s p planning

Southbourne Gardens
Ruislip HA4 9SW

Daylight and Sunlight Assessment

13 March 2017
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1.0 INTRODUCTION

1.1 This report provides a quantitative assessment of the effect of the proposed development at the above address on natural light reaching four residential properties that are close to the application site.

1.2 The assessment has been undertaken in full accordance with the guidelines set out in the Building Research Establishment (BRE) document *"Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice"* (BR209, 2011) (the "BRE Guide"). The introduction states:

> *"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 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 because natural lighting is only one of many factors in site layout design"*

1.3 This assessment has been carried out using the site survey drawings produced by Bury Associates Ltd and the application drawings prepared by Studio 303 Ltd. It is supported by analytical plots attached in the appendices.

2.0 SCOPE OF ASSESSMENT

Guidance

2.1 The BRE guide is primarily aimed at the protection of natural light to permanent residential accommodation. With regard to the effect of new development on daylight to neighbouring properties the guide states at paragraph 2.2.2:

> *The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation area and garages need not be analysed.*

2.2 Similarly in respect of the effect of new development on sunlight paragraph 3.2.3 states:

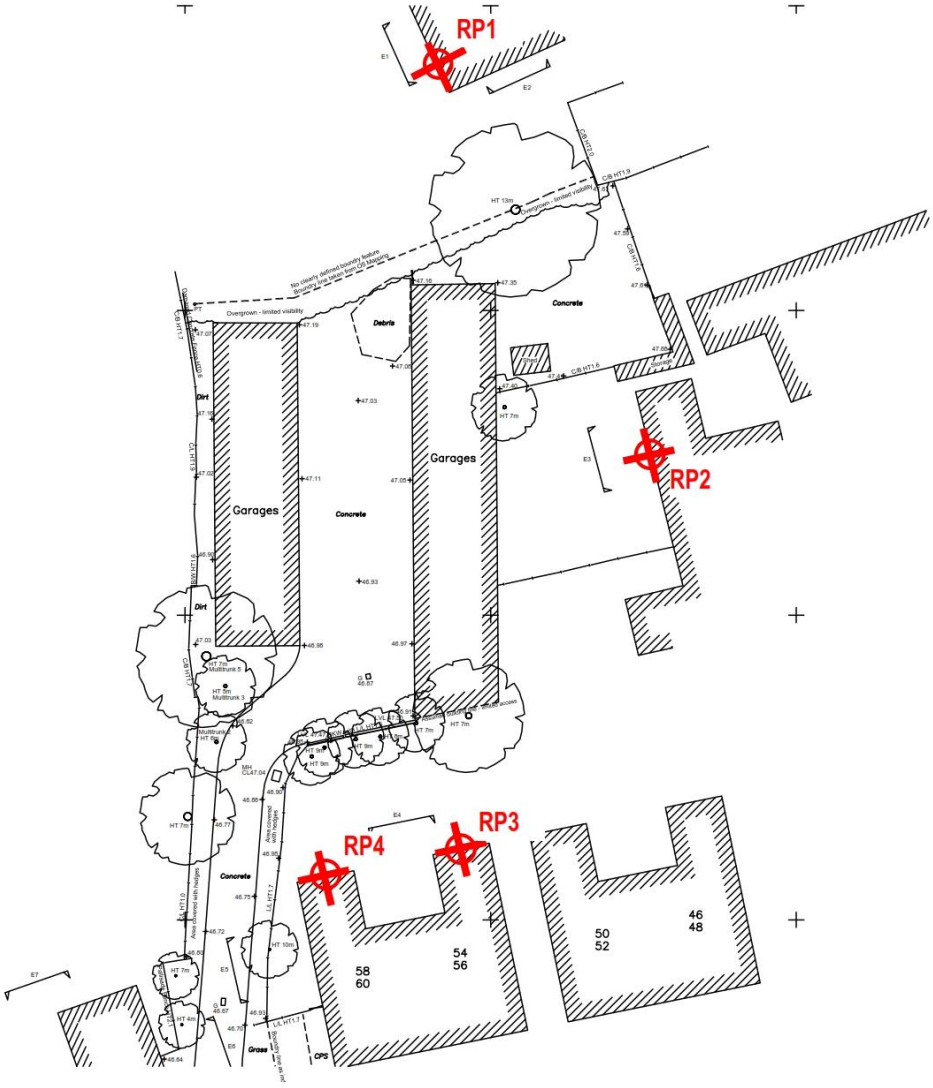
> *To assess the loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90^0 of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.*

Neighbouring properties

2.3 The buildings comprising 54 to 60 Southbourne Gardens and at the western end of Green Lawns directly back on to, and have windows facing, the application site. Whilst the terrace at the end of Rodwell Close does not face the site it is directly to the north of it so the effect on sunlight reaching rear windows may be a concern.

2.4 To establish the effect of the proposal on natural light reaching neighbouring properties it is considered appropriate to assess levels reaching ground floor windows in the locations shown on the plan below.

2.5 As reference points 3 and 4 face north only daylight testing is required for these properties. Sunlight assessment is required for points 1 and 2 as the development, or parts of the development, would be within 90^0 of due south from the reference points.



Reference point locations

Effect of trees

2.6 It is noted that there are mature trees within and close to the application site. The BRE Guide states at paragraph H1.2:

> *It is generally more difficult to calculate the effects of trees on daylight because of their irregular shapes and because some light will generally penetrate through the tree crown. Where the effect of a new building on existing buildings nearby is being analysed, it is usual to ignore the effect of existing trees. This is because daylight is at its scarcest and most valuable in winter when most trees will not be in leaf.*

2.7 On the basis of the above the trees are not taken into account in this assessment.

3.0 DAYLIGHT

Methodology

3.1 The level of daylighting received by a window is quantified in terms of its Vertical Sky Component (VSC), which represents the amount of vertical skylight falling on a vertical window. Plots for the assessment of the VSC are derived from the distance of physical obstructions from reference point and their relative height above the reference point. The heights above ground level and locations of the surrounding buildings and the proposed development have been taken from the survey and application drawings, photographs of the surroundings and aerial photography.

3.2 VSC can be calculated either using the skylight indicator and guidance provided in Appendix A of the BRE Guide or by using the Waldram diagram as explained in Appendix B of the Guide. In this case the latter approach has been used and the resultant plots for the apertures assessed are provided at Appendix 1 of this report. These graphically depict the impact of existing and proposed buildings and other obstructions. The un-shaded areas represent the amount of skylight received at each reference point. By comparing the existing and resultant plots the effect of the proposal can be established.

3.3 The BRE good practice guide outlines numerical guidelines that represent flexible targets for new developments in relation to the VSC at nearby reference points. The document states that:

> *"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, then the loss of light is likely to be noticeable." (our emphasis)*

3.4 These targets are based on suburban standards. Therefore, levels lower than 27% can be expected in urban areas characterised by a higher density of development.

Results

3.5 The following results were obtained:

Reference point	***Existing (a) (%)***	***Resultant (b) (%)***	***Change (b)÷(a)[1]***
BRE targets	*27*	*27*	*0.8*
RP1: Rodwell Close – ground floor rear	c.40.0	38.3	n/a
RP2: Green Lawns – ground floor rear	38.1	32.6	n/a
RP3: Southbourne Gardens – ground floor rear	37.6	35.0	n/a
RP4: Southbourne Gardens – ground floor rear	38.5	35.7	n/a

1. Applicable if the resultant is less than 27%

Table 3.1: Vertical Sky Component results

3.6 Due the diminutive height of the garages on the application site VSC levels at the four windows tested are currently well in excess of the BRE target (27%). The assessment indicates that levels would be reduced post-development but would still remain significantly above the BRE target level.

4.0 SUNLIGHT

Methodology

4.1 To determine sunlight availability, the plots derived for daylighting have been overlaid on a Sun Availability Indicator for London (51.5° N). Again, the area shaded green represents the impact of obstructions on sunlight availability. The plots provide the percentage year round sunlight availability, which is quantified by counting the number of dots outside of the shaded areas. There are 100 dots shown on the indicator, each of which represents 1% of the annual probable sunlight hours. The plots also enable the percentage of sunlight availability during the winter months to be derived by counting the number of dots outside the shaded areas and below the equinox line.

4.2 The BRE good practice guide notes that:

> *"If [a] window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months between 21 September and 21 March, then the room should still receive enough sunlight…If the available sunlight hours are both less than the amount given and less than 0.8 times their former value, either over the whole year or just during the winter months (21 September to 21 March), then the occupants of the existing building will notice the loss of sunlight." (page 11, our emphasis).*

Results

4.3 The following results have been derived:

Reference point	***Existing (a) (%)***	***Resultant (b) (%)***	***Change (b)÷(a)[1]***
BRE targets	*25*	*25*	*0.8*
RP1: Rodwell Close – ground floor rear	66	59	n/a
RP2: Green Lawns – ground floor rear	51	43	n/a

1. Only applicable if the resultant is less than 25% or 0.8 is less than 25%

Table 4.1: Annual Sunlight Availability at the reference points

Reference point	***Existing (a) (%)***	***Resultant (b) (%)***	***Change (b)÷(a)[1]***
BRE targets	*5*	*5*	
RP1: Rodwell Close – ground floor rear	20	18	n/a
RP2: Green Lawns – ground floor rear	15	13	n/a

1. Only applicable if the resultant is less than 5% or 0.8 is less than 5%

Table 4.2: Winter Sunlight Availability at the reference points

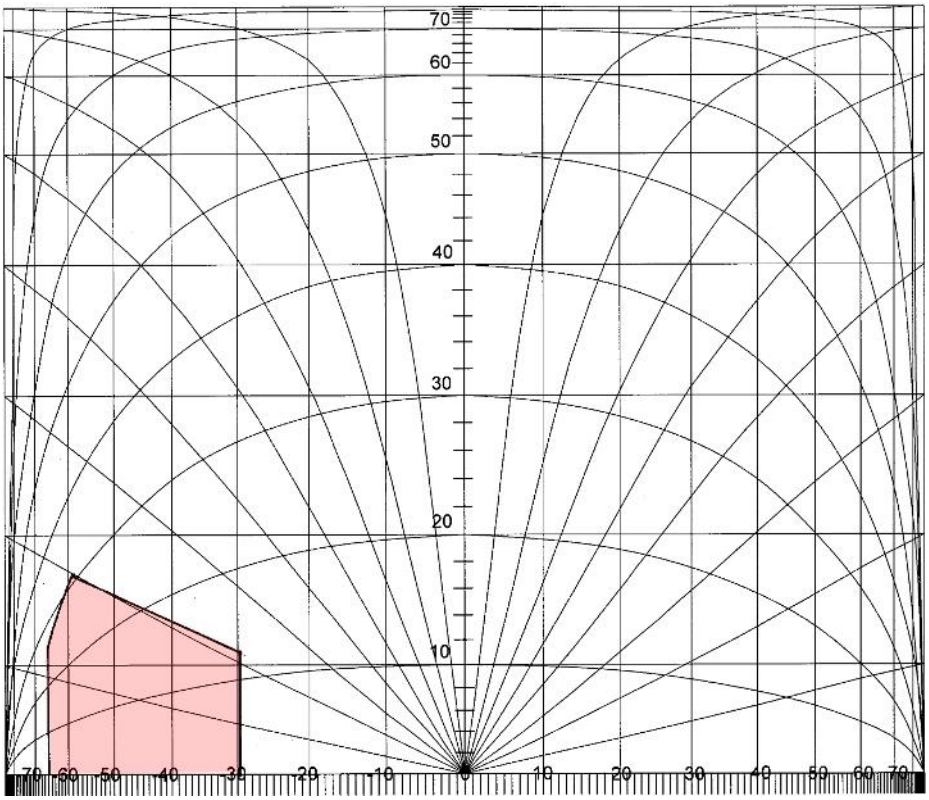
4.4 The windows at the rears of the nearby properties in Rodwell Close and Green Lawns currently gain high levels of annual sunlight and sunlight during winter months. This will remain the case with the proposed development in place.

5.0 CONCLUSIONS

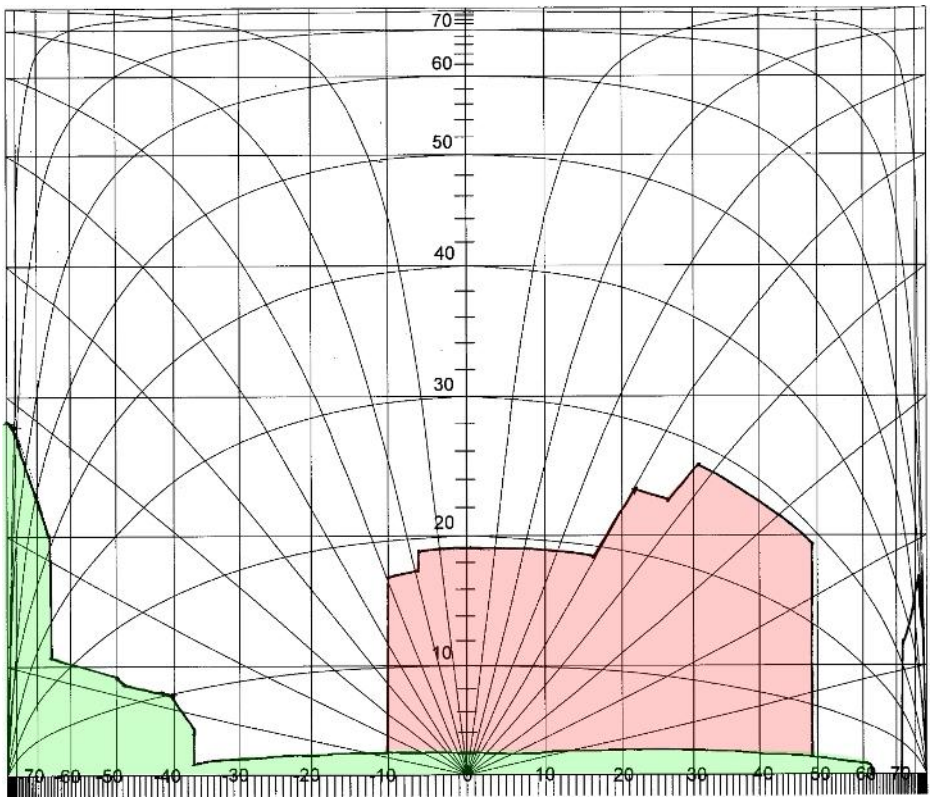
5.1 This assessment has been undertaken in full accordance with the Building Research Establishment (BRE) document "*Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice*" (BR209, 2011). Four windows serving ground floor windows close to the application site have been tested.

5.2 Daylight and sunlight levels reaching the four windows are currently well above the BRE target levels. The report demonstrates that this will remain the case with the proposed development in place. It follows that the same would be the case for other windows that are a similar distance from the application site.

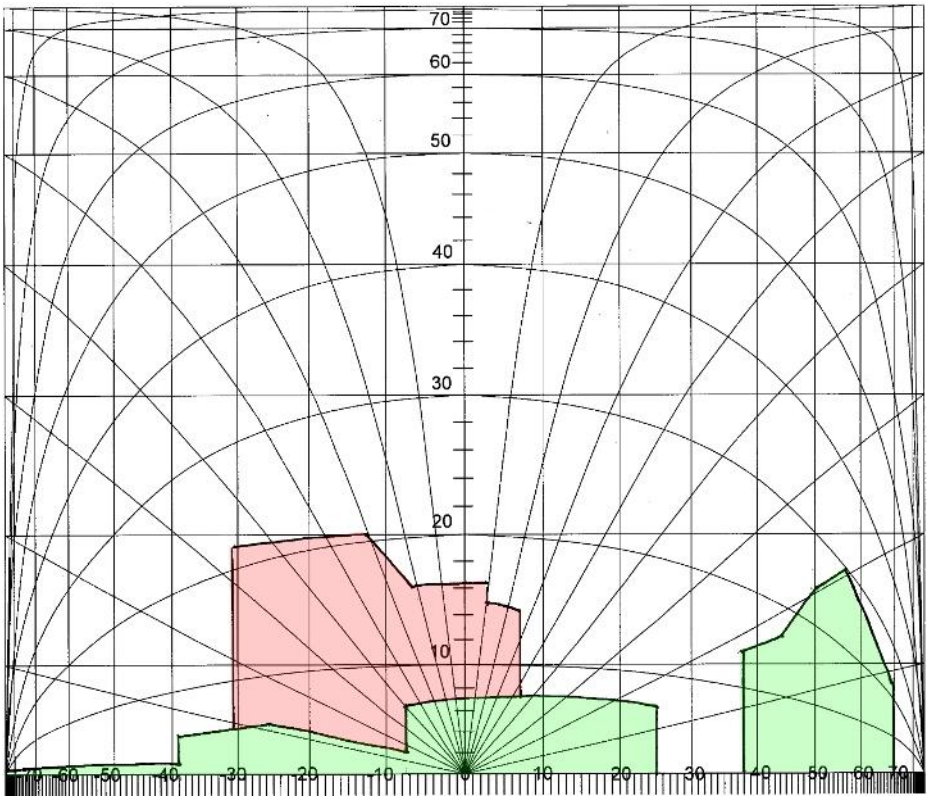
APPENDIX 1: Waldram plots



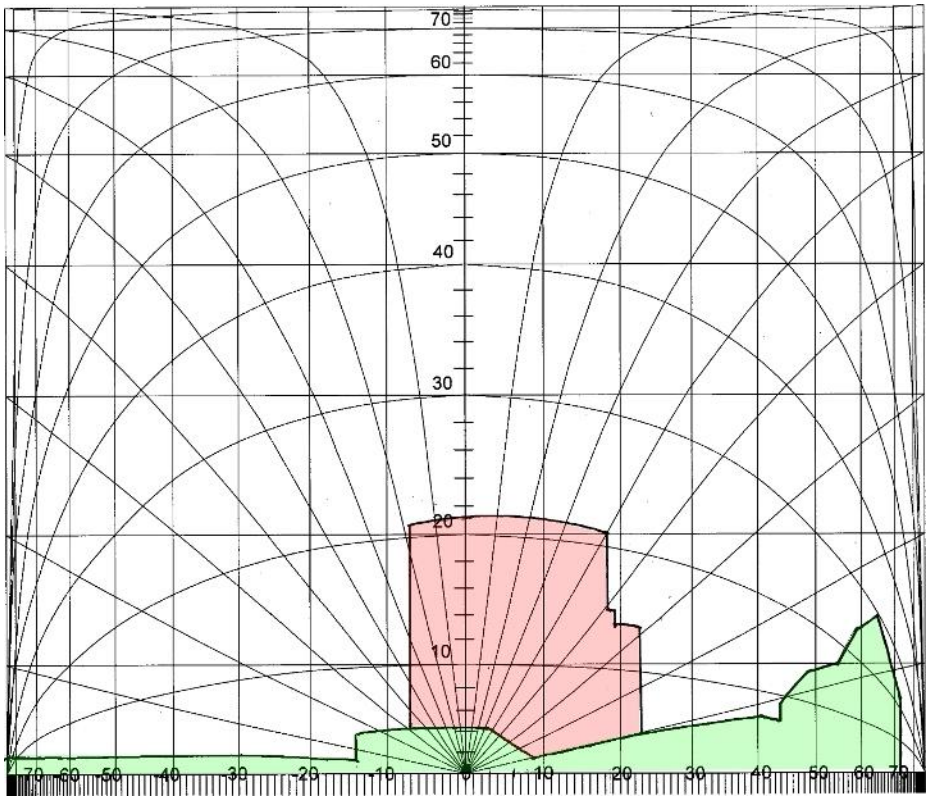
RP1: Rodwell Close – ground floor rear



RP2: Green Lawns – ground floor rear

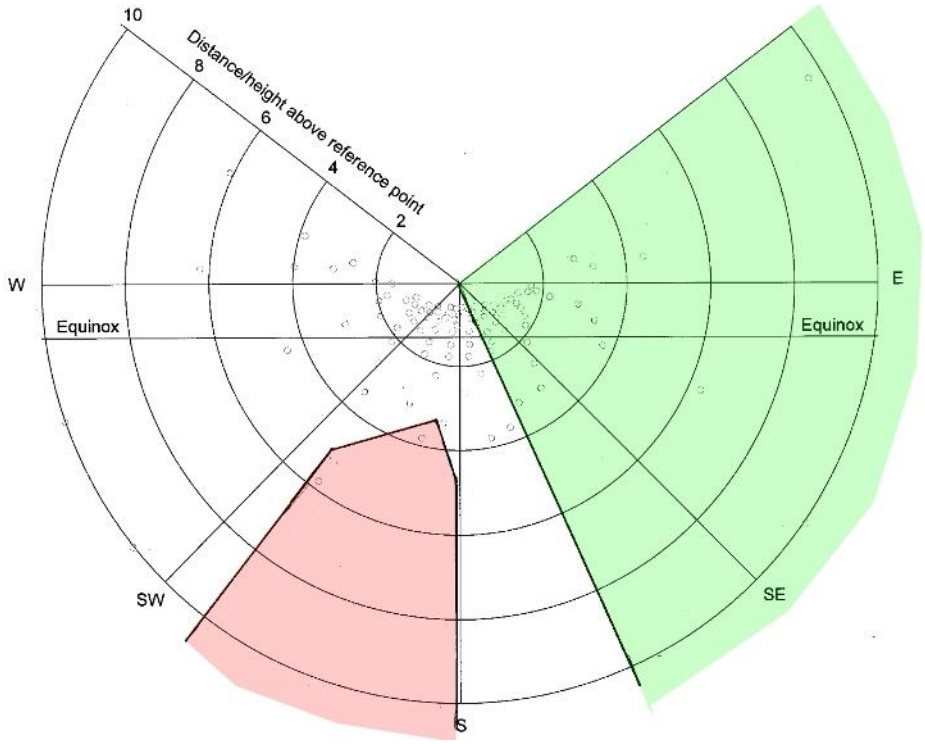


RP3: Southbourne Gardens – ground floor rear

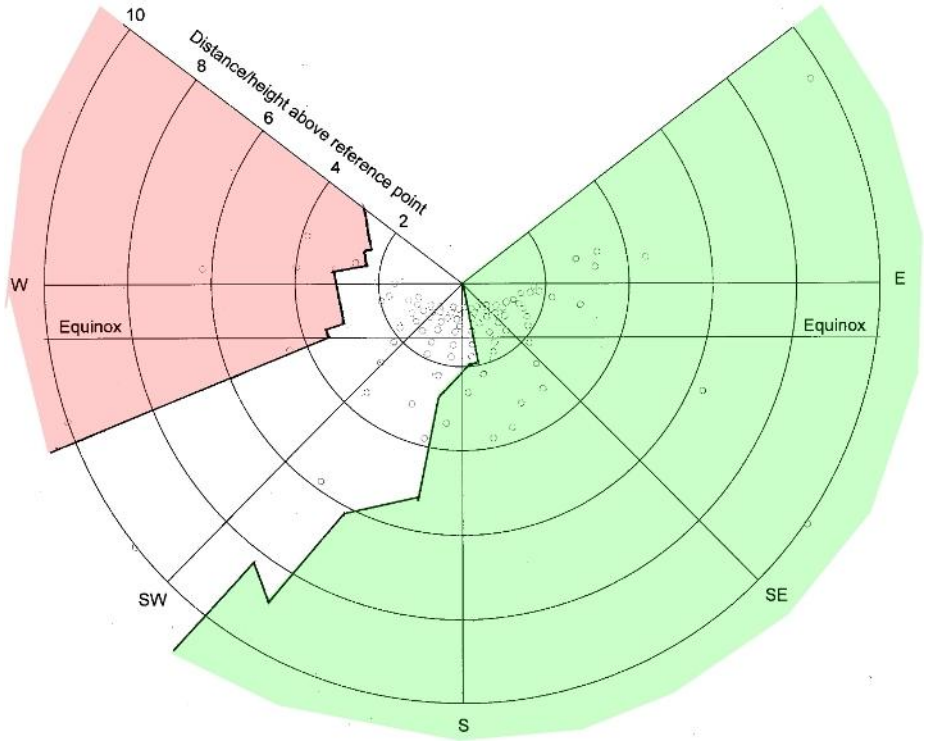


RP4: Southbourne Gardens – ground floor rear

APPENDIX 2: Sunlight availability plots



RP1: Rodwell Close – ground floor rear



RP2: Green Lawns – ground floor rear