



RIGHT OF LIGHT
CONSULTING
Chartered Surveyors

Daylight and Sunlight Report

(Within Development)

1 June 2021

Site at Partridge Way,
London N22 8DT

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DAYLIGHT AND SUNLIGHT STUDY
Site at Partridge Way, London N22 8DT

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by Martin Arnold Ltd to undertake a daylight and sunlight study in connection with the development at Site at Partridge Way, London N22 8DT. The aim of the study is to check whether or not the proposed First Floor to Eighth Floor receive satisfactory levels of daylight and sunlight.
- 1.1.2 The study is based on the numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide, 2nd Edition' by P J Littlefair 2011.
- 1.1.3 Appendix 1 identifies the windows analysed in this study. The numerical test results (including all calculation workings) are provided in Appendix 2. No sky line contours are presented in Appendix 1.
- 1.1.4 Right of Light Consulting confirms that the proposed design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

Unit One Architects Ltd

0226 - 101	PROPOSED BLOCK PLAN	Rev P01
0226 - 102	PROPOSED SITE PLAN	Rev P01
0226 - 103	PROPOSED GROUND FLOOR PLAN	Rev P01
0226 - 104	PROPOSED FIRST FLOOR PLAN	Rev P01
0226 - 105	PROPOSED SECOND TO EIGHTH FLOOR PLAN	Rev P01
0226 - 106	PROPOSED NINTH FLOOR PLAN	Rev P02
0226 - 107	PROPOSED ROOF PLAN	Rev P02
0226 - 108	PROPOSED SOUTH WEST ELEVATION	Rev P01
0226 - 109	PROPOSED NORTH ELEVATION	Rev P01
0226 - 110	PROPOSED SOUTH EAST ELEVATION	Rev P01

3 METHODOLOGY OF THE STUDY

3.1 Local Planning Policy

- 3.1.1 We understand that the Local Authority take the conventional approach of considering daylight and sunlight amenity with reference to the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 2nd Edition' by P J Littlefair 2011. A new European standard BS EN 17037 'Daylight in Buildings' was published in May 2019. An update to the BRE guide to take into account the European standard is not anticipated until sometime in 2020. It is not yet clear, how and to what extent, the European recommendations will be adopted by the BRE and Local Authorities.
- 3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The BRE guide states:
- 3.1.3 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly, since natural lighting is only one of many factors in site layout design."
- 3.1.4 In our opinion, the testing of direct sunlight to balconies was not intended to be undertaken within the interpretation of the guide. In section 3.3.3, the guide implies that the availability of sunlight for open spaces would primarily be required for gardens (usually the main back garden of a house) and larger open community spaces. However, in our opinion, the balconies will receive sufficient light within the interpretation of the guide.

3.2 National Planning Policy Framework

- 3.2.1 The BRE numerical guidelines should be considered in the context of the National Planning Policy Framework (NPPF), which stipulates that local planning authorities should take a flexible approach to daylight and sunlight to ensure the efficient use of land. The NPPF states:

-
- 3.2.2 "Local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

3.3 Interior Daylighting

- 3.3.1 The interior daylighting recommendations set out in BRE guide are based on British Standard BS 8206 Part 2 and the Chartered Institute of Building Services Engineers Applications Manual on window design. Collectively, the guides set out three main criteria for interior daylighting. These are summarised as follows:

Test 1 Average Daylight Factor (df)

- 3.3.2 The Average Daylight Factor can be calculated using the following formula:

$$df = \frac{T A_w \theta}{A (1-R^2)} \%$$

Where

T is the diffuse visible transmittance of the glazing
A_w is the net glazed area of the window (m²)
A is the total area of the room surfaces (m²)
R is their average reflectance
θ is the angle of visible sky in degrees

- 3.3.3 The Average Daylight factor test is applied to habitable rooms within domestic properties. A kitchen is generally deemed to be a habitable room if it is large enough to accommodate a dining area. If the kitchen is small or if the property has a separate dining area then the accepted practice is to treat the kitchen as a non habitable room.
- 3.3.4 For the purpose of this study we have assumed BRE internal reflectance values pertaining to medium wooden floors (Coefficient value of 0.4), light painted walls (0.8) and matte white painted ceilings (0.85).
- 3.3.5 For the purpose of this study we have assumed the windows consist of modern double-glazed units with a frame to glazing ratio of 0.8. A maintenance factor has

been applied to consider the effect of dirt and grime on the visibility of the window. On this basis, the transmittance value used within this study is 0.68.

- 3.3.6 To achieve a predominately daylit space, the guide 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.
- 3.3.7 The BRE guide does not give guidance on how to apply the ADF test to spaces which contain a mix of room uses e.g. open plan living, dining and kitchen areas. For this assessment we have set a target of 2% with the aim of reaching the predominately daylit benchmark.
- 3.3.8 A special procedure is required for floor to ceiling windows such as patio doors. If part of a window is below the height of the working plane (a horizontal plane 0.85m above the floor in housing), this portion should be treated as a separate window. The ADF for this window has an extra factor applied to it, to take account of the reduced effectiveness of low level glazing in lighting the room. A value equal to the floor reflectance may be taken for this factor. The ADF for the portion of the window above the working plane is calculated in the normal way without this additional factor, and the ADFs for the two portions are added together.
- 3.3.9 Where a window has a large obstruction in front of it, the angle of visible sky can be increased by around 6° assuming the obstruction is painted a light colour.

Test 2 Room Depth

- 3.3.10 If a daylit room is lit by windows in one wall only, the depth of the room L should not exceed the limiting value given by:

$$\frac{L}{W} + \frac{L}{H} \leq \frac{2}{1-R_b}$$

Where

W is the room width
H is the window-head height above floor level
R_b is the average reflectance of the surfaces in the rear half of the room

Test 3 Position of the no sky line

- 3.3.11 If a significant area of the working plane lies beyond the no sky line (i.e. it receives no direct skylight), then the distribution of daylight in the room will look poor and supplementary electric lighting will be required.
- 3.3.12 The no sky line assessment is not applicable where a room derives its daylight solely from a light well or atrium. In these situations, the room relies on borrowed light instead of direct skylight.

3.4 Sunlight to Windows

- 3.4.1 The BRE guide recommends that where possible each dwelling should have at least one main living room window that faces within 90 degrees of due south. However, the guide acknowledges that this is not always possible when it comes to flats.
- 3.4.2 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 sunlight is viewed as less important in kitchens and bedrooms. In non-domestic buildings, any spaces which are deemed to have a specific requirement for sunlight should be checked.
- 3.4.3 The BRE guide recommends that main living room windows should receive 25% of the total annual probable sunlight hours, including 5% of the annual probable sunlight hours during the winter months between 21st September and 21st March.

4 RESULTS OF THE STUDY

4.1 Window Reference Points and No Sky Line Contours

4.1.1 Refer to Appendix 1 for a drawing which identifies the positions of the windows analysed in this study. The no skyline contours for the habitable rooms are also presented in Appendix 1.

4.2 Numerical Results

4.2.1 The numerical test results including all calculation workings are provided in Appendix 2.

4.3 Interior Daylighting

4.3.1 All rooms meet or surpass the BRE Average Daylight Factor targets. Around 90% of all rooms achieve or surpass their Average Daylight Factor (ADF) targets. 7 out of the 55 rooms fall marginally short of the targets. However, as explained in paragraphs 3.3.6 and 3.3.7 of this report, whilst the BRE guide gives minimum targets for living rooms, bedrooms and kitchens, no equivalent target is given for open plan rooms comprising two or more uses. Therefore, we have adopted the more onerous 2% target for these rooms. One of the rooms that does not achieve an ADF of 2%, achieves an ADF of 1.6% and the remaining 6 rooms achieve an ADF of 1.9%. The rooms therefore achieve the minimum recommended target applicable to living rooms. In overall terms, the ADF scores represent a very high level of compliance with the BRE recommendations.

4.3.2 All rooms pass the room depth test.

4.3.3 The BRE guide does not give fixed numerical pass/fail criteria for the No Sky Line test when applied to new dwellings (guidance is given for when this test is applied to existing neighbouring buildings). However, for completeness, we have illustrated the no sky line contours in Appendix 1. The contours illustrate good access to daylight over a significant part of the working plane.

4.4 Sunlight to Windows

4.4.1 Living rooms which face within 90 degrees of due south have been tested for direct sunlight. The results are presented in Appendix 2. Not all windows receive ideal

levels of direct sunlight, however, the majority do. Furthermore, the BRE guide acknowledges that it is not always possible for every dwelling to be well situated to receive direct sunlight.

4.5 Conclusion

- 4.5.1 Right of Light Consulting confirms that the proposed design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

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 The study is limited to assessing daylight, sunlight of the proposed development as set out in section 2.1, 3.1 and 3.3 of the BRE Guide.
- 5.1.3 The study has been undertaken following access to the proposed development site. We have not had access to neighbouring properties. The study is based on the information listed in section 2 of this report.
- 5.1.4 This study does not calculate the effects of trees and hedges on daylight, sunlight and overshadowing to gardens. The BRE guide states that trees should sometimes be taken into account, e.g. where there is concern that future occupants of the dwelling may want the trees to be cutdown if they block too much skylight or sunlight. We are not aware of any such circumstances, in this instance.
- 5.1.5 We have undertaken the survey following the guidelines of the RICS publication "Surveying Safely". Where limited access is available, assumptions will have been made.
- 5.1.6 This report is based upon and subject to the scope of work set out in Right of Light Consulting's quotation and standard terms and conditions.

APPENDICES

APPENDIX 1

WINDOW KEY & NO SKY LINE CONTOURS



Proposed Development

Partridge Way

Trinity Road

Partridge Way

- | | | |
|----|----|----|
| 91 | 90 | 89 |
| 80 | 79 | 78 |
| 69 | 68 | 67 |
| 58 | 57 | 56 |
| 47 | 46 | 45 |
| 36 | 35 | 34 |
| 25 | 24 | 23 |
| 14 | 13 | 12 |
| | | 11 |



Proposed Development

Partridge Way





Proposed Development

Bounds Green Road

Trinity Road

Partridge Way

90

79

68

57

46

35

24

13

89

78

67

56

45

34

23

12

88

77

66

55

44

33

22

11

87

76

65

54

43

32

21

9

10

86

75

64

53

42

31

20

7

85

74

63

52

41

30

19

6



Proposed Development



Partridge Way

Trinity Road



Key:

- Window reference
- G1 Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 1 of 8

Rev. .

Rev	Date	Details of revision


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Key:

- Window reference
- G1 Gardens and Amenity Areas
-  Area receives no direct sky light (applied to habitable rooms)
-  Area does receive direct sky light.
-  Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 2 of 8

Rev. .

Rev	Date	Details of revision



Key:

- Window reference
- G1 Gardens and Amenity Areas
-  Area receives no direct sky light (applied to habitable rooms)
-  Area does receive direct sky light.
-  Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 3 of 8

Rev. .

Rev	Date	Details of revision



Key:

- Window reference
- G1 Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 4 of 8

Rev. .

Rev	Date	Details of revision



Key:

- Window reference
- G1 Gardens and Amenity Areas
-  Area receives no direct sky light (applied to habitable rooms)
-  Area does receive direct sky light.
-  Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 5 of 8

Rev. .

Rev	Date	Details of revision



Key:

- Window reference
- G1 Gardens and Amenity Areas
-  Area receives no direct sky light (applied to habitable rooms)
-  Area does receive direct sky light.
-  Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 6 of 8

Rev. .

Rev	Date	Details of revision



Key:

- Window reference
- G1 Gardens and Amenity Areas
- Area receives no direct sky light (applied to habitable rooms)
- Area does receive direct sky light.
- Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 7 of 8

Rev. .

Rev	Date	Details of revision


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Key:

- Window reference
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- Area does receive direct sky light.
- Light aperture.

Project Name: Site at Partridge Way, London N22 8DT

Drawing Title: Window Key and No Sky Line Contours

Scale: Do not scale

Drawing No: 8 of 8

Rev. .

Rev	Date	Details of revision

APPENDIX 2

DAYLIGHT AND SUNLIGHT CALCULATIONS

Appendix 2 - Average Daylight Factor (ADF)

Site at Partridge Way, London N22 8DT

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF
	Primary room use	ADF	T	Aw	A	R	θ	
<u>Site at Partridge Way</u>								
<u>First Floor</u>								
Window 1	Bedroom	1.0%	0.68	0.66	83.47	0.72	85.0	0.9%
Window 2			0.68	0.66	83.47	0.72	85.0	0.9%
Total ADF for room								1.8%
Window 3			0.68	0.66	117.23	0.69	84.8	0.6%
Window 4			0.68	0.66	117.23	0.69	84.9	0.6%
Window 5 (lower)			0.68	1.12	117.23	0.69	33.4	0.2%
Window 5 (upper)	Living/Dining/Kitchen	2.0%	0.68	2.23	117.23	0.69	26.4	0.6%
Total ADF for room							2.0%	
Window 6			0.68	0.66	61.51	0.73	58.5	0.9%
Window 7	Bedroom	1.0%	0.68	0.66	61.51	0.73	58.8	0.9%
Total ADF for room							1.8%	
Window 8			0.68	0.66	68.88	0.72	60.8	0.8%
Window 9	Bedroom	1.0%	0.68	0.66	68.88	0.72	60.8	0.8%
Total ADF for room							1.6%	
Window 10			0.68	2.05	98.02	0.67	61.5	1.6%
Window 11 (lower)	Bedroom	1.0%	0.68	1.12	98.02	0.67	71.6	0.4%
Window 11 (upper)			0.68	2.23	98.02	0.67	72.8	2.1%
Window 12 (lower)			0.68	0.56	98.02	0.67	71.6	0.2%
Window 12 (upper)			0.68	1.12	98.02	0.67	74.2	1.0%
Total ADF for room							5.3%	
Window 13			0.68	1.03	131.64	0.69	76.3	0.8%
Window 14 (lower)	Living/Dining/Kitchen	2.0%	0.68	1.12	131.64	0.69	37.5	0.2%
Window 14 (upper)			0.68	2.23	131.64	0.69	28.1	0.6%
Total ADF for room							1.6%	
<u>Second Floor</u>								
Window 15	Bedroom	1.0%	0.68	2.05	69.94	0.71	88.2	3.5%
Window 16	Bedroom	1.0%	0.68	2.05	60.8	0.71	88.2	4.1%
Window 17	Living/Dining/Kitchen	2.0%	0.68	2.05	103.86	0.67	88.1	2.2%
Window 18 (lower)			0.68	1.12	103.86	0.67	33.4	0.2%
Window 18 (upper)			0.68	2.23	103.86	0.67	27.1	0.7%
Window 19			0.68	1.03	103.86	0.67	59.2	0.7%
Total ADF for room							3.8%	
Window 20			Bedroom	1.0%	0.68	2.05	60.63	0.71
Window 21	Bedroom	1.0%	0.68	2.05	57.17	0.71	62.9	3.1%
Window 22 (lower)			0.68	1.12	104.46	0.69	40.8	0.2%
Window 22 (upper)			0.68	2.23	104.46	0.69	43.6	1.2%
Window 23 (lower)			0.68	0.56	104.46	0.69	76.1	0.2%
Window 23 (upper)			0.68	1.12	104.46	0.69	76.3	1.0%

Appendix 2 - Average Daylight Factor (ADF)

Site at Partridge Way, London N22 8DT

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF
	Primary room use	ADF	T	Aw	A	R	θ	
Total ADF for room	Living/Dining/Kitchen	2.0%						2.6%
Window 24			0.68	1.03	117.19	0.69	88.3	1.0%
Window 25 (lower)			0.68	1.12	117.19	0.69	37.2	0.2%
Window 25 (upper)			0.68	2.23	117.19	0.69	29.2	0.7%
Total ADF for room	Living/Dining/Kitchen	2.0%						1.9%
<u>Third Floor</u>								
Window 26	Bedroom	1.0%	0.68	2.05	69.94	0.71	89.3	3.6%
Window 27	Bedroom	1.0%	0.68	2.05	60.8	0.71	89.3	4.1%
Window 28			0.68	2.05	103.86	0.67	89.3	2.2%
Window 29 (lower)			0.68	1.12	103.86	0.67	33.4	0.2%
Window 29 (upper)			0.68	2.23	103.86	0.67	27.5	0.7%
Window 30			0.68	1.03	103.86	0.67	60.4	0.7%
Total ADF for room	Living/Dining/Kitchen	2.0%						3.8%
Window 31	Bedroom	1.0%	0.68	2.05	60.63	0.71	61.9	2.9%
Window 32	Bedroom	1.0%	0.68	2.05	57.17	0.71	64.4	3.2%
Window 33 (lower)			0.68	1.12	104.46	0.69	40.8	0.2%
Window 33 (upper)			0.68	2.23	104.46	0.69	43.7	1.2%
Window 34 (lower)			0.68	0.56	104.46	0.69	76.8	0.2%
Window 34 (upper)			0.68	1.12	104.46	0.69	77.1	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						2.7%
Window 35			0.68	1.03	117.19	0.69	88.5	1.0%
Window 36 (lower)			0.68	1.12	117.19	0.69	37.2	0.2%
Window 36 (upper)			0.68	2.23	117.19	0.69	29.6	0.7%
Total ADF for room	Living/Dining/Kitchen	2.0%						1.9%
<u>Fourth Floor</u>								
Window 37	Bedroom	1.0%	0.68	2.05	69.94	0.71	89.3	3.6%
Window 38	Bedroom	1.0%	0.68	2.05	60.8	0.71	89.3	4.1%
Window 39 (lower)			0.68	1.12	103.86	0.67	33.4	0.2%
Window 40 (upper)			0.68	2.23	103.86	0.67	27.5	0.7%
Window 40			0.68	2.05	103.86	0.67	89.3	2.2%
Window 41			0.68	1.03	103.86	0.67	61.8	0.8%
Total ADF for room	Living/Dining/Kitchen	2.0%						3.9%
Window 42	Bedroom	1.0%	0.68	2.05	60.63	0.71	63.3	2.9%
Window 43	Bedroom	1.0%	0.68	2.05	57.17	0.71	66.1	3.2%
Window 44 (lower)			0.68	1.12	104.46	0.69	40.9	0.2%
Window 44 (upper)			0.68	2.23	104.46	0.69	43.7	1.2%
Window 45 (lower)			0.68	0.56	104.46	0.69	77.7	0.2%
Window 45 (upper)			0.68	1.12	104.46	0.69	78.0	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						2.7%

Appendix 2 - Average Daylight Factor (ADF)

Site at Partridge Way, London N22 8DT

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF
	Primary room use	ADF	T	Aw	A	R	θ	
Window 46	Living/Dining/Kitchen	2.0%	0.68	1.03	117.19	0.69	88.5	1.0%
Window 47 (lower)			0.68	1.12	117.19	0.69	37.2	0.2%
Window 47 (upper)			0.68	2.23	117.19	0.69	29.6	0.7%
Total ADF for room								
Fifth Floor								
Window 48	Bedroom	1.0%	0.68	2.05	69.94	0.71	89.3	3.6%
Window 49	Bedroom	1.0%	0.68	2.05	60.8	0.71	89.3	4.1%
Window 50	Living/Dining/Kitchen	2.0%	0.68	2.05	103.86	0.67	89.3	2.2%
Window 51 (lower)			0.68	1.12	103.86	0.67	33.4	0.2%
Window 51 (upper)			0.68	2.23	103.86	0.67	27.5	0.7%
Window 52			0.68	1.03	103.86	0.67	63.4	0.8%
Total ADF for room								3.9%
Window 53	Bedroom	1.0%	0.68	2.05	60.63	0.71	65.1	3.0%
Window 54	Bedroom	1.0%	0.68	2.05	57.17	0.71	68.0	3.3%
Window 55 (lower)	Living/Dining/Kitchen	2.0%	0.68	1.12	104.46	0.69	40.9	0.2%
Window 55 (upper)			0.68	2.23	104.46	0.69	43.7	1.2%
Window 56 (lower)			0.68	0.56	104.46	0.69	78.7	0.2%
Window 56 (upper)			0.68	1.12	104.46	0.69	79.1	1.1%
Total ADF for room								2.7%
Window 57	Living/Dining/Kitchen	2.0%	0.68	1.03	117.19	0.69	88.5	1.0%
Window 58 (lower)			0.68	1.12	117.19	0.69	37.2	0.2%
Window 58 (upper)			0.68	2.23	117.19	0.69	29.6	0.7%
Total ADF for room								
Sixth Floor								
Window 59	Bedroom	1.0%	0.68	2.05	69.94	0.71	89.3	3.6%
Window 60	Bedroom	1.0%	0.68	2.05	60.8	0.71	89.3	4.1%
Window 61	Living/Dining/Kitchen	2.0%	0.68	2.05	103.86	0.67	89.3	2.2%
Window 62 (lower)			0.68	1.12	103.86	0.67	30.9	0.2%
Window 62 (upper)			0.68	2.23	103.86	0.67	24.3	0.6%
Window 63			0.68	1.03	103.86	0.67	65.3	0.8%
Total ADF for room								3.8%
Window 64	Bedroom	1.0%	0.68	2.05	60.63	0.71	67.2	3.1%
Window 65	Bedroom	1.0%	0.68	2.05	57.17	0.71	70.3	3.4%
Window 66 (lower)	Living/Dining/Kitchen	2.0%	0.68	1.12	104.46	0.69	40.9	0.2%
Window 66 (upper)			0.68	2.23	104.46	0.69	43.8	1.2%
Window 67 (lower)			0.68	0.56	104.46	0.69	79.9	0.2%
Window 67 (upper)			0.68	1.12	104.46	0.69	80.3	1.1%
Total ADF for room								2.7%

Appendix 2 - Average Daylight Factor (ADF)
Site at Partridge Way, London N22 8DT

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF
	Primary room use	ADF	T	Aw	A	R	θ	
Window 68			0.68	1.03	117.19	0.69	88.6	1.0%
Window 69 (lower)			0.68	1.12	117.19	0.69	37.2	0.2%
Window 69 (upper)			0.68	2.23	117.19	0.69	29.6	0.7%
Total ADF for room	Living/Dining/Kitchen	2.0%						1.9%
<u>Seventh Floor</u>								
Window 70	Bedroom	1.0%	0.68	2.05	69.94	0.71	89.3	3.6%
Window 71	Bedroom	1.0%	0.68	2.05	60.8	0.71	89.3	4.1%
Window 72			0.68	2.05	103.86	0.67	89.4	2.2%
Window 73 (lower)			0.68	1.12	103.86	0.67	33.4	0.2%
Window 73 (upper)			0.68	2.23	103.86	0.67	27.5	0.7%
Window 74			0.68	1.03	103.86	0.67	67.7	0.8%
Total ADF for room	Living/Dining/Kitchen	2.0%						3.9%
Window 75	Bedroom	1.0%	0.68	2.05	60.63	0.71	69.6	3.2%
Window 76	Bedroom	1.0%	0.68	2.05	57.17	0.71	72.8	3.6%
Window 77 (lower)			0.68	1.12	104.46	0.69	40.9	0.2%
Window 77 (upper)			0.68	2.23	104.46	0.69	43.5	1.2%
Window 78 (lower)			0.68	0.56	104.46	0.69	81.2	0.2%
Window 78 (upper)			0.68	1.12	104.46	0.69	81.6	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						2.7%
Window 79			0.68	1.03	117.19	0.69	88.6	1.0%
Window 80 (lower)			0.68	1.12	117.19	0.69	37.2	0.2%
Window 80 (upper)			0.68	2.23	117.19	0.69	29.6	0.7%
Total ADF for room	Living/Dining/Kitchen	2.0%						1.9%
<u>Eighth Floor</u>								
Window 81	Bedroom	1.0%	0.68	2.05	69.94	0.71	89.3	3.6%
Window 82	Bedroom	1.0%	0.68	2.05	60.8	0.71	89.3	4.1%
Window 83			0.68	2.05	103.86	0.67	89.3	2.2%
Window 84 (lower)			0.68	1.12	103.86	0.67	38.5	0.2%
Window 84 (upper)			0.68	2.23	103.86	0.67	37.2	1.0%
Window 85			0.68	1.03	103.86	0.67	70.5	0.9%
Total ADF for room	Living/Dining/Kitchen	2.0%						4.3%
Window 86	Bedroom	1.0%	0.68	2.05	60.63	0.71	72.5	3.4%
Window 87	Bedroom	1.0%	0.68	2.05	57.17	0.71	75.6	3.7%
Window 88 (lower)			0.68	1.12	104.46	0.69	39.6	0.2%
Window 88 (upper)			0.68	2.23	104.46	0.69	39.8	1.1%
Window 89 (lower)			0.68	0.56	104.46	0.69	82.5	0.2%
Window 89 (upper)			0.68	1.12	104.46	0.69	83.0	1.1%
Total ADF for room	Living/Dining/Kitchen	2.0%						2.6%
Window 90			0.68	1.03	117.19	0.69	88.7	1.0%

Appendix 2 - Average Daylight Factor (ADF)
Site at Partridge Way, London N22 8DT

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					ADF
	Primary room use	ADF	T	Aw	A	R	θ	
Window 91 (lower)			0.68	1.12	117.19	0.69	42.5	0.2%
Window 91 (upper)			0.68	2.23	117.19	0.69	40.6	1.0%
Total ADF for room	Living/Dining/Kitchen	2.0%						2.2%

Appendix 2 - Room Depth Calculation

Site at Partridge Way, London N22 8DT

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
<u>Site at Partridge Way</u>							
<u>First Floor</u>							
Window 1	5.4	4.4	2.4	0.72	3.48	<=	7.1
Window 2	5.4	4.4	2.4	0.72	3.48	<=	7.1
Window 8	4.1	3.8	2.4	0.72	2.79	<=	7.06
Window 9	4.1	3.8	2.4	0.72	2.79	<=	7.06
<u>Second Floor</u>							
Window 15	4.3	4.2	2.4	0.71	2.82	<=	6.85
Window 16	4.3	3.0	2.4	0.71	3.23	<=	6.88
Window 20	4.1	3.0	2.4	0.71	3.08	<=	6.91
Window 21	4.0	3.0	2.4	0.71	3.0	<=	6.87
<u>Third Floor</u>							
Window 26	4.3	4.2	2.4	0.71	2.82	<=	6.85
Window 27	4.3	3.0	2.4	0.71	3.23	<=	6.88
Window 31	4.1	3.0	2.4	0.71	3.08	<=	6.91
Window 32	4.0	3.0	2.4	0.71	3.0	<=	6.87
<u>Fourth Floor</u>							
Window 37	4.3	4.2	2.4	0.71	2.82	<=	6.85
Window 38	4.3	3.0	2.4	0.71	3.23	<=	6.88
Window 42	4.1	3.0	2.4	0.71	3.08	<=	6.91
Window 43	4.0	3.0	2.4	0.71	3.0	<=	6.87
<u>Fifth Floor</u>							
Window 48	4.3	4.2	2.4	0.71	2.82	<=	6.85
Window 49	4.3	3.0	2.4	0.71	3.23	<=	6.88
Window 53	4.1	3.0	2.4	0.71	3.08	<=	6.91
Window 54	4.0	3.0	2.4	0.71	3.0	<=	6.87
<u>Sixth Floor</u>							
Window 59	4.3	4.2	2.4	0.71	2.82	<=	6.85
Window 60	4.3	3.0	2.4	0.71	3.23	<=	6.88
Window 64	4.1	3.0	2.4	0.71	3.08	<=	6.91
Window 65	4.0	3.0	2.4	0.71	3.0	<=	6.87
<u>Seventh Floor</u>							
Window 70	4.3	4.2	2.4	0.71	2.82	<=	6.85
Window 71	4.3	3.0	2.4	0.71	3.23	<=	6.88
Window 75	4.1	3.0	2.4	0.71	3.08	<=	6.91
Window 76	4.0	3.0	2.4	0.71	3.0	<=	6.87

Appendix 2 - Room Depth Calculation
Site at Partridge Way, London N22 8DT

Reference	Room Depth Coefficients				Room Depth Calculation		
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb
<u>Eighth Floor</u>							
Window 81	4.3	4.2	2.4	0.71	2.82	<=	6.85
Window 82	4.3	3.0	2.4	0.71	3.23	<=	6.88
Window 86	4.1	3.0	2.4	0.71	3.08	<=	6.91
Window 87	4.0	3.0	2.4	0.71	3.0	<=	6.87

Appendix 2 - Sunlight to Windows

Site at Partridge Way, London N22 8DT

Reference	Room Use	APSH	
		Total	Winter
<u>Site at Partridge Way</u>			
<u>First Floor</u>			
Window 3	Living/Dining/Kitchen	32%	14%
Window 4	Living/Dining/Kitchen	32%	14%
Window 5	Living/Dining/Kitchen	7%	4%
Window 13	Living/Dining/Kitchen	38%	10%
Window 14	Living/Dining/Kitchen	8%	7%
<u>Second Floor</u>			
Window 17	Living/Dining/Kitchen	57%	24%
Window 18	Living/Dining/Kitchen	7%	4%
Window 19	Living/Dining/Kitchen	0%	0%
Window 22	Living/Dining/Kitchen	6%	0%
Window 23	Living/Dining/Kitchen	23%	3%
Window 24	Living/Dining/Kitchen	41%	11%
Window 25	Living/Dining/Kitchen	8%	7%
<u>Third Floor</u>			
Window 28	Living/Dining/Kitchen	57%	24%
Window 29	Living/Dining/Kitchen	7%	4%
Window 30	Living/Dining/Kitchen	0%	0%
Window 33	Living/Dining/Kitchen	6%	0%
Window 34	Living/Dining/Kitchen	23%	3%
Window 35	Living/Dining/Kitchen	41%	11%
Window 36	Living/Dining/Kitchen	8%	7%
<u>Fourth Floor</u>			
Window 39	Living/Dining/Kitchen	57%	24%
Window 40	Living/Dining/Kitchen	7%	4%
Window 41	Living/Dining/Kitchen	0%	0%
Window 44	Living/Dining/Kitchen	6%	0%
Window 45	Living/Dining/Kitchen	23%	3%
Window 46	Living/Dining/Kitchen	41%	11%
Window 47	Living/Dining/Kitchen	8%	7%
<u>Fifth Floor</u>			
Window 50	Living/Dining/Kitchen	57%	24%
Window 51	Living/Dining/Kitchen	7%	4%
Window 52	Living/Dining/Kitchen	0%	0%
Window 55	Living/Dining/Kitchen	6%	0%
Window 56	Living/Dining/Kitchen	23%	3%
Window 57	Living/Dining/Kitchen	41%	11%
Window 58	Living/Dining/Kitchen	8%	7%

Appendix 2 - Sunlight to Windows
Site at Partridge Way, London N22 8DT

Reference	Room Use	APSH	
		Total	Winter
<u>Sixth Floor</u>			
Window 61	Living/Dining/Kitchen	57%	24%
Window 62	Living/Dining/Kitchen	7%	4%
Window 63	Living/Dining/Kitchen	0%	0%
Window 66	Living/Dining/Kitchen	6%	0%
Window 67	Living/Dining/Kitchen	23%	3%
Window 68	Living/Dining/Kitchen	41%	11%
Window 69	Living/Dining/Kitchen	8%	7%
<u>Seventh Floor</u>			
Window 72	Living/Dining/Kitchen	59%	24%
Window 73	Living/Dining/Kitchen	7%	4%
Window 74	Living/Dining/Kitchen	0%	0%
Window 77	Living/Dining/Kitchen	6%	0%
Window 78	Living/Dining/Kitchen	23%	3%
Window 79	Living/Dining/Kitchen	41%	11%
Window 80	Living/Dining/Kitchen	8%	7%
<u>Eighth Floor</u>			
Window 83	Living/Dining/Kitchen	57%	24%
Window 84	Living/Dining/Kitchen	15%	8%
Window 85	Living/Dining/Kitchen	0%	0%
Window 88	Living/Dining/Kitchen	6%	0%
Window 89	Living/Dining/Kitchen	23%	3%
Window 90	Living/Dining/Kitchen	41%	11%
Window 91	Living/Dining/Kitchen	18%	15%