartered Architects

02DP/3001	Site Context Plan	Rev A
02DP/3002	Proposed Basement Plan	Rev –
02DP/3003	Proposed Ground Floor Plan	Rev –
02DP/3004	Proposed First Floor Plan	Rev –
02DP/3005	Proposed Second Floor Plan	Rev –
02DP/3006	Proposed Roof Plan	Rev –
02DP/3011	North & West Elevations	Rev –
02DP/3014	Perspectives – Street view 1	Rev –
02DP/3022	Sections A-A & B-B	Rev A
02DP/3022	Sections C-C, D-D, E-E & F-F	Rev –

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### **3 METHODOLOGY OF THE STUDY**

#### **3.1 BRE Guide : Site Layout Planning for Daylight and Sunlight**

3.1.1 The study is based on the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide' by P J Littlefair 1991. In general, the BRE tests are based on the requirements of the British Standard, BS 8206 Part 2.

3.1.2 The standards set out in the BRE guide are intended to be used flexibly. In instances where there is a special requirement for daylight or sunlight, higher levels may be deemed necessary. In other situations, such as with urban developments, lower daylight and sunlight levels may be unavoidable. The following statement is quoted directly from the BRE guide:

3.1.3 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and this document should not be considered as an instrument of planning policy. Its aim is to help rather than constrain the developer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design."

#### **3.2 Daylight to Windows**

3.2.1 Diffuse daylight is the light received from the sun which has been diffused through the sky. Even on a cloudy day when the sun is not visible, a room will continue to be lit with light from the sky. This is diffuse daylight.

3.2.2 Diffuse daylight calculations should be undertaken to all main windows at adjoining residential properties. The calculations should be applied to non-domestic buildings where there is a reasonable expectation of daylight. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

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3.2.3 The BRE guide contains three tests which measure diffuse daylight. These are explained in the following sections.

3.2.4 Test 1 Vertical Sky Component

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. Diffuse daylight will be adversely affected if after a development the Vertical Sky Component is both less than 27% and less than 0.8 times its former value.

3.2.5 Test 2 No-Sky Line

The no-sky line test involves calculating the percentage of a room's area which can receive direct sky light. Diffuse daylight is likely to be adversely affected if after the development the area of a room receiving direct skylight is less than 0.8 times its former value.

3.2.6 Test 3 Average Daylight Factor

The Average Daylight Factor takes into account a range of variables. For example, the size of the window, the type of glazing, whether the room has more than one window and factors such as the reflectivity of the internal decor.

The BRE test is based on the British Standard BS 8206 Part 2, which recommends an Average Daylight Factor of 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary lighting is provided. There are additional minimum recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

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### **3.3 Sunlight availability to windows**

- 3.3.1 The BRE sunlight tests should be applied to all main living rooms and conservatories which have a window which faces within 90 degrees of due south. The guide states that kitchens and bedrooms are less important, although care should be taken not to block too much sunlight. In non-domestic buildings, any spaces which are deemed to have a specific requirement for sunlight should be checked.
- 3.3.2 The BRE guide recommends that main living room windows should receive at least 25% of the total annual probable sunlight hours, including at least 5% of the annual probable sunlight hours during the winter months between 21st September and 21st March. Sunlight availability will be adversely affected if both the total number of sunlight hours falls below these targets and is less than 0.8 times the amount before the development.

### **3.4 Overshadowing to Gardens and Open Spaces**

- 3.4.1 The availability of sunlight should be checked for all open spaces where sunlight is required. This would normally include:
- Gardens, usually the main back garden of a house, and allotments
  - Parks and playing fields
  - Children's playgrounds
  - Outdoor swimming pools and paddling pools
  - Sitting out areas, such as those between non-domestic buildings and in public squares
- 3.4.2 The BRE guide recommends that for an open space to appear adequately lit throughout the year, no more than 40% and preferably no more than 25% of its area should be prevented from receiving any sunlight at all on 21<sup>st</sup> March. Sunlight availability will be adversely affected if these targets are not met and the amount of sunlight received on 21<sup>st</sup> March is less than 0.8 times the amount before the development.



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## **4 RESULTS OF THE STUDY**

### **4.1 Windows & Amenity Areas Considered**

4.1.1 Appendix 1 provides a plan and photographs to indicate the positions of the windows and gardens analysed in this study.

### **4.2 Numerical Results**

4.2.1 Appendix 2 lists the detailed numerical daylight and sunlight test results. The results are interpreted below.

### **4.3 Daylight to Windows**

4.3.1 The Vertical Sky Component test and Average Daylight Factor test are used to measure the amount of diffuse daylight in each room. The Vertical Sky Component test measures the access to visible sky from a point at the centre of each main window. The results show that two isolated windows at 86 Gloucester Avenue fall short of the recommended Vertical Sky Component target. However, where a window does not satisfy the Vertical Sky Component test, it does not automatically follow that daylighting will be of a poor standard. Depending on factors such as room depth (which in this case we have taken to be approximately half the overall property depth) and the size of its window, a room may still receive satisfactory levels of daylight. This can be checked by applying the Average Daylight factor test – which takes into account these additional variables. In the case of the Dumpton Place development, the results of the Average Daylight Factor test indicate that the impact of the development will be relatively low.

4.3.2 The BRE No Sky Line test measures the distribution of daylight within each room. Some of the windows at 72 to 82 & 86 Gloucester Avenue do not meet the BRE No Sky Line minimum requirement. However, in urban locations it is very often not possible to satisfy all BRE daylight recommendations. We are of the opinion that the fail results that occur in this instance are acceptable.

### **4.4 Sunlight to Windows**

4.4.1 All analysed windows do not face within 90 degrees of due south or serve bedrooms and kitchens. The BRE guide states that sunlight to bedrooms and kitchens is less

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important (compared with living rooms). The BRE guide sets out sunlight targets for living rooms but has no target requirement for bedrooms and kitchens. The proposed development therefore satisfies the BRE direct sunlight to windows requirements.

#### **4.5 Overshadowing to Gardens and Open Spaces**

4.5.1 There are no nearby gardens or amenity areas directly to the north of the development. The proposed development will therefore not cause any garden or amenity area to remain in permanent shadow on the 21<sup>st</sup> March. The proposed development satisfies the BRE overshadowing to gardens and open spaces requirements.

#### **4.6 Conclusion**

4.6.1 We are of the opinion that in general the impact of the development will be relatively low. Whilst we have identified some transgression of the BRE daylight recommendations, we are of the opinion that the development design is likely to be acceptable when taking into account all material planning considerations which affect layout design.

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## **5 CLARIFICATIONS**

### **5.1 General**

- 5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.
- 5.1.2 External areas will have been inspected from best vantage points or a standard twelve-foot surveyor's ladder. We shall have undertaken the survey following the guidelines of the RICS publication "Surveying Safely".
- 5.1.3 Where limited access is available, reasonable assumptions will have been made.
- 5.1.4 Right of Light Consulting have endeavoured to include in the report those matters, which they have knowledge of or of which they have been made aware, that might adversely affect the validity of the opinion given.
- 5.1.5 Right of Light Consulting have indicated the sources of all information used in the report.
- 5.1.6 Right of Light Consulting will notify those instructing them immediately and confirm in writing if for any reason the report requires any correction or qualification.
- 5.1.7 Right of Light Consulting confirm that they have not entered into any arrangement where the amount or payment of fees is in any way dependent on the outcome of a planning decision.
- 5.1.8 Right of Light Consulting confirm that they have used their best endeavours to ensure that the facts stated in this report are correct and that the opinions expressed represent a true and complete professional opinion.

### **5.2 Project Specific**

- 5.2.1 None

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## **APPENDICES**

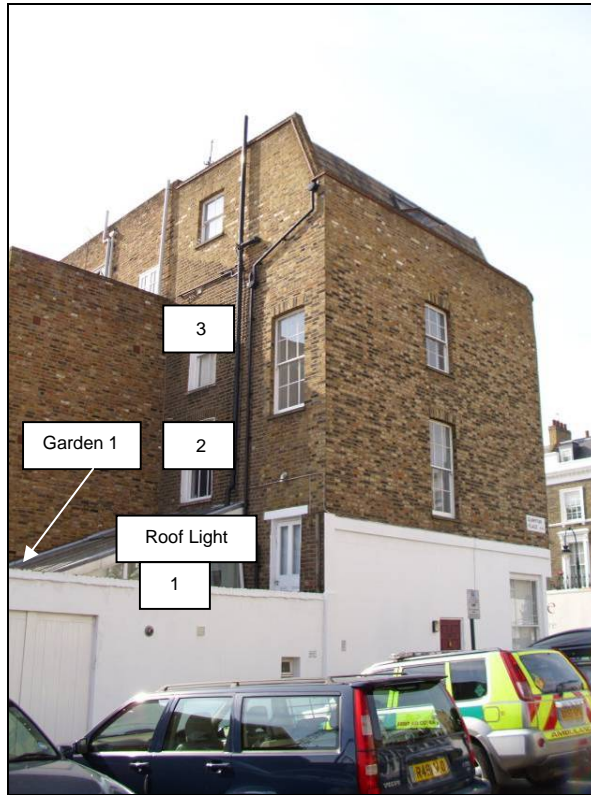
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## **APPENDIX 1**

### **WINDOW & GARDEN KEY**



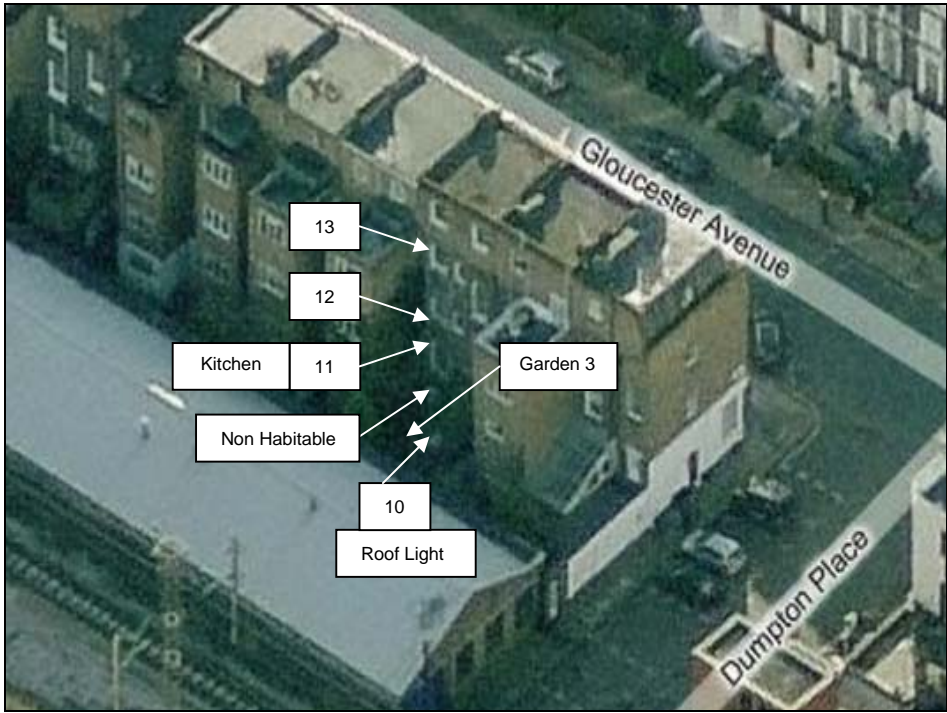
### Neighbouring Windows



88 Gloucester Avenue



86 Gloucester Avenue

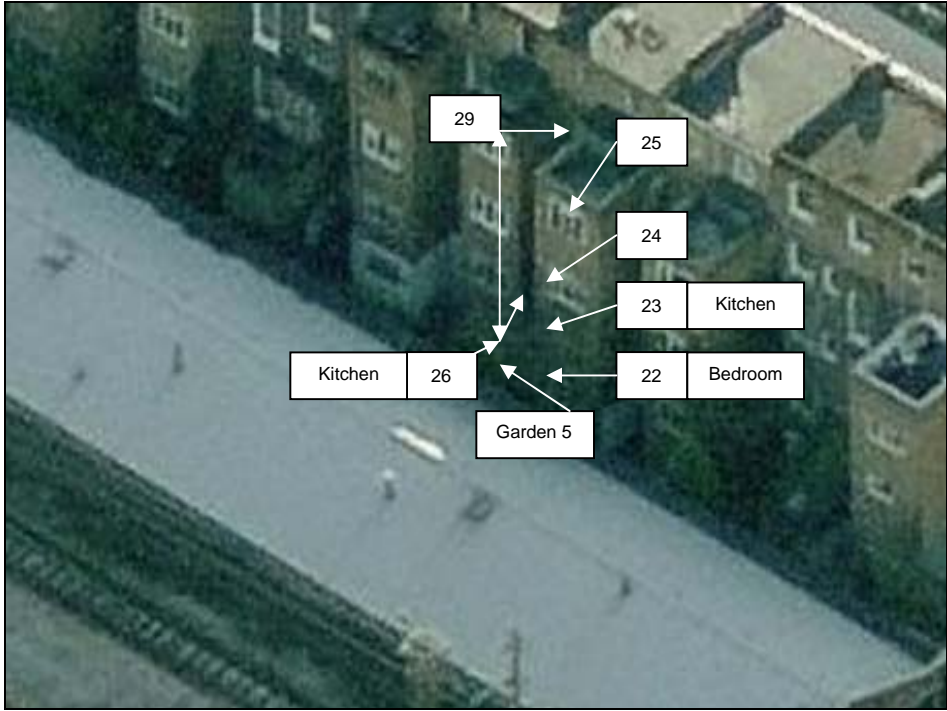


**84 Gloucester Avenue**



**82 Gloucester Avenue**





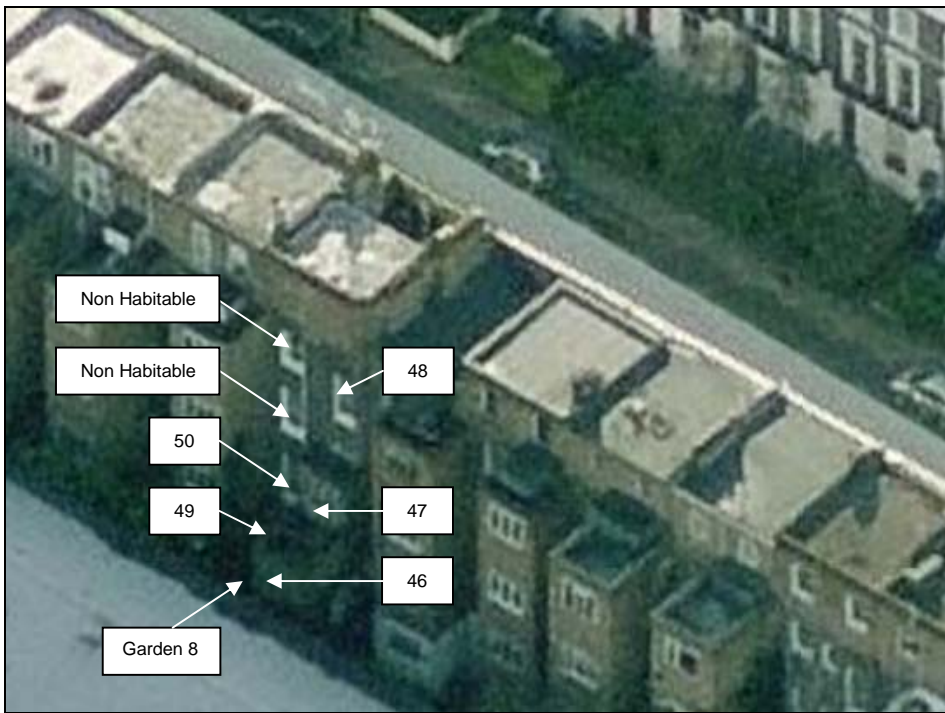
**80 Gloucester Avenue**



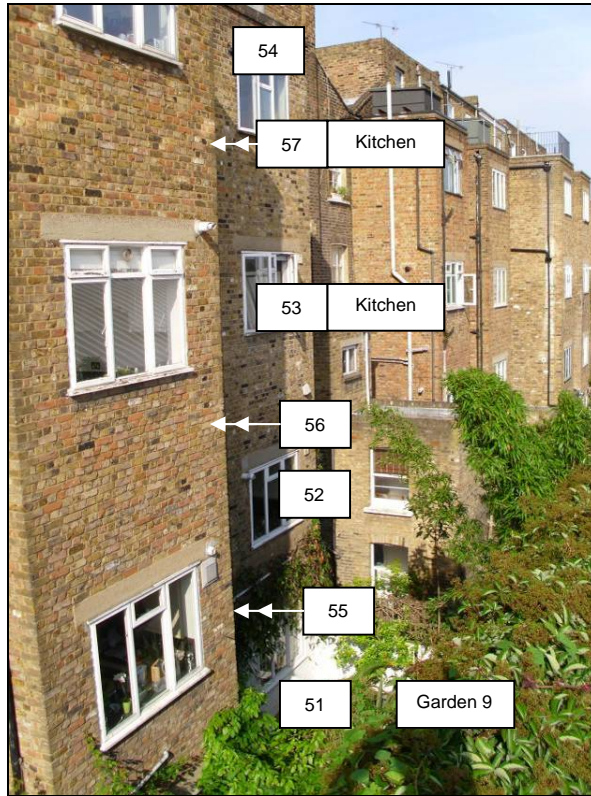
**78 Gloucester Avenue**



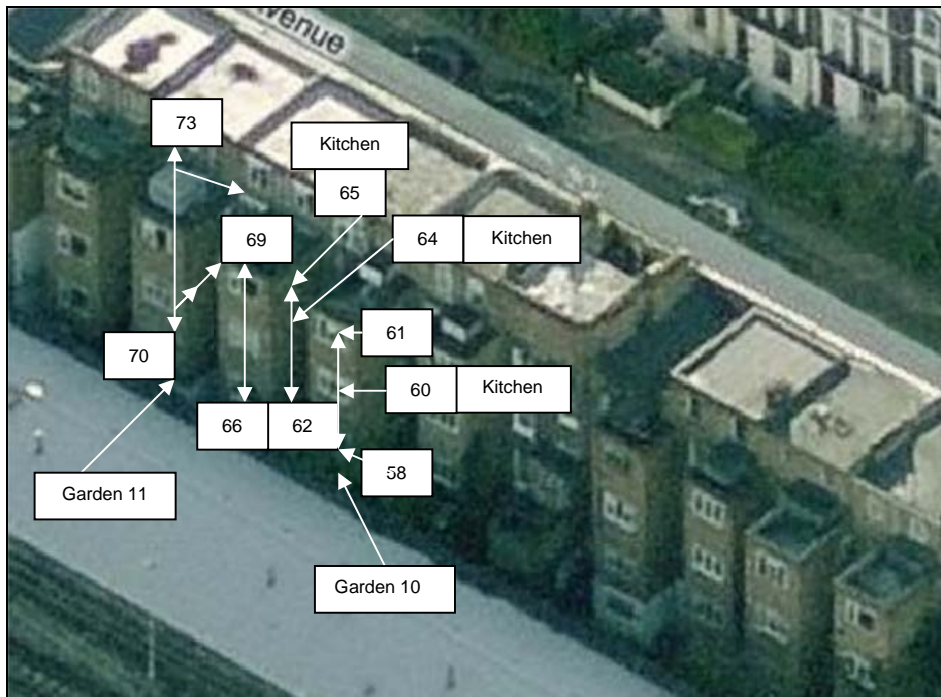
**76 Gloucester Avenue**



**74 Gloucester Avenue**



**72 Gloucester Avenue**



**70 & 68 Gloucester Avenue**

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## **APPENDIX 2**

### **DAYLIGHT AND SUNLIGHT RESULTS**

**Appendix 2 - Daylight and Sunlight to Windows**  
**2 Dumpton Place, Primrose Hill, London NW1 8JB**

Reference	Use Class	Daylight to Windows						Sunlight to Windows										
		Vertical Sky Component			No-Sky Line			Average Daylight Factor			Total Sunlight Hours			Winter Sunlight Hours				
		Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result	Target	Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result
		Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result	Target	Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result
<u>38 Gloucester Avenue</u>																		
Window 1	Supp Light	43.3%	37.9%	0.88	Pass	100%	100%	1.0	Pass	2.0%	11.2%	10.2%	n/a	n/a	n/a	n/a	n/a	n/a
Window 2	Supp Light	25.5%	21.1%	0.83	Pass	75%	75%	1.0	Pass	2.0%	1.1%	1.0%	n/a	n/a	n/a	n/a	n/a	n/a
Window 3	Supp Light	30.1%	28.4%	0.94	Pass	93%	93%	1.0	Pass	2.0%	1.2%	1.2%	n/a	n/a	n/a	n/a	n/a	n/a
<u>36 Gloucester Avenue</u>																		
Window 4	Bedroom	29.9%	13.1%	0.44	Fail	99%	48%	0.48	Fail	1.0%	2.2%	1.3%	n/a	n/a	n/a	n/a	n/a	n/a
Window 5	Kitchen	36.7%	24.9%	0.68	Fail	97%	73%	0.75	Fail	2.0%	1.8%	1.3%	n/a	n/a	n/a	n/a	n/a	n/a
Window 6	Supp Light	39.0%	35.1%	0.9	Pass	99%	99%	1.0	Pass	2.0%	2.8%	2.5%	n/a	n/a	n/a	n/a	n/a	n/a
Window 7	Supp Light	20.3%	18.9%	0.93	Pass	89%	86%	0.97	Pass	2.0%	1.2%	1.2%	n/a	n/a	n/a	n/a	n/a	n/a
Window 8	Supp Light	25.3%	23.9%	0.94	Pass	93%	93%	1.0	Pass	2.0%	1.4%	1.4%	n/a	n/a	n/a	n/a	n/a	n/a
Window 9	Supp Light	36.3%	36.2%	1.0	Pass	95%	95%	1.0	Pass	2.0%	1.8%	1.8%	n/a	n/a	n/a	n/a	n/a	n/a
<u>34 Gloucester Avenue</u>																		
Window 10	Supp Light	47.8%	43.6%	0.91	Pass	100%	100%	1.0	Pass	2.0%	1.5%	1.5%	n/a	n/a	n/a	n/a	n/a	n/a
Window 11	Supp Light	20.2%	17.9%	0.89	Pass	94%	94%	1.0	Pass	2.0%	2.2%	2.0%	n/a	n/a	n/a	n/a	n/a	n/a
Window 12	Supp Light	25.1%	23.5%	0.94	Pass	99%	99%	1.0	Pass	2.0%	2.7%	2.6%	n/a	n/a	n/a	n/a	n/a	n/a
Window 13	Supp Light	35.9%	35.8%	1.0	Pass	95%	95%	1.0	Pass	2.0%	2.9%	2.9%	n/a	n/a	n/a	n/a	n/a	n/a
<u>32 Gloucester Avenue</u>																		
Window 18	Living Room	10.2%	8.3%	0.81	Pass	33%	26%	0.79	Fail	1.5%	1.6%	1.4%	n/a	n/a	n/a	n/a	n/a	n/a
Window 14	Living Room	11.7%	9.6%	0.82	Pass	33%	26%	0.79	Fail	1.5%	1.6%	1.4%	n/a	n/a	n/a	n/a	n/a	n/a
Window 15	Supp Light	30.5%	24.5%	0.8	Pass	100%	92%	0.92	Pass	2.0%	3.1%	2.6%	n/a	n/a	n/a	n/a	n/a	n/a
Window 16	Supp Light	37.1%	35.3%	0.95	Pass	100%	100%	1.0	Pass	2.0%	3.7%	3.5%	n/a	n/a	n/a	n/a	n/a	n/a
Window 17	Supp Light	39.1%	38.5%	0.98	Pass	100%	100%	1.0	Pass	2.0%	3.8%	3.8%	n/a	n/a	n/a	n/a	n/a	n/a
Window 19	Supp Light	10.6%	10.2%	0.96	Pass	35%	35%	1.0	Pass	2.0%	0.7%	0.7%	n/a	n/a	n/a	n/a	n/a	n/a
Window 20	Supp Light	15.1%	14.8%	0.98	Pass	44%	44%	1.0	Pass	2.0%	0.9%	0.9%	n/a	n/a	n/a	n/a	n/a	n/a
Window 21	Supp Light	34.8%	34.8%	1.0	Pass	87%	87%	1.0	Pass	2.0%	1.3%	1.3%	n/a	n/a	n/a	n/a	n/a	n/a



**Appendix 2 - Daylight and Sunlight to Windows**  
**2 Dumpton Place, Primrose Hill, London NW1 8JB**

Reference	Use Class	Daylight to Windows						Sunlight to Windows										
		Vertical Sky Component			No-Sky Line			Average Daylight Factor			Total Sunlight Hours			Winter Sunlight Hours				
		Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result	Target	Existing	Proposed	Ratio	Result	Existing	Proposed	Ratio	Result
<u>72 Gloucester Avenue</u>																		
Window 51	Supp Light	12.6%	10.2%	0.81	Pass	46%	35%	0.76	Fail	2.0%	1.9%		n/a	n/a	n/a	n/a	n/a	n/a
Window 52	Supp Light	30.3%	25.6%	0.84	Pass	100%	95%	0.95	Pass	2.0%	3.4%		n/a	n/a	n/a	n/a	n/a	n/a
Window 53	Supp Light	37.1%	36.5%	0.98	Pass	100%	100%	1.0	Pass	2.0%	4.1%		n/a	n/a	n/a	n/a	n/a	n/a
Window 54	Supp Light	39.1%	39.1%	1.0	Pass	100%	100%	1.0	Pass	2.0%	4.3%		n/a	n/a	n/a	n/a	n/a	n/a
Window 55	Supp Light	7.4%	6.2%	0.84	Pass	44%	31%	0.7	Fail	2.0%	0.7%		n/a	n/a	n/a	n/a	n/a	n/a
Window 56	Supp Light	11.2%	10.9%	0.97	Pass	62%	62%	1.0	Pass	2.0%	0.9%		n/a	n/a	n/a	n/a	n/a	n/a
Window 57	Supp Light	15.8%	15.7%	0.99	Pass	71%	71%	1.0	Pass	2.0%	1.1%		n/a	n/a	n/a	n/a	n/a	n/a
<u>68 Gloucester Avenue</u>																		
Window 58	Supp Light	12.9%	11.3%	0.88	Pass	47%	43%	0.91	Pass	2.0%	1.9%		n/a	n/a	n/a	n/a	n/a	n/a
Window 59	Supp Light	30.3%	26.5%	0.87	Pass	100%	97%	0.97	Pass	2.0%	3.3%		n/a	n/a	n/a	n/a	n/a	n/a
Window 60	Kitchen	37.1%	37.7%	1.02	Pass	100%	100%	1.0	Pass	2.0%	3.9%		n/a	n/a	n/a	n/a	n/a	n/a
Window 61	Supp Light	39.1%	39.1%	1.0	Pass	100%	100%	1.0	Pass	2.0%	4.2%		n/a	n/a	n/a	n/a	n/a	n/a
Window 62	Supp Light	7.6%	7.1%	0.93	Pass	45%	43%	0.96	Pass	2.0%	0.7%		n/a	n/a	n/a	n/a	n/a	n/a
Window 63	Supp Light	11.4%	12.1%	1.06	Pass	62%	62%	1.0	Pass	2.0%	0.9%		n/a	n/a	n/a	n/a	n/a	n/a
Window 64	Supp Light	16.2%	16.2%	1.0	Pass	73%	73%	1.0	Pass	2.0%	1.1%		n/a	n/a	n/a	n/a	n/a	n/a
Window 65	Supp Light	35.3%	35.3%	1.0	Pass	94%	94%	1.0	Pass	2.0%	1.6%		n/a	n/a	n/a	n/a	n/a	n/a
<u>68 Gloucester Avenue</u>																		
Window 66	Supp Light	12.7%	12.7%	1.0	Pass	47%	47%	1.0	Pass	2.0%	2.0%		n/a	n/a	n/a	n/a	n/a	n/a
Window 67	Supp Light	30.2%	29.6%	0.98	Pass	100%	100%	1.0	Pass	2.0%	3.4%		n/a	n/a	n/a	n/a	n/a	n/a
Window 68	Supp Light	37.1%	37.9%	1.02	Pass	100%	100%	1.0	Pass	2.0%	4.1%		n/a	n/a	n/a	n/a	n/a	n/a
Window 69	Supp Light	39.2%	39.2%	1.0	Pass	100%	100%	1.0	Pass	2.0%	4.3%		n/a	n/a	n/a	n/a	n/a	n/a
Window 70	Supp Light	7.6%	7.6%	1.0	Pass	45%	47%	1.04	Pass	2.0%	0.7%		n/a	n/a	n/a	n/a	n/a	n/a
Window 71	Supp Light	11.4%	11.9%	1.04	Pass	63%	63%	1.0	Pass	2.0%	0.9%		n/a	n/a	n/a	n/a	n/a	n/a
Window 72	Supp Light	16.3%	16.3%	1.0	Pass	74%	74%	1.0	Pass	2.0%	1.1%		n/a	n/a	n/a	n/a	n/a	n/a
Window 73	Supp Light	35.4%	35.4%	1.0	Pass	93%	93%	1.0	Pass	2.0%	1.6%		n/a	n/a	n/a	n/a	n/a	n/a

n/a = window does not face within 90 degrees of due south; or serves a kitchen or bedroom and the BRE sunlight targets are not applicable.