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Daylight and Sunlight Study

19-21 High Holborn, London WC1V 6BS

10 November 2016

Right of Light Consulting

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CONTENTS

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 19-21 High Holborn, London WC1V 6BS.

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 1, 2 to 4 & 14 South Square and 14 to 18, 22, 23 High Holborn. 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 guide to good practice' by P J Littlefair 2011.

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 The results confirm that the development will have a low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight or sunlight related reason why planning permission should not be granted for this scheme.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on drawings:

Rick Mather Architects

606-10100	Existing Site Plan	Rev –
606-10101	Proposed Site Plan	Rev –
606-11000	Existing Basement, Ground and Mezzanine Floor Plan	Rev –
606-11001	Existing First and Second Floor Plan	Rev –
606-11002	Existing Third and Fourth Floor Plan	Rev –
606-11003	Existing Fifth and Sixth Floor Plan	Rev –
606-11004	Existing Roof Plan	Rev –
606-11010	Existing Section AA Plan	Rev –
606-11021	Existing South Elevation Plan	Rev –
606-11021	Existing West Elevation Plan	Rev –
606-11022	Existing North Elevation Plan	Rev –
606-12000	Proposed Basement, Ground and Mezzanine Floor Plan	Rev –
606-12001	Proposed First and Second Floor Plan	Rev –
606-12002	Proposed Third and Fourth Floor Plan	Rev –
606-12003	Proposed Fifth and Sixth Floor Plan	Rev –
606-12004	Proposed Seventh Floor and Roof Plan	Rev –
606-12010	Proposed Long Section AA	Rev –
606-12011	Proposed Section AA	Rev –
606-12012	Proposed Section BB	Rev –
606-12013	Proposed Section CC	Rev –
606-12020	Proposed South Elevation	Rev –
606-12021	Proposed West Elevation	Rev –
606-12022	Proposed North Elevation	Rev –

H.M Land Registry

NGL611726	Site Plan	Rev –

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 guide to good practice' by P J Littlefair 2011. 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. 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 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."

3.2 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.

Diffuse daylight calculations should be undertaken to all rooms where daylight is required, including living rooms, kitchens and bedrooms. Usually, if a kitchen is less than 13m^2 it is considered to be a non-habitable room and the daylight tests need not be applied. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

3.2.2 The BRE guide contains two tests which measure diffuse daylight:

3.2.3 Test 1 <u>Vertical Sky Component</u>

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. Diffuse daylight may 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.

3.2.4 Test 2 Daylight Distribution

The BRE guide states that where room layouts are known, the impact on the daylighting distribution can be found by plotting the 'no sky line' in each of the main rooms. The no-sky line is a line which separates areas of the working plane that can and cannot have a direct view of the sky. Daylight may be adversely affected if after the development the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

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.

3.3.2 The BRE guide states that sunlight availability may be adversely affected if the centre of the window:

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

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
- 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
- Focal points for views such as a group of monuments or fountains.

3.4.2 The BRE guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21st March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21st March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.

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 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 All habitable room windows pass the Vertical Sky Component test with the exception of windows 175, 179 & 183 at 1 South Square. However there are mitigating factors to mention. Firstly, the shortfalls are borderline, with before/after ratios of only slightly less than the recommended 0.8. Secondly, windows 175, 179 & 183 at 1 South Square are specifically used occasionally as bedrooms and are not in constant occupation. Thirdly, the BRE guide acknowledges that where existing buildings sit close to the common boundary (as with 19-21 High Holborn) a higher degree of obstruction may be unavoidable. Finally, the BRE guide is intended to be used flexibly, particularly in urban locations, and in this instance, due to the isolated nature of the shortfalls, we are of the opinion that the impact of the proposed development on the daylight to the existing neighboring properties is acceptable.

4.4 Sunlight to Windows

4.4.1 All main habitable room windows which face within 90 degrees of due south have been tested for direct sunlight. All living room windows pass both the total annual sunlight hours test and the winter sunlight hours test. 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 create any new areas which receive less than two hours of sunlight on 21st March. The proposed

development satisfies the BRE overshadowing to gardens and open spaces requirements.

4.6 Conclusion

4.6.1 The results confirm that the development will have a low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight or sunlight related reason why planning permission should not be granted for this scheme.

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 We have undertaken the survey following the guidelines of the RICS publication "Surveying Safely".

5.1.3 We have used our best endeavours to ensure all relevant windows within the neighbouring properties have been identified.

5.1.4 Where limited access is available, reasonable assumptions will have been made.

5.1.5 We have adopted the conventional approach of assessing all habitable rooms within domestic properties.

5.1.6 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.

5.2 Project Specific

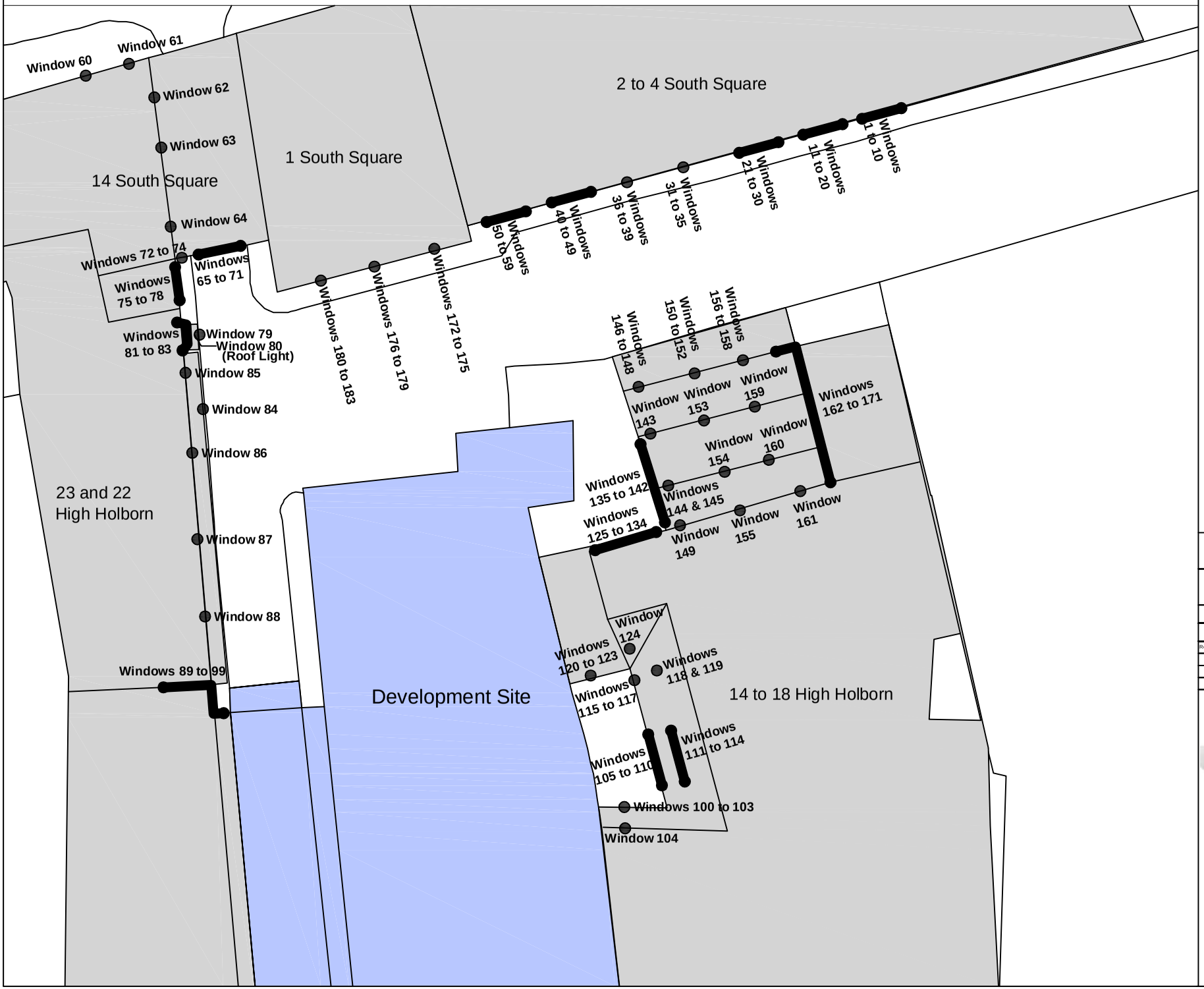
5.2.1 None.

APPENDICES

APPENDIX 1

WINDOW KEY

Window Key



Key

Window 1 — Window reference

Development site

Neighbouring Properties

Project Name: 19-21 High Holborn, London WC1V 6BS

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 1 Rev. -

Rev.	Date	Details of revision

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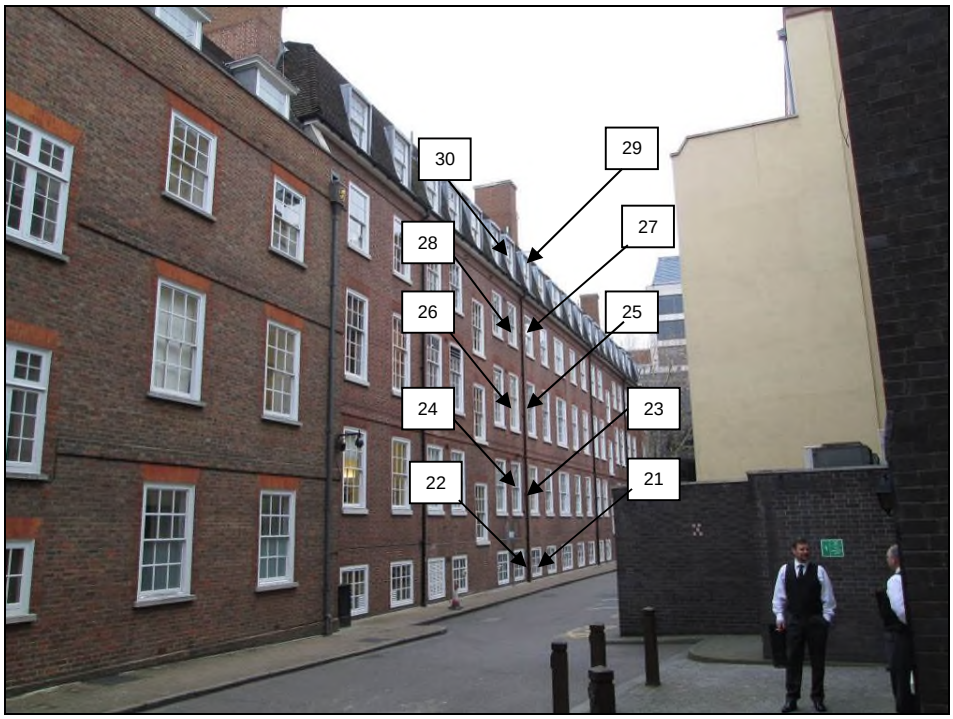
Neighbouring Windows

2 to 4 South Square

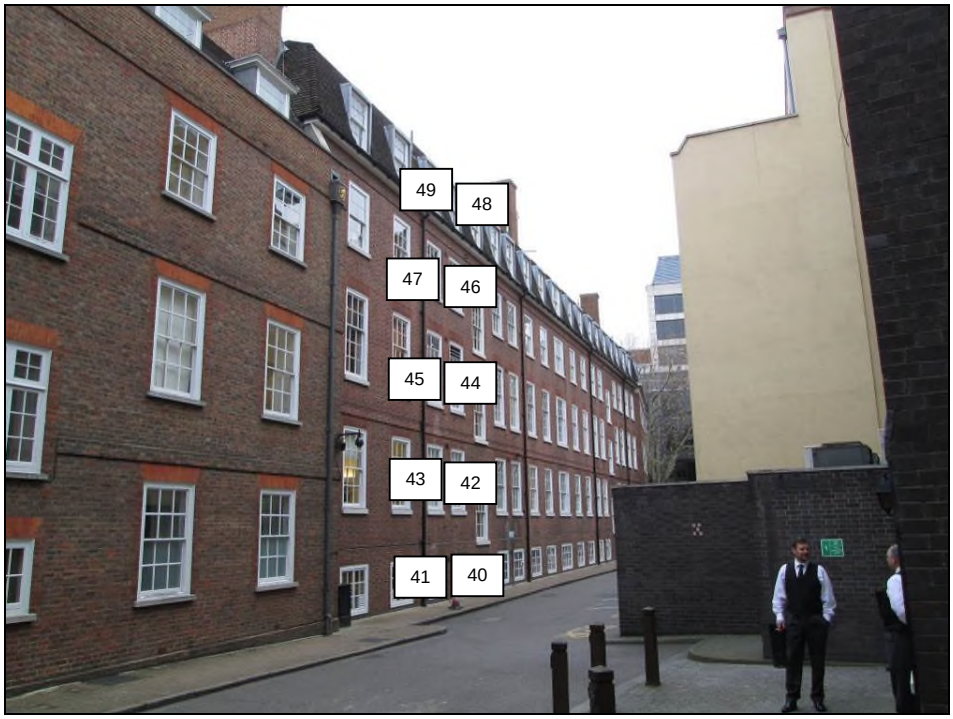
2 to 4 South Square



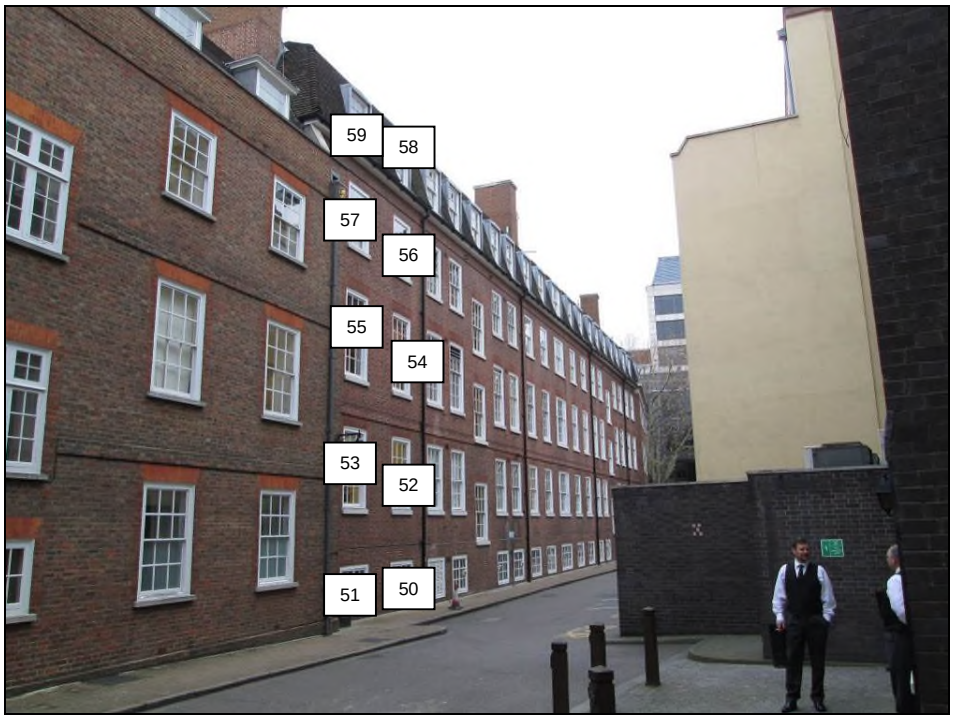
2 to 4 South Square

2 to 4 South Square

2 to 4 South Square



2 to 4 South Square

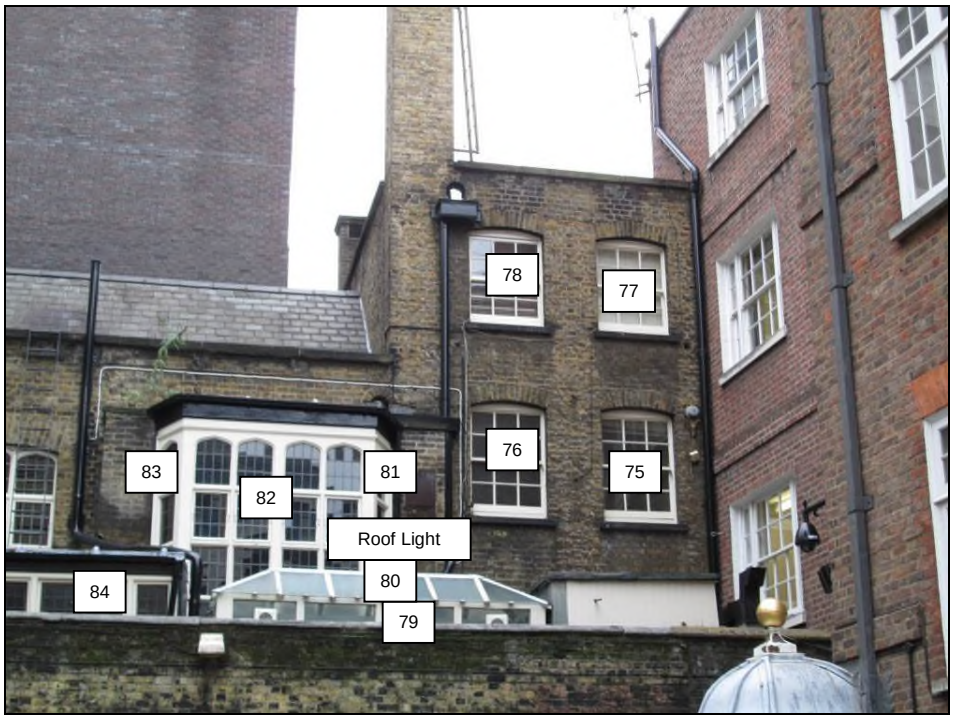


2 to 4 South Square

14 South Square

14 South Square

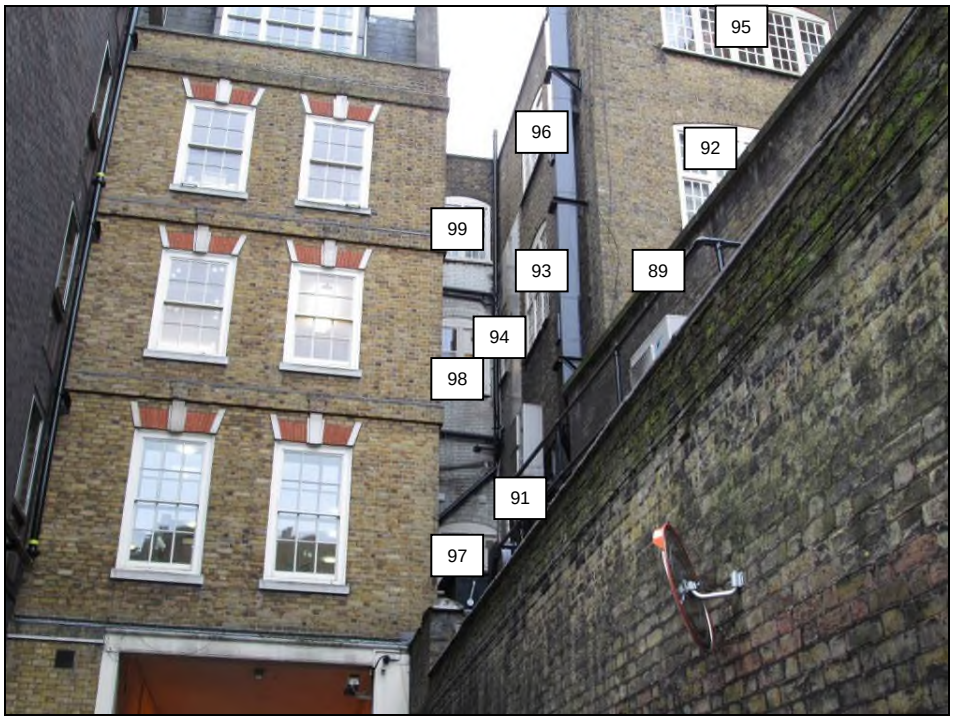
14 South Square



22 and 23 High Holborn

22 and 23 High Holborn

22 and 23 High Holborn



22 and 23 High Holborn

14 to 18 High Holborn

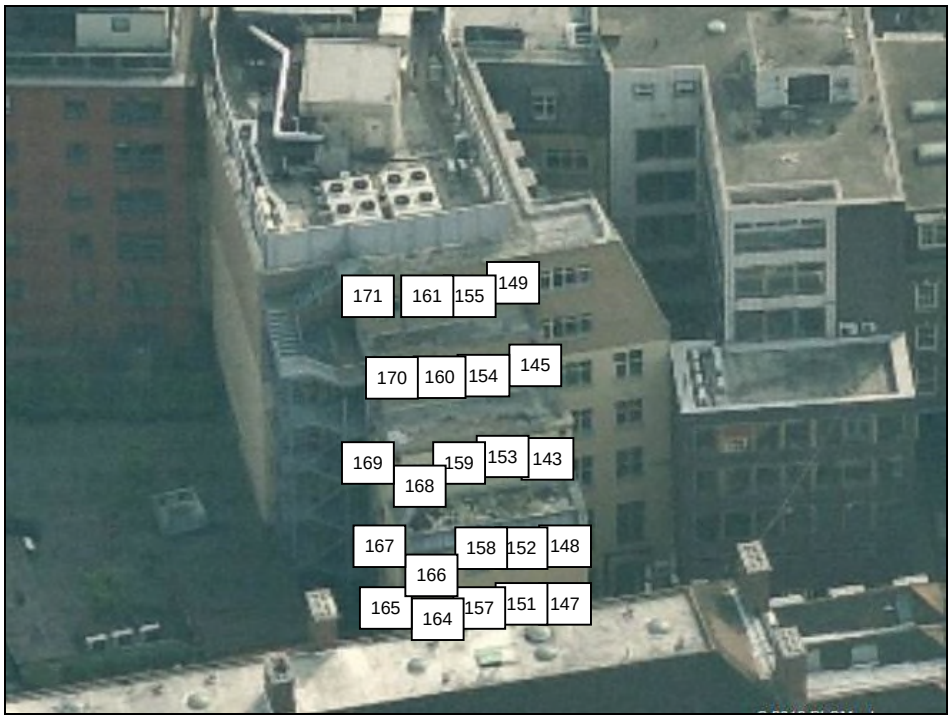
14 to 18 High Holborn

14 to 18 High Holborn

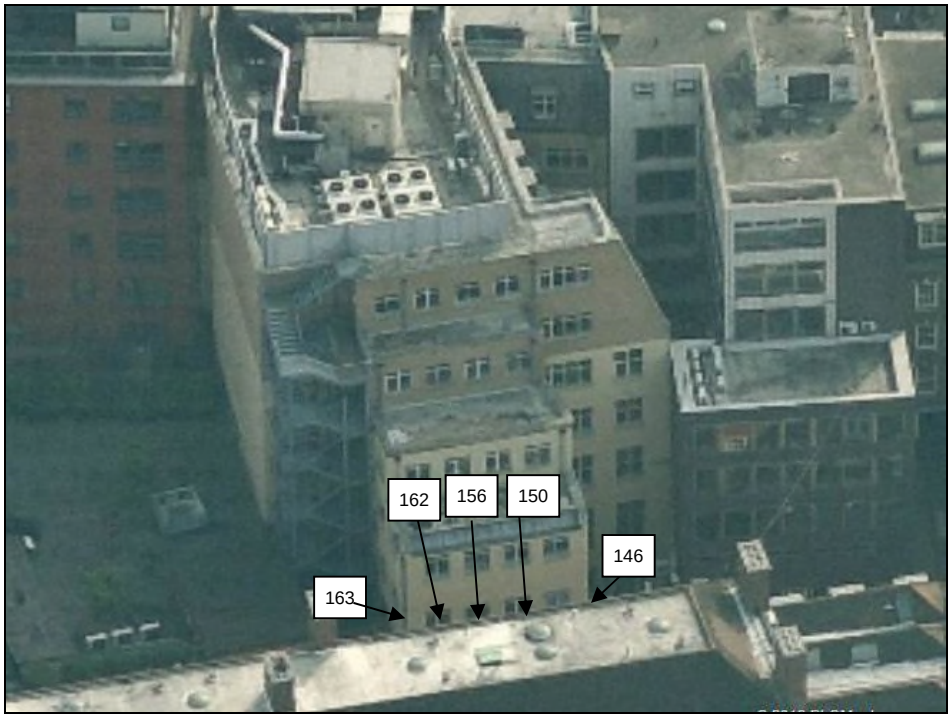
14 to 18 High Holborn

14 to 18 High Holborn

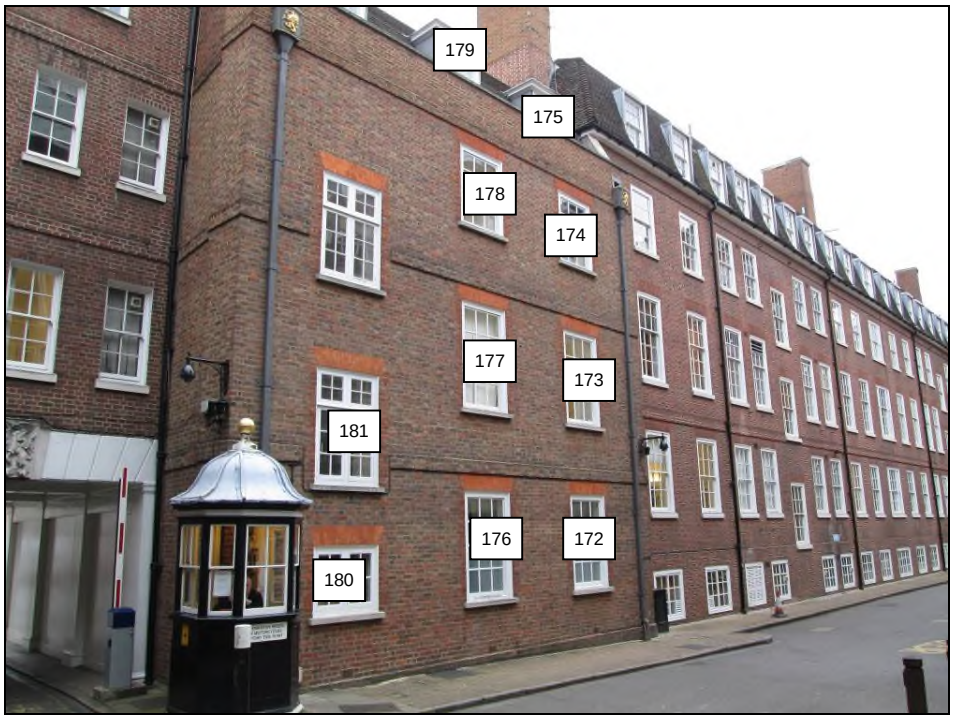
14 to 18 High Holborn



14 to 18 High Holborn



14 to 18 High Holborn



1 South Square

1 South Square

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
2 to 4 South Square					
Window 1	Non Domestic	14.8%	14.7%	0.1%	0.99
Window 2	Non Domestic	14.9%	14.7%	0.2%	0.99
Window 3	Non Domestic	17.2%	17.0%	0.2%	0.99
Window 4	Non Domestic	17.3%	17.1%	0.2%	0.99
Window 5	Non Domestic	19.9%	19.8%	0.1%	0.99
Window 6	Non Domestic	20.0%	19.8%	0.2%	0.99
Window 7	Non Domestic	22.6%	22.5%	0.1%	1.0
Window 8	Non Domestic	22.7%	22.6%	0.1%	1.0
Window 9	Habitable	21.1%	21.0%	0.1%	1.0
Window 10	Habitable	22.3%	22.2%	0.1%	1.0
Window 11	Non Domestic	14.8%	14.5%	0.3%	0.98
Window 12	Non Domestic	14.6%	14.2%	0.4%	0.97
Window 13	Non Domestic	17.2%	17.0%	0.2%	0.99
Window 14	Non Domestic	17.0%	16.7%	0.3%	0.98
Window 15	Non Domestic	19.9%	19.7%	0.2%	0.99
Window 16	Non Domestic	19.7%	19.5%	0.2%	0.99
Window 17	Non Domestic	22.8%	22.6%	0.2%	0.99
Window 18	Non Domestic	22.6%	22.4%	0.2%	0.99
Window 19	Habitable	20.1%	20.0%	0.1%	1.0
Window 20	Habitable	24.1%	24.0%	0.1%	1.0
Window 21	Non Domestic	14.2%	13.7%	0.5%	0.96
Window 22	Non Domestic	13.7%	13.1%	0.6%	0.96
Window 23	Non Domestic	16.6%	16.1%	0.5%	0.97
Window 24	Non Domestic	16.1%	15.6%	0.5%	0.97
Window 25	Non Domestic	19.3%	19.0%	0.3%	0.98
Window 26	Non Domestic	18.9%	18.5%	0.4%	0.98
Window 27	Non Domestic	22.4%	22.1%	0.3%	0.99
Window 28	Non Domestic	22.1%	21.7%	0.4%	0.98
Window 29	Habitable	24.6%	24.4%	0.2%	0.99
Window 30	Habitable	24.9%	24.6%	0.3%	0.99
Window 31	Non Domestic	13.4%	12.7%	0.7%	0.95
Window 32	Non Domestic	15.8%	15.2%	0.6%	0.96
Window 33	Non Domestic	18.7%	18.1%	0.6%	0.97

Appendix 2 - Vertical Sky Component
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 34	Non Domestic	21.9%	21.4%	0.5%	0.98
Window 35	Non Habitable	24.9%	24.6%	0.3%	0.99
Window 36	Non Domestic	14.7%	13.8%	0.9%	0.94
Window 37	Non Domestic	17.7%	17.0%	0.7%	0.96
Window 38	Non Domestic	21.1%	20.4%	0.7%	0.97
Window 39	Habitable	24.8%	24.4%	0.4%	0.98
Window 40	Non Domestic	12.6%	11.4%	1.2%	0.9
Window 41	Non Domestic	12.2%	10.7%	1.5%	0.88
Window 42	Non Domestic	15.0%	13.8%	1.2%	0.92
Window 43	Non Domestic	14.7%	13.2%	1.5%	0.9
Window 44	Non Domestic	18.1%	17.0%	1.1%	0.94
Window 45	Non Domestic	18.0%	16.6%	1.4%	0.92
Window 46	Non Domestic	21.4%	20.6%	0.8%	0.96
Window 47	Non Domestic	21.4%	20.2%	1.2%	0.94
Window 48	Habitable	24.7%	24.1%	0.6%	0.98
Window 49	Habitable	24.7%	23.8%	0.9%	0.96
Window 50	Non Domestic	11.7%	9.9%	1.8%	0.85
Window 51	Non Domestic	10.8%	8.6%	2.2%	0.8
Window 52	Non Domestic	14.3%	12.3%	2.0%	0.86
Window 53	Non Domestic	13.4%	10.9%	2.5%	0.81
Window 54	Non Domestic	17.7%	15.8%	1.9%	0.89
Window 55	Non Domestic	16.9%	14.2%	2.7%	0.84
Window 56	Non Domestic	21.3%	19.6%	1.7%	0.92
Window 57	Non Domestic	21.4%	18.9%	2.5%	0.88
Window 58	Habitable	24.7%	23.4%	1.3%	0.95
Window 59	Habitable	24.1%	22.1%	2.0%	0.92
14 South Square					
Window 60	Non Domestic	23.4%	23.4%	0.0%	1.0
Window 61	Non Domestic	24.4%	24.4%	0.0%	1.0
Window 62	Non Domestic	1.3%	1.3%	0.0%	1.0
Window 63	Non Domestic	0.2%	0.2%	0.0%	1.0
Window 64	Non Domestic	0.1%	0.1%	0.0%	1.0
Window 65	Non Domestic	9.5%	8.8%	0.7%	0.93

Appendix 2 - Vertical Sky Component
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 66	Non Domestic	12.2%	10.1%	2.1%	0.83
Window 67	Non Domestic	13.2%	10.7%	2.5%	0.81
Window 68	Non Domestic	12.6%	11.7%	0.9%	0.93
Window 69	Non Domestic	16.7%	14.4%	2.3%	0.86
Window 70	Non Domestic	17.5%	15.1%	2.4%	0.86
Window 71	Non Domestic	22.8%	20.4%	2.4%	0.89
Window 72	Non Domestic	12.0%	9.8%	2.2%	0.82
Window 73	Non Domestic	16.1%	14.1%	2.0%	0.88
Window 74	Habitable	22.0%	20.3%	1.7%	0.92
22 and 23 High Holborn					
Window 75	Habitable	13.6%	11.5%	2.1%	0.85
Window 76	Habitable	17.2%	14.4%	2.8%	0.84
Window 77	Habitable	17.2%	15.3%	1.9%	0.89
Window 78	Habitable	21.6%	19.0%	2.6%	0.88
Window 79	Non Domestic	14.7%	11.1%	3.6%	0.76
Window 80	Non Domestic	40.3%	35.4%	4.9%	0.88
Window 81	Non Domestic	6.1%	6.1%	0.0%	1.0
Window 82	Non Domestic	17.3%	13.2%	4.1%	0.76
Window 83	Non Domestic	11.1%	7.9%	3.2%	0.71
Window 84	Non Domestic	5.5%	2.8%	2.7%	0.51
Window 85	Non Domestic	19.2%	12.8%	6.4%	0.67
Window 86	Non Domestic	17.0%	9.7%	7.3%	0.57
Window 87	Non Domestic	12.6%	7.2%	5.4%	0.57
Window 88	Non Domestic	9.3%	5.7%	3.6%	0.61
Window 89	Habitable	20.2%	17.7%	2.5%	0.88
Window 90	Non Habitable	6.2%	3.9%	2.3%	0.63
Window 91	Non Habitable	2.5%	1.9%	0.6%	0.76
Window 92	Habitable	22.1%	19.7%	2.4%	0.89

Appendix 2 - Vertical Sky Component
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 93 (Secondary)	Habitable	6.9%	4.8%	2.1%	0.7
Window 94	Habitable	2.6%	2.4%	0.2%	0.92
Window 95	Habitable	25.4%	23.2%	2.2%	0.91
Window 96 (Secondary)	Habitable	12.7%	9.9%	2.8%	0.78
Window 97	Habitable	5.6%	5.6%	0.0%	1.0
Window 98	Habitable	7.9%	7.9%	0.0%	1.0
Window 99	Habitable	14.3%	14.3%	0.0%	1.0
14 to 18 High Holborn					
Window 100	Non Domestic	3.6%	3.1%	0.5%	0.86
Window 101	Non Domestic	5.5%	4.9%	0.6%	0.89
Window 102	Non Domestic	9.2%	8.2%	1.0%	0.89
Window 103	Non Domestic	16.6%	15.4%	1.2%	0.93
Window 104	Non Domestic	28.2%	27.5%	0.7%	0.98
Window 105	Non Domestic	1.8%	1.6%	0.2%	0.89
Window 106	Non Domestic	1.9%	1.7%	0.2%	0.89
Window 107	Non Domestic	2.8%	2.6%	0.2%	0.93
Window 108	Non Domestic	3.1%	2.8%	0.3%	0.9
Window 109	Non Domestic	4.7%	4.2%	0.5%	0.89
Window 110	Non Domestic	5.4%	4.9%	0.5%	0.91
Window 111	Non Domestic	11.8%	10.5%	1.3%	0.89
Window 112	Non Domestic	14.7%	13.2%	1.5%	0.9
Window 113	Non Domestic	27.2%	25.4%	1.8%	0.93
Window 114	Non Domestic	29.2%	27.2%	2.0%	0.93
Window 115	Non Domestic	1.6%	1.4%	0.2%	0.88
Window 116	Non Domestic	2.7%	2.5%	0.2%	0.93
Window 117	Non Domestic	5.2%	4.8%	0.4%	0.92
Window 118	Non Domestic	15.1%	13.7%	1.4%	0.91
Window 119	Non Domestic	29.7%	27.5%	2.2%	0.93
Window 120	Non Domestic	1.8%	1.8%	0.0%	1.0
Window 121	Non Domestic	11.4%	9.1%	2.3%	0.8
Window 122	Non Domestic	12.4%	8.3%	4.1%	0.67
Window 123	Non Domestic	3.2%	3.1%	0.1%	0.97
Window 124	Non Domestic	17.5%	13.4%	4.1%	0.77

Appendix 2 - Vertical Sky Component
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 125	Non Domestic	17.3%	11.8%	5.5%	0.68
Window 126	Non Domestic	5.7%	5.5%	0.2%	0.96
Window 127	Non Domestic	31.9%	19.2%	12.7%	0.6
Window 128	Non Domestic	25.0%	18.3%	6.7%	0.73
Window 129	Non Domestic	14.4%	13.9%	0.5%	0.97
Window 130	Non Domestic	32.6%	28.4%	4.2%	0.87
Window 131	Non Domestic	26.6%	25.7%	0.9%	0.97
Window 132	Non Domestic	39.3%	38.3%	1.0%	0.97
Window 133	Non Domestic	8.5%	6.7%	1.8%	0.79
Window 134	Non Domestic	9.7%	6.3%	3.4%	0.65
Window 135	Non Domestic	7.3%	2.8%	4.5%	0.38
Window 136	Non Domestic	8.3%	2.4%	5.9%	0.29
Window 137	Non Domestic	9.4%	3.9%	5.5%	0.41
Window 138	Non Domestic	10.1%	3.3%	6.8%	0.33
Window 139	Non Domestic	13.6%	6.0%	7.6%	0.44
Window 140	Non Domestic	14.4%	5.7%	8.7%	0.4
Window 141	Non Domestic	18.1%	9.5%	8.6%	0.52
Window 142	Non Domestic	18.9%	9.9%	9.0%	0.52
Window 143	Non Domestic	33.6%	32.5%	1.1%	0.97
Window 144	Non Domestic	20.7%	15.1%	5.6%	0.73
Window 145	Non Domestic	38.3%	37.2%	1.1%	0.97
Window 146	Non Domestic	12.5%	12.4%	0.1%	0.99
Window 147	Non Domestic	17.5%	17.5%	0.0%	1.0
Window 148	Non Domestic	23.8%	23.8%	0.0%	1.0
Window 149	Non Domestic	39.3%	38.9%	0.4%	0.99
Window 150	Non Domestic	12.4%	12.4%	0.0%	1.0
Window 151	Non Domestic	17.2%	17.2%	0.0%	1.0
Window 152	Non Domestic	23.5%	23.5%	0.0%	1.0
Window 153	Non Domestic	33.2%	32.7%	0.5%	0.98
Window 154	Non Domestic	38.2%	37.6%	0.6%	0.98
Window 155	Non Domestic	39.3%	39.0%	0.3%	0.99
Window 156	Non Domestic	12.3%	12.3%	0.0%	1.0
Window 157	Non Domestic	17.1%	17.0%	0.1%	0.99

Appendix 2 - Vertical Sky Component
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 158	Non Domestic	23.3%	23.3%	0.0%	1.0
Window 159	Non Domestic	33.1%	32.8%	0.3%	0.99
Window 160	Non Domestic	38.1%	37.7%	0.4%	0.99
Window 161	Non Domestic	39.3%	39.1%	0.2%	0.99
Window 162	Non Domestic	12.2%	12.2%	0.0%	1.0
Window 163	Non Domestic	12.3%	12.3%	0.0%	1.0
Window 164	Non Domestic	16.9%	16.9%	0.0%	1.0
Window 165	Non Domestic	18.5%	18.5%	0.0%	1.0
Window 166	Non Domestic	23.0%	23.0%	0.0%	1.0
Window 167	Non Domestic	22.0%	22.0%	0.0%	1.0
Window 168	Non Domestic	32.9%	32.7%	0.2%	0.99
Window 169	Non Domestic	21.1%	21.1%	0.0%	1.0
Window 170	Non Domestic	37.2%	36.9%	0.3%	0.99
Window 171	Non Domestic	39.3%	39.2%	0.1%	1.0
1 South Square					
Window 172	Non Domestic	10.1%	6.5%	3.6%	0.64
Window 173	Non Domestic	13.5%	8.8%	4.7%	0.65
Window 174	Non Domestic	17.6%	11.8%	5.8%	0.67
Window 175	Habitable	20.1%	14.8%	5.3%	0.74
Window 176	Non Domestic	10.4%	6.2%	4.2%	0.6
Window 177	Non Domestic	13.8%	8.3%	5.5%	0.6
Window 178	Non Domestic	17.8%	11.1%	6.7%	0.62
Window 179	Habitable	20.5%	14.4%	6.1%	0.7
Window 180	Non Domestic	10.4%	6.7%	3.7%	0.64
Window 181	Non Domestic	12.5%	8.1%	4.4%	0.65
Window 182	Non Domestic	16.0%	10.6%	5.4%	0.66
Window 183	Habitable	20.5%	15.5%	5.0%	0.76

Appendix 2 - Sunlight to Windows
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
2 to 4 South Square									
Window 1	Non Domestic	35%	34%	1%	0.97	1%	1%	0%	1.0
Window 2	Non Domestic	37%	36%	1%	0.97	1%	1%	0%	1.0
Window 3	Non Domestic	46%	46%	0%	1.0	3%	3%	0%	1.0
Window 4	Non Domestic	46%	46%	0%	1.0	2%	2%	0%	1.0
Window 5	Non Domestic	53%	53%	0%	1.0	5%	5%	0%	1.0
Window 6	Non Domestic	53%	52%	1%	0.98	5%	4%	1%	0.8
Window 7	Non Domestic	60%	59%	1%	0.98	10%	9%	1%	0.9
Window 8	Non Domestic	60%	59%	1%	0.98	11%	10%	1%	0.91
Window 9	Habitable	57%	56%	1%	0.98	14%	13%	1%	0.93
Window 10	Habitable	61%	61%	0%	1.0	15%	15%	0%	1.0
Window 11	Non Domestic	40%	37%	3%	0.93	2%	2%	0%	1.0
Window 12	Non Domestic	37%	35%	2%	0.95	0%	0%	0%	1.0
Window 13	Non Domestic	48%	47%	1%	0.98	3%	3%	0%	1.0
Window 14	Non Domestic	46%	44%	2%	0.96	2%	1%	1%	0.5
Window 15	Non Domestic	53%	52%	1%	0.98	6%	5%	1%	0.83
Window 16	Non Domestic	51%	50%	1%	0.98	4%	3%	1%	0.75
Window 17	Non Domestic	59%	58%	1%	0.98	10%	9%	1%	0.9
Window 18	Non Domestic	60%	60%	0%	1.0	9%	9%	0%	1.0
Window 19	Habitable	55%	55%	0%	1.0	13%	13%	0%	1.0
Window 20	Habitable	65%	65%	0%	1.0	14%	14%	0%	1.0
Window 21	Non Domestic	37%	34%	3%	0.92	0%	0%	0%	1.0
Window 22	Non Domestic	35%	33%	2%	0.94	0%	0%	0%	1.0
Window 23	Non Domestic	46%	43%	3%	0.93	2%	1%	1%	0.5
Window 24	Non Domestic	42%	40%	2%	0.95	1%	1%	0%	1.0
Window 25	Non Domestic	51%	50%	1%	0.98	4%	3%	1%	0.75
Window 26	Non Domestic	54%	52%	2%	0.96	4%	3%	1%	0.75
Window 27	Non Domestic	59%	59%	0%	1.0	8%	8%	0%	1.0
Window 28	Non Domestic	59%	58%	1%	0.98	8%	7%	1%	0.88
Window 29	Habitable	63%	62%	1%	0.98	12%	11%	1%	0.92
Window 30	Habitable	63%	62%	1%	0.98	12%	11%	1%	0.92
Window 31	Non Domestic	35%	33%	2%	0.94	0%	0%	0%	1.0
Window 32	Non Domestic	42%	39%	3%	0.93	0%	0%	0%	1.0
Window 33	Non Domestic	51%	49%	2%	0.96	3%	2%	1%	0.67

Appendix 2 - Sunlight to Windows
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 34	Non Domestic	60%	58%	2%	0.97	9%	7%	2%	0.78
Window 35	Habitable	62%	61%	1%	0.98	11%	10%	1%	0.91
Window 36	Non Domestic	41%	38%	3%	0.93	0%	0%	0%	1.0
Window 37	Non Domestic	49%	47%	2%	0.96	2%	1%	1%	0.5
Window 38	Non Domestic	56%	55%	1%	0.98	5%	4%	1%	0.8
Window 39	Habitable	63%	62%	1%	0.98	11%	10%	1%	0.91
Window 40	Non Domestic	35%	29%	6%	0.83	0%	0%	0%	1.0
Window 41	Non Domestic	34%	27%	7%	0.79	0%	0%	0%	1.0
Window 42	Non Domestic	41%	37%	4%	0.9	0%	0%	0%	1.0
Window 43	Non Domestic	39%	34%	5%	0.87	0%	0%	0%	1.0
Window 44	Non Domestic	47%	45%	2%	0.96	1%	1%	0%	1.0
Window 45	Non Domestic	49%	47%	2%	0.96	2%	2%	0%	1.0
Window 46	Non Domestic	55%	53%	2%	0.96	4%	2%	2%	0.5
Window 47	Non Domestic	55%	53%	2%	0.96	4%	2%	2%	0.5
Window 48	Habitable	63%	61%	2%	0.97	11%	9%	2%	0.82
Window 49	Habitable	64%	62%	2%	0.97	12%	10%	2%	0.83
Window 50	Non Domestic	31%	24%	7%	0.77	0%	0%	0%	1.0
Window 51	Non Domestic	26%	18%	8%	0.69	0%	0%	0%	1.0
Window 52	Non Domestic	38%	32%	6%	0.84	0%	0%	0%	1.0
Window 53	Non Domestic	33%	26%	7%	0.79	0%	0%	0%	1.0
Window 54	Non Domestic	46%	42%	4%	0.91	1%	0%	1%	0.01
Window 55	Non Domestic	38%	32%	6%	0.84	0%	0%	0%	1.0
Window 56	Non Domestic	56%	52%	4%	0.93	4%	0%	4%	0.0
Window 57	Non Domestic	55%	52%	3%	0.95	4%	2%	2%	0.5
Window 58	Habitable	63%	61%	2%	0.97	11%	9%	2%	0.82
Window 59	Habitable	59%	56%	3%	0.95	10%	7%	3%	0.7
14 South Square									
Window 65	Non Domestic	19%	16%	3%	0.84	2%	2%	0%	1.0
Window 66	Non Domestic	27%	19%	8%	0.7	4%	4%	0%	1.0
Window 67	Non Domestic	28%	20%	8%	0.71	4%	4%	0%	1.0
Window 68	Non Domestic	32%	29%	3%	0.91	5%	4%	1%	0.8
Window 69	Non Domestic	37%	32%	5%	0.86	4%	4%	0%	1.0
Window 70	Non Domestic	39%	33%	6%	0.85	4%	4%	0%	1.0

Appendix 2 - Sunlight to Windows
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 71	Non Domestic	57%	53%	4%	0.93	9%	7%	2%	0.78
Window 72	Non Domestic	23%	16%	7%	0.7	2%	2%	0%	1.0
Window 73	Non Domestic	37%	31%	6%	0.84	4%	3%	1%	0.75
Window 74	Habitable	59%	55%	4%	0.93	6%	5%	1%	0.83
22 and 23 High Holborn									
Window 79	Non Domestic	3%	0%	3%	0.03	0%	0%	0%	1.0
Window 80	Non Domestic	20%	13%	7%	0.65	0%	0%	0%	1.0
Window 83	Non Domestic	20%	15%	5%	0.75	1%	1%	0%	1.0
14 to 18 High Holborn									
Window 105	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 106	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 107	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 108	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 109	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 110	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 111	Non Domestic	2%	1%	1%	0.5	0%	0%	0%	1.0
Window 112	Non Domestic	11%	10%	1%	0.91	0%	0%	0%	1.0
Window 113	Non Domestic	36%	33%	3%	0.92	6%	6%	0%	1.0
Window 114	Non Domestic	42%	37%	5%	0.88	10%	8%	2%	0.8
Window 115	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 116	Non Domestic	2%	2%	0%	1.0	0%	0%	0%	1.0
Window 117	Non Domestic	4%	4%	0%	1.0	0%	0%	0%	1.0
Window 118	Non Domestic	20%	18%	2%	0.9	1%	1%	0%	1.0
Window 119	Non Domestic	43%	40%	3%	0.93	11%	10%	1%	0.91
Window 120	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 123	Non Domestic	3%	3%	0%	1.0	0%	0%	0%	1.0
Window 126	Non Domestic	8%	7%	1%	0.88	0%	0%	0%	1.0
Window 129	Non Domestic	30%	28%	2%	0.93	3%	3%	0%	1.0
Window 131	Non Domestic	59%	56%	3%	0.95	18%	16%	2%	0.89
Window 135	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0

Appendix 2 - Sunlight to Windows
19 to 21 High Holborn, London WC1V 6BS

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 136	Non Domestic	3%	0%	3%	0.03	0%	0%	0%	1.0
Window 137	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 138	Non Domestic	5%	1%	4%	0.2	0%	0%	0%	1.0
Window 139	Non Domestic	2%	0%	2%	0.05	0%	0%	0%	1.0
Window 140	Non Domestic	8%	1%	7%	0.13	0%	0%	0%	1.0
Window 141	Non Domestic	10%	0%	10%	0.01	0%	0%	0%	1.0
Window 142	Non Domestic	17%	4%	13%	0.24	0%	0%	0%	1.0
Window 144	Non Domestic	13%	4%	9%	0.31	0%	0%	0%	1.0
1 South Square									
Window 172	Non Domestic	25%	14%	11%	0.56	0%	0%	0%	1.0
Window 173	Non Domestic	38%	23%	15%	0.61	1%	0%	1%	0.01
Window 174	Non Domestic	50%	37%	13%	0.74	3%	0%	3%	0.0
Window 175	Habitable	56%	45%	11%	0.8	6%	0%	6%	0.0
Window 176	Non Domestic	25%	14%	11%	0.56	0%	0%	0%	1.0
Window 177	Non Domestic	39%	23%	16%	0.59	1%	1%	0%	1.0
Window 178	Non Domestic	50%	36%	14%	0.72	4%	2%	2%	0.5
Window 179	Habitable	58%	48%	10%	0.83	6%	2%	4%	0.33
Window 180	Non Domestic	25%	13%	12%	0.52	0%	0%	0%	1.0
Window 181	Non Domestic	32%	16%	16%	0.5	1%	0%	1%	0.01
Window 182	Non Domestic	45%	26%	19%	0.58	3%	1%	2%	0.33
Window 183	Habitable	56%	49%	7%	0.88	5%	5%	0%	1.0