



WHITECODE
CONSULTING

Thermal Comfort Analysis – HEA04

Hornsey Town Hall

Prepared for Ardmore

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Revision P01

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Executive Summary

Whitecode Consulting has been appointed by Ardmore to carry out a thermal comfort assessment for the new purpose-built student accommodation at Hornsey Town Hall, Haringey, to secure two credits under HEA04 of BREEAM Refurb and fit out 2014.

The building was simulated using Integrated Environmental Solutions (IES) Virtual Environment (VE) 2022, a software suite accredited under CIBSE AM11 for the simulation of building energy and thermal modelling.

This report includes the criteria and assumptions used to assess the future thermal comfort of the occupants using the BREEAM HEA04 guidance. Results of the current and future weather files are summarised below and are presented in Section 4.

Results of the analysis for the current and future weather files show that all zones comply with the BREEAM requirements in that the mean summer and winter operative temperatures, in occupied spaces, remain within the ranges defined within CIBSE Guide A during occupied hours.

This report demonstrates that the scheme achieves **one credit** under BREEAM HEA04 for thermal modelling and an additional **one credit** for the inclusion of the future weather files giving **two credits** in total.

	Weather File	Zones Within Range	Zones Out of Range
Design Summer Year 1 (DSY1)	Winter	136	0
	Summer	136	0
Design Summer Year 2 (DSY2)	Winter	136	0
	Summer	136	0
Design Summer Year 3 (DSY3)	Winter	136	0
	Summer	136	0

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Revisions:

Rev No:	Status/Comments:	Date:	Prepared by:	Checked by:
P01	Initial Report	18/01/2023	AW	KV

1. Introduction

Whitecode Consulting has been appointed by Ardmere to carry out a thermal comfort assessment for the commercial space at Hornsey Town Hall, Haringey, to secure three credits under HEA 04 of BREEAM refurb and fit out 2014.

The occupied areas are mechanically ventilated and provided with heating and cooling services throughout.

This report assesses comfort criteria in accordance with CIBSE Guide A Table 1.5 and presents the result in terms of PPD, PMV.

The thermal model uses the current DSY weather data and projected CIBSE weather data for the 2020's high emission scenario, 50th percentile DSY2 and DSY3.

2. BREEAM HEA04 Criteria

In order to secure two credits for the thermal comfort of future occupants under HEA 04 the below criteria must be met.

One credit - Thermal modelling

- 1- Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling. – [See Section 3.1](#)
- 2- The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance with CIBSE AM11). – [See Section 3.1](#)
- 3- The modelling demonstrates that:
 - a. For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type); or the thermal environment in occupied spaces meet the Category B requirements for PPD, PMV and local discomfort set out in Table A.1 of Annex A of ISO 7730:2005. – [See Section 4](#)
 - b. For naturally ventilated buildings:
 - i. Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental Design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type). – [See Section 4](#)
 - ii. The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings or CIBSE TM59: Design methodology for the assessment of overheating risk in homes. – [See Section 4](#)
- 4- For air-conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.

One credit – Design for Future Thermal Comfort

- 5- Criteria 1 to 4 are achieved. – [See above](#)
- 6- The thermal modelling demonstrates that the relevant requirements set out in criterion 3 are achieved for a projected climate change environment (see Definitions). – [See Appendices](#)
- 7- Where criterion 6 is not met, the project team demonstrates how the building has been adapted or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements under criterion 6. – [Not required](#)
- 8- For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.

3. Thermal Model Design Criteria

3.1. Choice of Modelling Tool and Approach

Integrated Environmental Solutions (IES) Virtual Environment (VE) is a suite of building performance analysis applications that provide accurate virtual modelling of buildings. The software allows for the inclusion of variables such as building location, thermal characteristics, system efficiencies and site exposure and is accredited for these purposes according to CIBSE AM11.

3.2. Thermal Comfort Criteria

CIBSE Guide A Table 1.5 provides winter and summer temperature ranges for a variety of space types. Table 3.1 below provides these ranges for the applicable zones. Where zones do not align exactly with those in Guide A, the most similar zone type was selected.

Space Use	Winter °C	Summer °C
Offices	21-23	22-25
Exhibition Halls	19-21	21-25
Educational Buildings	19-21	21-25
Kitchens	15-18	18-25
Cinema	21-23	22-25
TV Studios	19-21	21-25
Changing Rooms	21-24	22-25
Eating / Drinking Area	19-21	21-25
Hotel Room	19-21	21-25
Gym	-	-
Common Areas	19-21	21-25

Table 3.1 CIBSE Guide A recommended comfort criteria for the occupied zones

3.3. Location and Weather Data

The proposed building is in Haringey, London, therefore, the weather file used was the London Heathrow Design Summer Year (DSY). As per BREEAM Guidance, for mechanically ventilated buildings, the projected climate scenarios used the Design Summer Years 2 and 3 for the 2020's high emissions scenario, 50th percentile.

3.4. Building Fabric

Table 3.2 below details the thermal properties that were assigned to the building envelope. Thermal mass and thermal bridging were accounted for in the build-up of the constructions.

Element	Thermal Transmittance, W/m ² K	G-value
Glazing	5.50 1.60	0.42
Ground floor	0.20 0.45	-
Main Roof	0.16 0.18 0.26 0.75	-
External Wall	0.20 0.30 1.48	-
Air permeability	0.15 ach	

Table 3.2 Thermal envelope properties

3.5. Internal Gains and Associated Energy Use

Typical values from the National Calculation Methodology (NCM) profiles have been used.

3.6. User Interaction

A building logbook will be provided on the completion of the works by the construction team in accordance with the requirements of the Building Regulations. This document will be structured to provide the building owner/operator with a simple guide to the installed building services, including controls.

Therefore, it has been assumed that the occupants will have the necessary knowledge to interact with controls to obtain a balance between preferences.

4. Results

The table below summarises the results of the current and future weather scenarios. All zones remain within the comfort range during occupied hours for both the current and future weather files. Full results can be found in the appendices.

	Weather File	Zones Within Range	Zones Out of Range
Design Summer Year 1 (DSY1)	Winter	136	0
	Summer	136	0
Design Summer Year 2 (DSY2)	Winter	136	0
	Summer	136	0
Design Summer Year 3 (DSY3)	Winter	136	0
	Summer	136	0

5. Conclusion

A thermal model has been created using IES VE software and simulations have been performed using current and future London weather files, predicted internal conditions and design criteria; results are analysed in terms of mean operative temperature during occupied hours according to CIBSE Guide A guidelines.

Results of the analysis for the current and future weather files show that all zones comply with the BREEAM requirements in that the mean summer and winter operative temperatures, in occupied spaces, remain within the ranges defined within CIBSE Guide A during occupied hours.

This report demonstrates that the scheme achieves **one credit** under BREEAM HEA04 for thermal modelling and an additional **one credit** for the inclusion of the future weather files giving **two credits** in total.

Appendix A – DSY1 Winter Average Operative

Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	21.18	21	23
LG.22c H room	Temperature (°C)	20.04	19	21
LG.22b H Room	Temperature (°C)	20.17	19	21
LG.22a H Room	Temperature (°C)	20.17	19	21
LG.22 H room	Temperature (°C)	20	19	21
LG.19 H Room	Temperature (°C)	20.75	19	21
LG.15 H Room	Temperature (°C)	19.97	19	21
LG.14 H Room	Temperature (°C)	20.18	19	21
LG.10a H Room	Temperature (°C)	20.08	19	21
LG.10 H Room	Temperature (°C)	20.51	19	21
LG.25 H Room	Temperature (°C)	19.93	19	21
LG.26 H room	Temperature (°C)	19.83	19	21
LG.23 H Room	Temperature (°C)	20.75	19	21
LG.37 H room	Temperature (°C)	19.48	19	21
LG.34 H room	Temperature (°C)	19.59	19	21
G.25 H room	Temperature (°C)	20.73	19	21
G.23 H Room	Temperature (°C)	20.7	19	21
G.21a H Room	Temperature (°C)	20.07	19	21
G.19 H Room	Temperature (°C)	20.04	19	21
G.3 H Room	Temperature (°C)	20.74	19	21
G.6 H Room	Temperature (°C)	20.61	19	21
G.8 H Room	Temperature (°C)	20.61	19	21
G.9 H Room	Temperature (°C)	20.74	19	21
G.14 H Room	Temperature (°C)	19.84	19	21
G.12a H Room	Temperature (°C)	20.63	19	21
G.19a H Room	Temperature (°C)	19.84	19	21
G.19a H Room	Temperature (°C)	20.04	19	21
G.21 H Room	Temperature (°C)	19.64	19	21
G.12 H Room	Temperature (°C)	19.99	19	21
G.13 H Room	Temperature (°C)	20.15	19	21
G.15 H Room	Temperature (°C)	20.89	19	21
F.27 H Room	Temperature (°C)	19.26	19	21
F.25 H Room	Temperature (°C)	19.19	19	21
F.21a H Room	Temperature (°C)	19.47	19	21
F.21 H Room	Temperature (°C)	19.75	19	21
F.5 H Room	Temperature (°C)	20.73	19	21
F.6 H Room	Temperature (°C)	20.65	19	21
F.9 H Room	Temperature (°C)	20.65	19	21
F.9a H Room	Temperature (°C)	20.77	19	21
F.14a H Room	Temperature (°C)	19.99	19	21
F.13a H Room	Temperature (°C)	20.65	19	21
F.18 H Room	Temperature (°C)	19.86	19	21
F.20 H Room	Temperature (°C)	20.1	19	21
F.21b H Room	Temperature (°C)	19.66	19	21

F.13 H Room	Temperature (°C)	19.24	19	21
F.14 H Room	Temperature (°C)	20.23	19	21
F.15 H Room	Temperature (°C)	20.94	19	21
S.15 H Room	Temperature (°C)	19.33	19	21
S.13 H Room	Temperature (°C)	20.01	19	21
S.21 H Room	Temperature (°C)	19.82	19	21
S.22 H Room	Temperature (°C)	20.39	19	21
S.12 H Room	Temperature (°C)	19.78	19	21
S.23 H Room	Temperature (°C)	21	19	21
S.20 H Room	Temperature (°C)	20.05	19	21
S.10 H Room	Temperature (°C)	20.79	19	21
S.5 H Room	Temperature (°C)	20.64	19	21
S.5a H Room	Temperature (°C)	20.63	19	21
S.8 H Room	Temperature (°C)	19.29	19	21
S.6 H Room	Temperature (°C)	20.65	19	21
S.19 H Room	Temperature (°C)	20.22	19	21
S.18 H Room	Temperature (°C)	20.1	19	21
S.17 H Room	Temperature (°C)	20.33	19	21
S.16 H Room	Temperature (°C)	20.54	19	21
S.29 H Room	Temperature (°C)	20.32	19	21
S.27 H Room	Temperature (°C)	20.44	19	21
S.24 H Room	Temperature (°C)	20.44	19	21
S.26 H Room	Temperature (°C)	20.05	19	21
LG.17 H Room	Temperature (°C)	19.72	19	21
LG.45e H room	Temperature (°C)	19.41	19	21
LG.42 Kitchen & Bar	Temperature (°C)	20.3	19	21
LG.40a AV room	Temperature (°C)	19.11	19	21
LG.40e Studio 2	Temperature (°C)	19.59	19	21
LG.40b AV room	Temperature (°C)	19.67	19	21
LG.33 Office	Temperature (°C)	21.01	21	23
LG.24c Staff facilities	Temperature (°C)	20.11	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.91	19	21
G.48 Cafe & Servery	Temperature (°C)	19	19	21
G.55 Function Room	Temperature (°C)	19.12	19	21
G.50 Retail	Temperature (°C)	19.73	19	21
F.50b Cinema	Temperature (°C)	21.29	21	23
F.50a Cinema	Temperature (°C)	21.07	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.06	21	24
F.148a Prep Kitchen	Temperature (°C)	15.33	15	18
F.46 Committee Room	Temperature (°C)	20.52	19	21
F.37 Member's Room	Temperature (°C)	20.5	19	21
F.38 Office	Temperature (°C)	21.36	21	23
F.39 office	Temperature (°C)	21.34	21	23
F.40 office	Temperature (°C)	21.16	21	23
S.36a Lounge	Temperature (°C)	19.48	19	21
S.36 Office	Temperature (°C)	21.18	21	23
S.1 F&B Bar	Temperature (°C)	19.24	19	21
LG.40 Supper room	Temperature (°C)	19.51	19	21
G.57 Assembly Hall	Temperature (°C)	19.51	19	21
G.62 Stage 60 & 63	Temperature (°C)	20.26	19	21
LG.50 M Dressing room	Temperature (°C)	19.54	19	21
LG.40c Studio1	Temperature (°C)	19.2	19	21

LG.24a AC staff faci	Temperature (°C)	19.21	19	21
G.61 Green Room	Temperature (°C)	20.46	19	21
G.27 Office	Temperature (°C)	22.35	21	23
F.51 FA Dressing Room	Temperature (°C)	19.63	19	21
S32.Public Gallery	Temperature (°C)	19.98	19	21
F.33 Council Chamber	Temperature (°C)	20.41	19	21
LG.42 Kitchen & Bar	Temperature (°C)	20.3	19	21
LG.40a AV room	Temperature (°C)	19.11	19	21
LG.40e Studio 2	Temperature (°C)	19.59	19	21
LG.40b AV room	Temperature (°C)	19.67	19	21
LG.33 Office	Temperature (°C)	21.01	21	23
LG.24c Staff facilities	Temperature (°C)	20.11	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.91	19	21
G.48 Cafe & Servery	Temperature (°C)	19	19	21
G.55 Function Room	Temperature (°C)	19.12	19	21
G.50 Retail	Temperature (°C)	19.73	19	21
F.50b Cinema	Temperature (°C)	21.29	21	23
F.50a Cinema	Temperature (°C)	21.07	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.06	21	24
F.148a Prep Kitchen	Temperature (°C)	15.33	15	18
F.46 Committee Room	Temperature (°C)	20.52	19	21
F.37 Member's Room	Temperature (°C)	20.5	19	21
F.38 Office	Temperature (°C)	21.36	21	23
F.39 office	Temperature (°C)	21.34	21	23
F.40 office	Temperature (°C)	21.16	21	23
S.36a Lounge	Temperature (°C)	19.48	19	21
S.36 Office	Temperature (°C)	21.18	21	23
S.1 F&B Bar	Temperature (°C)	19.24	19	21
LG.40 Supper room	Temperature (°C)	19.51	19	21
G.57 Assembly Hall	Temperature (°C)	19.51	19	21
G.62 Stage 60 & 63	Temperature (°C)	20.26	19	21
LG.50 M Dressing room	Temperature (°C)	19.54	19	21
LG.40c Studio1	Temperature (°C)	19.2	19	21
LG.24a AC staff faci	Temperature (°C)	19.21	19	21
G.61 Green Room	Temperature (°C)	20.46	19	21
G.27 Office	Temperature (°C)	22.35	21	23
F.51 FA Dressing Room	Temperature (°C)	19.63	19	21
S32.Public Gallery	Temperature (°C)	19.98	19	21
F.33 Council Chamber	Temperature (°C)	20.41	19	21

Appendix B – DSY1 Summer Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	22.36	22	25
LG.22c H room	Temperature (°C)	22.09	21	25
LG.22b H Room	Temperature (°C)	22.03	21	25
LG.22a H Room	Temperature (°C)	22.02	21	25
LG.22 H room	Temperature (°C)	22.04	21	25
LG.19 H Room	Temperature (°C)	21.57	21	25
LG.15 H Room	Temperature (°C)	21.63	21	25
LG.14 H Room	Temperature (°C)	21.17	21	25
LG.10a H Room	Temperature (°C)	21.39	21	25
LG.10 H Room	Temperature (°C)	21.67	21	25
LG.25 H Room	Temperature (°C)	21.43	21	25
LG.26 H room	Temperature (°C)	21.89	21	25
LG.23 H Room	Temperature (°C)	21.78	21	25
LG.37 H room	Temperature (°C)	22.5	21	25
LG.34 H room	Temperature (°C)	22.39	21	25
G.25 H room	Temperature (°C)	21.43	21	25
G.23 H Room	Temperature (°C)	21.41	21	25
G.21a H Room	Temperature (°C)	21.31	21	25
G.19 H Room	Temperature (°C)	21.52	21	25
G.3 H Room	Temperature (°C)	21.39	21	25
G.6 H Room	Temperature (°C)	21.12	21	25
G.8 H Room	Temperature (°C)	21.14	21	25
G.9 H Room	Temperature (°C)	21.47	21	25
G.14 H Room	Temperature (°C)	22.1	21	25
G.12a H Room	Temperature (°C)	21.51	21	25
G.19a H Room	Temperature (°C)	22.19	21	25
G.19a H Room	Temperature (°C)	22.18	21	25
G.21 H Room	Temperature (°C)	21.45	21	25
G.12 H Room	Temperature (°C)	21.05	21	25
G.13 H Room	Temperature (°C)	21.38	21	25
G.15 H Room	Temperature (°C)	22.21	21	25
F.27 H Room	Temperature (°C)	22.04	21	25
F.25 H Room	Temperature (°C)	21.9	21	25
F.21a H Room	Temperature (°C)	21.28	21	25
F.21 H Room	Temperature (°C)	21.74	21	25
F.5 H Room	Temperature (°C)	21.5	21	25
F.6 H Room	Temperature (°C)	21.36	21	25
F.9 H Room	Temperature (°C)	21.4	21	25
F.9a H Room	Temperature (°C)	21.75	21	25
F.14a H Room	Temperature (°C)	22.28	21	25
F.13a H Room	Temperature (°C)	21.83	21	25
F.18 H Room	Temperature (°C)	22.34	21	25
F.20 H Room	Temperature (°C)	22.43	21	25
F.21b H Room	Temperature (°C)	21.88	21	25
F.13 H Room	Temperature (°C)	21.13	21	25
F.14 H Room	Temperature (°C)	21.18	21	25
F.15 H Room	Temperature (°C)	22.3	21	25

S.15 H Room	Temperature (°C)	22.3	21	25
S.13 H Room	Temperature (°C)	22.8	21	25
S.21 H Room	Temperature (°C)	22.86	21	25
S.22 H Room	Temperature (°C)	23.08	21	25
S.12 H Room	Temperature (°C)	22.52	21	25
S.23 H Room	Temperature (°C)	24.03	21	25
S.20 H Room	Temperature (°C)	22.9	21	25
S.10 H Room	Temperature (°C)	22.35	21	25
S.5 H Room	Temperature (°C)	21.74	21	25
S.5a H Room	Temperature (°C)	21.63	21	25
S.8 H Room	Temperature (°C)	22.19	21	25
S.6 H Room	Temperature (°C)	21.76	21	25
S.19 H Room	Temperature (°C)	22.8	21	25
S.18 H Room	Temperature (°C)	22.77	21	25
S.17 H Room	Temperature (°C)	22.91	21	25
S.16 H Room	Temperature (°C)	22.93	21	25
S.29 H Room	Temperature (°C)	21.05	21	25
S.27 H Room	Temperature (°C)	21.18	21	25
S.24 H Room	Temperature (°C)	21.21	21	25
S.26 H Room	Temperature (°C)	21.02	21	25
LG.17 H Room	Temperature (°C)	21.69	21	25
LG.45e H room	Temperature (°C)	22.12	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.36	22	25
LG.40a AV room	Temperature (°C)	22.09	21	25
LG.40e Studio 2	Temperature (°C)	22.03	21	25
LG.40b AV room	Temperature (°C)	22.02	21	25
LG.33 Office	Temperature (°C)	22.04	21	25
LG.24c Staff facilities	Temperature (°C)	21.57	21	25
G.41 Ent Hall & G.40	Temperature (°C)	21.63	21	25
G.48 Cafe & Servery	Temperature (°C)	21.17	21	25
G.55 Function Room	Temperature (°C)	21.39	21	25
G.50 Retail	Temperature (°C)	21.67	21	25
F.50b Cinema	Temperature (°C)	21.43	21	25
F.50a Cinema	Temperature (°C)	21.89	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.78	21	25
F.148a Prep Kitchen	Temperature (°C)	22.5	21	25
F.46 Committee Room	Temperature (°C)	22.39	21	25
F.37 Member's Room	Temperature (°C)	21.43	21	25
F.38 Office	Temperature (°C)	21.41	21	25
F.39 office	Temperature (°C)	21.31	21	25
F.40 office	Temperature (°C)	21.52	21	25
S.36a Lounge	Temperature (°C)	21.39	21	25
S.36 Office	Temperature (°C)	21.12	21	25
S.1 F&B Bar	Temperature (°C)	21.14	21	25
LG.40 Supper room	Temperature (°C)	21.47	21	25
G.57 Assembly Hall	Temperature (°C)	22.1	21	25
G.62 Stage 60 & 63	Temperature (°C)	21.51	21	25
LG.50 M Dressing room	Temperature (°C)	22.19	21	25
LG.40c Studio1	Temperature (°C)	22.18	21	25
LG.24a AC staff faci	Temperature (°C)	21.45	21	25
G.61 Green Room	Temperature (°C)	21.05	21	25
G.27 Office	Temperature (°C)	21.38	21	25

F.51 FA Dressing Room	Temperature (°C)	22.21	21	25
S32.Public Gallery	Temperature (°C)	22.04	21	25
F.33 Council Chamber	Temperature (°C)	21.9	21	25
LG.42 Kitchen & Bar	Temperature (°C)	21.28	21	25
LG.40a AV room	Temperature (°C)	21.74	21	25
LG.40e Studio 2	Temperature (°C)	21.5	21	25
LG.40b AV room	Temperature (°C)	21.36	21	25
LG.33 Office	Temperature (°C)	21.4	21	25
LG.24c Staff facilities	Temperature (°C)	21.75	21	25
G.41 Ent Hall & G.40	Temperature (°C)	22.28	21	25
G.48 Cafe & Servery	Temperature (°C)	21.83	21	25
G.55 Function Room	Temperature (°C)	22.34	21	25
G.50 Retail	Temperature (°C)	22.43	21	25
F.50b Cinema	Temperature (°C)	21.88	21	25
F.50a Cinema	Temperature (°C)	21.13	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.18	21	25
F.148a Prep Kitchen	Temperature (°C)	22.3	21	25
F.46 Committee Room	Temperature (°C)	22.3	21	25
F.37 Member's Room	Temperature (°C)	22.8	21	25
F.38 Office	Temperature (°C)	22.86	21	25
F.39 office	Temperature (°C)	23.08	21	25
F.40 office	Temperature (°C)	22.52	21	25
S.36a Lounge	Temperature (°C)	24.03	21	25
S.36 Office	Temperature (°C)	22.9	21	25
S.1 F&B Bar	Temperature (°C)	22.35	21	25
LG.40 Supper room	Temperature (°C)	21.74	21	25
G.57 Assembly Hall	Temperature (°C)	21.63	21	25
G.62 Stage 60 & 63	Temperature (°C)	22.19	21	25
LG.50 M Dressing room	Temperature (°C)	21.76	21	25
LG.40c Studio1	Temperature (°C)	22.8	21	25
LG.24a AC staff faci	Temperature (°C)	22.77	21	25
G.61 Green Room	Temperature (°C)	22.91	21	25
G.27 Office	Temperature (°C)	22.93	21	25
F.51 FA Dressing Room	Temperature (°C)	21.05	21	25
S32.Public Gallery	Temperature (°C)	21.18	21	25
F.33 Council Chamber	Temperature (°C)	21.21	21	25

Appendix C – DSY1 Predicted Mean Vote (PMV)

	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range
Location	<= -0.50	>-0.50 to <=-0.25	>-0.25 to <=0.00	>0.00 to <=0.25	>0.25 to <=0.50	> 0.50
LG.22c H room	48.3	5.3	9.8	32.8	3.8	0
LG.22b H Room	48.3	6.1	9.3	32.6	3.8	0
LG.22a H Room	48.1	5.3	9.9	32.9	3.8	0
LG.22 H room	46.8	3.9	9.9	34.5	4.9	0
LG.19 H Room	48.4	11.3	9.8	26.2	4.4	0
LG.15 H Room	52.9	6.1	11	26.9	3.2	0
LG.14 H Room	45.2	2.6	9.3	34.1	8.5	0.3
LG.10a H Room	45.6	5.3	9.5	29	9.4	1.2
LG.10 H Room	39.2	9.8	9.7	29.3	10.2	1.9
LG.25 H Room	40.8	4.6	5.9	32	12.3	4.5
LG.26 H room	43	3.4	7.1	34.5	9.7	2.3
LG.23 H Room	35.9	12	6.3	34.7	10.1	1
LG.37 H room	59.3	5.1	6.8	25.6	3.2	0
LG.34 H room	58.2	5.8	6.1	26.9	3.1	0
LG.32 H Gym	0	0	0	0	0	100
G.25 H room	42.9	9.3	10	33.2	4.6	0
G.23 H Room	42.1	11.6	36	8.9	1.4	0
G.21a H Room	46.4	4.7	6.8	12.5	27.5	2.2
G.19 H Room	45.8	5.6	9.7	28	7	4
G.3 H Room	41.9	14.3	10.2	31.2	2.4	0
G.6 H Room	49	10.8	11	27	2.2	0
G.8 H Room	48.3	10.7	11.5	27.3	2.3	0
G.9 H Room	39.7	11.8	10.7	34.7	3.1	0
G.14 H Room	32.9	8.6	7	32.2	13.6	5.6
G.12a H Room	34.1	13	6.3	38.8	7.6	0.2
G.19a H Room	44.3	4.5	8.9	29.6	9.2	3.5
G.19a H Room	45	5.4	10.2	28.3	7.1	4
G.21 H Room	47.2	5.4	10.8	32.5	3.9	0.2
G.12 H Room	35.4	11.9	4.3	6.1	12.3	30
G.13 H Room	29.8	13	2.7	10.4	34.3	9.8
G.15 H Room	27.7	13	6.5	30.9	15.7	6.3
F.27 H Room	45.8	4	7.7	30.8	11.4	0.1
F.25 H Room	46.3	4.2	9.3	33.1	6.9	0.2
F.21a H Room	45.8	4.2	8.8	32.7	8.2	0.3
F.21 H Room	44.2	4.6	9	29	8.8	4.4
F.5 H Room	38.8	16.2	9.5	30.9	4.5	0
F.6 H Room	45.3	13.7	9.8	26.9	4.2	0
F.9 H Room	44.5	13.7	10.1	27.4	4.3	0
F.9a H Room	37.5	13	9.5	33.6	6.4	0
F.14a H Room	28.4	8.6	9.8	31	14.5	7.7
F.13a H Room	29.1	16	5.3	37.2	12.1	0.2
F.18 H Room	43.6	4.2	8.3	29.6	10.3	3.9
F.20 H Room	43.3	4.2	9.5	29.5	8.9	4.6

F.21b H Room	46.3	4.5	9.5	32.7	6.8	0.3
F.13 H Room	39.1	5.8	4.5	9.9	34.9	5.8
F.14 H Room	27.3	14.4	6.3	32.5	14.3	5.3
F.15 H Room	23.1	14.9	8.5	30.3	16.9	6.3
S.15 H Room	57.1	4.8	6.7	17.4	10.8	3.3
S.13 H Room	54.7	5.6	8	20.1	9.6	2
S.21 H Room	36.3	7.3	4.5	33.1	15.4	3.4
S.22 H Room	31.9	7.7	8.5	36.7	14	1.3
S.12 H Room	49.5	5.4	6.8	21.2	15.7	1.4
S.23 H Room	11.8	10.5	10	10.4	34	23.3
S.20 H Room	38.4	6.2	5.3	34.4	13.8	1.9
S.10 H Room	44.5	9.9	7.3	21.5	15.4	1.4
S.5 H Room	55.6	8.7	6.4	17.8	10.3	1.1
S.5a H Room	58.9	8.8	6.7	15.9	8.8	1
S.8 H Room	56.9	5.3	7	19.2	10.6	1
S.6 H Room	58.4	8.6	7.1	16.1	8.7	1.1
S.19 H Room	38.4	6.2	5.8	33.2	16	0.4
S.18 H Room	36.9	6.8	4.5	34.4	16.3	1.1
S.17 H Room	33	7.2	6.8	30.8	16.8	5.5
S.16 H Room	30.7	7.9	8.2	30.8	16.8	5.6
S.29 H Room	37.8	16.2	4.4	4.1	15.1	22.3
S.27 H Room	40.3	14.5	4.6	3.7	7	29.8
S.24 H Room	36.5	15.9	4.5	3.9	6.2	33
S.26 H Room	41.7	10.9	5.3	4.7	6.5	30.9
LG.17 H Room	52.4	6	11	27.1	3.5	0.1
LG.45e H room	48	2.9	9.8	33.9	5.4	0
Total hours (% of sum)	25.6	5	5.2	16	6.5	4.5
LG.40a AV room	78.8	19.8	1.4	0	0	0
LG.40e Studio 2	0	0.2	6.7	24.5	47.1	21.6
LG.40b AV room	71.4	24.3	4.2	0.1	0	0
LG.33 Office	19.7	18.6	13.1	40.4	8.1	0
LG.24c Staff facilities	0	11.8	36.8	9.2	6.7	35.6
G.41 Ent Hall & G.40	0.1	47.7	7.6	6.2	4.4	34
G.48 Cafe & Servery	68.4	22.3	8.8	0.5	0	0
G.55 Function Room	63.6	28.5	7.8	0.1	0	0
G.50 Retail	6.7	36.9	9.4	21.1	24.1	1.8
F.50b Cinema	69.6	27.7	2.8	0	0	0
F.50a Cinema	71.7	26.2	2.1	0	0	0
F.3 Mayor's Parlour	21.5	27.8	13.6	20.4	14.7	2.1
F.148a Prep Kitchen	33.5	11.4	7.7	7.4	6.8	33.2
F.46 Committee Room	38.1	18.3	11	16.7	11.2	4.7
F.37 Member's Room	8.1	26.6	21.1	31.9	12.1	0.2
F.38 Office	2.5	33.9	31.1	31.7	0.8	0
F.39 office	0.9	33.1	33.9	31.6	0.5	0
F.40 office	3.4	37	26.3	31.6	1.7	0
S.36a Lounge	38.9	9.8	7.2	6.2	5.6	32.2
S.36 Office	1.3	28	26.4	16.8	23.2	4.3
S.1 F&B Bar	64.3	13.2	14.8	6.7	0.9	0
LG.40 Supper room	4	49.9	8.5	6.2	7.3	24.2
G.57 Assembly Hall	0.1	25	28.4	6.7	5.6	34.3
G.62 Stage 60 & 63	70.6	16.3	11.8	1.3	0	0
LG.40c Studio1	0	6.2	25.9	37.1	28.9	1.9

LG.24a AC staff faci	0	27.1	28.2	7.1	5.5	32.1
G.61 Green Room	43.6	5.3	11.6	20.1	17	2.3
G.27 Office	3.4	15.3	24	11.1	23.7	22.4
S32.Public Gallery	30.7	7.2	5.4	17.8	28.5	10.4
F.33 Council Chamber	16.5	30.1	14.6	30.4	8.4	0
Total hours (% of sum)	11.8	10.4	7	6	3.8	6.5
LG.40a AV room	78.8	19.8	1.4	0	0	0
LG.40e Studio 2	0	0.2	6.7	24.5	47.1	21.6
LG.40b AV room	71.4	24.3	4.2	0.1	0	0
LG.33 Office	19.7	18.6	13.1	40.4	8.1	0
LG.24c Staff facilities	0	11.8	36.8	9.2	6.7	35.6
G.41 Ent Hall & G.40	0.1	47.7	7.6	6.2	4.4	34
G.48 Cafe & Servery	68.4	22.3	8.8	0.5	0	0
G.55 Function Room	63.6	28.5	7.8	0.1	0	0
G.50 Retail	6.7	36.9	9.4	21.1	24.1	1.8
F.50b Cinema	69.6	27.7	2.8	0	0	0
F.50a Cinema	71.7	26.2	2.1	0	0	0
F.3 Mayor's Parlour	21.5	27.8	13.6	20.4	14.7	2.1
F.148a Prep Kitchen	33.5	11.4	7.7	7.4	6.8	33.2
F.46 Committee Room	38.1	18.3	11	16.7	11.2	4.7
F.37 Member's Room	8.1	26.6	21.1	31.9	12.1	0.2
F.38 Office	2.5	33.9	31.1	31.7	0.8	0
F.39 office	0.9	33.1	33.9	31.6	0.5	0
F.40 office	3.4	37	26.3	31.6	1.7	0
S.36a Lounge	38.9	9.8	7.2	6.2	5.6	32.2
S.36 Office	1.3	28	26.4	16.8	23.2	4.3
S.1 F&B Bar	64.3	13.2	14.8	6.7	0.9	0
LG.40 Supper room	4	49.9	8.5	6.2	7.3	24.2
G.57 Assembly Hall	0.1	25	28.4	6.7	5.6	34.3
G.62 Stage 60 & 63	70.6	16.3	11.8	1.3	0	0
LG.40c Studio1	0	6.2	25.9	37.1	28.9	1.9
LG.24a AC staff faci	0	27.1	28.2	7.1	5.5	32.1
G.61 Green Room	43.6	5.3	11.6	20.1	17	2.3
G.27 Office	3.4	15.3	24	11.1	23.7	22.4
S32.Public Gallery	30.7	7.2	5.4	17.8	28.5	10.4
F.33 Council Chamber	16.5	30.1	14.6	30.4	8.4	0
Total hours (% of sum)	11.8	10.4	7	6	3.8	6.5

Appendix D – DSY1 People Dissatisfied

File	Location	People dissatisfied (%) - % hours in range > 10.00
Sim 9 DSY 1.aps	LG.22c H room	48.4
Sim 9 DSY 1.aps	LG.22b H Room	48.4
Sim 9 DSY 1.aps	LG.22a H Room	48.2
Sim 9 DSY 1.aps	LG.22 H room	46.9
Sim 9 DSY 1.aps	LG.19 H Room	49.3
Sim 9 DSY 1.aps	LG.15 H Room	53
Sim 9 DSY 1.aps	LG.14 H Room	45.8
Sim 9 DSY 1.aps	LG.10a H Room	47.2
Sim 9 DSY 1.aps	LG.10 H Room	42.5
Sim 9 DSY 1.aps	LG.25 H Room	46.1
Sim 9 DSY 1.aps	LG.26 H room	45.7
Sim 9 DSY 1.aps	LG.23 H Room	38
Sim 9 DSY 1.aps	LG.37 H room	59.5
Sim 9 DSY 1.aps	LG.34 H room	58.3
Sim 9 DSY 1.aps	G.25 H room	43.9
Sim 9 DSY 1.aps	G.23 H Room	43
Sim 9 DSY 1.aps	G.21a H Room	49.3
Sim 9 DSY 1.aps	G.19 H Room	50.1
Sim 9 DSY 1.aps	G.3 H Room	43.1
Sim 9 DSY 1.aps	G.6 H Room	49.9
Sim 9 DSY 1.aps	G.8 H Room	49.2
Sim 9 DSY 1.aps	G.9 H Room	40.5
Sim 9 DSY 1.aps	G.14 H Room	39.3
Sim 9 DSY 1.aps	G.12a H Room	35.1
Sim 9 DSY 1.aps	G.19a H Room	48.3
Sim 9 DSY 1.aps	G.19a H Room	49.5
Sim 9 DSY 1.aps	G.21 H Room	47.4
Sim 9 DSY 1.aps	G.12 H Room	67.7
Sim 9 DSY 1.aps	G.13 H Room	41.3
Sim 9 DSY 1.aps	G.15 H Room	35.1
Sim 9 DSY 1.aps	F.27 H Room	46
Sim 9 DSY 1.aps	F.25 H Room	46.6
Sim 9 DSY 1.aps	F.21a H Room	46.3
Sim 9 DSY 1.aps	F.21 H Room	49
Sim 9 DSY 1.aps	F.5 H Room	39.7
Sim 9 DSY 1.aps	F.6 H Room	46.6
Sim 9 DSY 1.aps	F.9 H Room	45.8

Sim 9 DSY 1.aps	F.9a H Room	38.5
Sim 9 DSY 1.aps	F.14a H Room	36.9
Sim 9 DSY 1.aps	F.13a H Room	30.4
Sim 9 DSY 1.aps	F.18 H Room	48
Sim 9 DSY 1.aps	F.20 H Room	48.3
Sim 9 DSY 1.aps	F.21b H Room	46.7
Sim 9 DSY 1.aps	F.13 H Room	47.1
Sim 9 DSY 1.aps	F.14 H Room	33.7
Sim 9 DSY 1.aps	F.15 H Room	30.7
Sim 9 DSY 1.aps	S.15 H Room	60.7
Sim 9 DSY 1.aps	S.13 H Room	57.1
Sim 9 DSY 1.aps	S.21 H Room	40.1
Sim 9 DSY 1.aps	S.22 H Room	33.6
Sim 9 DSY 1.aps	S.12 H Room	51.4
Sim 9 DSY 1.aps	S.23 H Room	38
Sim 9 DSY 1.aps	S.20 H Room	40.8
Sim 9 DSY 1.aps	S.10 H Room	46.7
Sim 9 DSY 1.aps	S.5 H Room	57.3
Sim 9 DSY 1.aps	S.5a H Room	60.4
Sim 9 DSY 1.aps	S.8 H Room	58.3
Sim 9 DSY 1.aps	S.6 H Room	60.1
Sim 9 DSY 1.aps	S.19 H Room	39.2
Sim 9 DSY 1.aps	S.18 H Room	38.6
Sim 9 DSY 1.aps	S.17 H Room	39
Sim 9 DSY 1.aps	S.16 H Room	37
Sim 9 DSY 1.aps	S.29 H Room	63.6
Sim 9 DSY 1.aps	S.27 H Room	71.4
Sim 9 DSY 1.aps	S.24 H Room	71.4
Sim 9 DSY 1.aps	S.26 H Room	74.1
Sim 9 DSY 1.aps	LG.17 H Room	52.5
Sim 9 DSY 1.aps	LG.45e H room	48.1
Sim 9 DSY 1.aps	Total hours (% of sum)	30.6
Sim 11 DSY 1.aps	LG.42 Kitchen & Bar	93.2
Sim 11 DSY 1.aps	LG.40a AV room	79.1
Sim 11 DSY 1.aps	LG.40e Studio 2	24
Sim 11 DSY 1.aps	LG.40b AV room	72
Sim 11 DSY 1.aps	LG.33 Office	20.2
Sim 11 DSY 1.aps	LG.24c Staff facilities	35.9
Sim 11 DSY 1.aps	G.41 Ent Hall & G.40	34.3
Sim 11 DSY 1.aps	G.48 Cafe & Servery	68.9
Sim 11 DSY 1.aps	G.55 Function Room	64.1
Sim 11 DSY 1.aps	G.50 Retail	9.8

Sim 11 DSY 1.aps	F.50b Cinema	69.9
Sim 11 DSY 1.aps	F.50a Cinema	72
Sim 11 DSY 1.aps	F.3 Mayor's Parlour	25.3
Sim 11 DSY 1.aps	F.148a Prep Kitchen	67.5
Sim 11 DSY 1.aps	F.46 Committee Room	44
Sim 11 DSY 1.aps	F.37 Member's Room	9
Sim 11 DSY 1.aps	F.38 Office	2.9
Sim 11 DSY 1.aps	F.39 office	1.3
Sim 11 DSY 1.aps	F.40 office	3.9
Sim 11 DSY 1.aps	S.36a Lounge	72.2
Sim 11 DSY 1.aps	S.36 Office	6.6
Sim 11 DSY 1.aps	S.1 F&B Bar	64.5
Sim 11 DSY 1.aps	LG.40 Supper room	29.8
Sim 11 DSY 1.aps	G.57 Assembly Hall	34.6
Sim 11 DSY 1.aps	G.62 Stage 60 & 63	70.8
Sim 11 DSY 1.aps	LG.50 M Dressing room	45.2
Sim 11 DSY 1.aps	LG.40c Studio1	2.3
Sim 11 DSY 1.aps	LG.24a AC staff faci	32.4
Sim 11 DSY 1.aps	G.61 Green Room	46.6
Sim 11 DSY 1.aps	G.27 Office	27.9
Sim 11 DSY 1.aps	F.51 FA Dressing Room	44.9
Sim 11 DSY 1.aps	S32.Public Gallery	42.9
Sim 11 DSY 1.aps	F.33 Council Chamber	17.5
Sim 11 DSY 1.aps	Total hours (% of sum)	18.7

Appendix E – DSY2 Winter Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	21.05	21	23
LG.22c H room	Temperature (°C)	19.93	19	21
LG.22b H Room	Temperature (°C)	20.11	19	21
LG.22a H Room	Temperature (°C)	20.11	19	21
LG.22 H room	Temperature (°C)	19.9	19	21
LG.19 H Room	Temperature (°C)	20.69	19	21
LG.15 H Room	Temperature (°C)	19.91	19	21
LG.14 H Room	Temperature (°C)	19.83	19	21
LG.10a H Room	Temperature (°C)	19.7	19	21
LG.10 H Room	Temperature (°C)	20.34	19	21
LG.25 H Room	Temperature (°C)	19.56	19	21
LG.26 H room	Temperature (°C)	19.68	19	21
LG.23 H Room	Temperature (°C)	20.67	19	21
LG.37 H room	Temperature (°C)	19.38	19	21
LG.34 H room	Temperature (°C)	19.48	19	21
G.25 H room	Temperature (°C)	20.64	19	21
G.23 H Room	Temperature (°C)	20.62	19	21
G.21a H Room	Temperature (°C)	19.71	19	21
G.19 H Room	Temperature (°C)	19.57	19	21
G.3 H Room	Temperature (°C)	20.68	19	21
G.6 H Room	Temperature (°C)	20.53	19	21
G.8 H Room	Temperature (°C)	20.53	19	21
G.9 H Room	Temperature (°C)	20.68	19	21
G.14 H Room	Temperature (°C)	19.67	19	21
G.12a H Room	Temperature (°C)	20.56	19	21
G.19a H Room	Temperature (°C)	19.65	19	21
G.19a H Room	Temperature (°C)	19.85	19	21
G.21 H Room	Temperature (°C)	19.54	19	21
G.12 H Room	Temperature (°C)	19.82	19	21
G.13 H Room	Temperature (°C)	19.95	19	21
G.15 H Room	Temperature (°C)	20.76	19	21
F.27 H Room	Temperature (°C)	19.15	19	21
F.25 H Room	Temperature (°C)	19.12	19	21
F.21a H Room	Temperature (°C)	19.08	19	21
F.21 H Room	Temperature (°C)	19.28	19	21
F.5 H Room	Temperature (°C)	20.67	19	21
F.6 H Room	Temperature (°C)	20.57	19	21
F.9 H Room	Temperature (°C)	20.57	19	21
F.9a H Room	Temperature (°C)	20.71	19	21
F.14a H Room	Temperature (°C)	19.83	19	21
F.13a H Room	Temperature (°C)	20.58	19	21
F.18 H Room	Temperature (°C)	19.7	19	21
F.20 H Room	Temperature (°C)	19.93	19	21
F.21b H Room	Temperature (°C)	19.58	19	21
F.13 H Room	Temperature (°C)	19.09	19	21
F.14 H Room	Temperature (°C)	20.04	19	21
F.15 H Room	Temperature (°C)	20.81	19	21

S.15 H Room	Temperature (°C)	19.22	19	21
S.13 H Room	Temperature (°C)	19.94	19	21
S.21 H Room	Temperature (°C)	19.6	19	21
S.22 H Room	Temperature (°C)	19.89	19	21
S.12 H Room	Temperature (°C)	19.63	19	21
S.23 H Room	Temperature (°C)	20.81	19	21
S.20 H Room	Temperature (°C)	19.85	19	21
S.10 H Room	Temperature (°C)	20.66	19	21
S.5 H Room	Temperature (°C)	20.56	19	21
S.5a H Room	Temperature (°C)	20.55	19	21
S.8 H Room	Temperature (°C)	19.22	19	21
S.6 H Room	Temperature (°C)	20.57	19	21
S.19 H Room	Temperature (°C)	20.16	19	21
S.18 H Room	Temperature (°C)	20.05	19	21
S.17 H Room	Temperature (°C)	20.22	19	21
S.16 H Room	Temperature (°C)	20.32	19	21
S.29 H Room	Temperature (°C)	20.21	19	21
S.27 H Room	Temperature (°C)	20.34	19	21
S.24 H Room	Temperature (°C)	20.34	19	21
S.26 H Room	Temperature (°C)	19.85	19	21
LG.17 H Room	Temperature (°C)	19.64	19	21
LG.45e H room	Temperature (°C)	19.31	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.78	19	21
LG.40a AV room	Temperature (°C)	19.05	19	21
LG.40e Studio 2	Temperature (°C)	19.01	19	21
LG.40b AV room	Temperature (°C)	19.59	19	21
LG.33 Office	Temperature (°C)	21.63	21	23
LG.24c Staff facilities	Temperature (°C)	20.1	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.87	19	21
G.48 Cafe & Servery	Temperature (°C)	19.01	19	21
G.55 Function Room	Temperature (°C)	19.02	19	21
G.50 Retail	Temperature (°C)	19.49	19	21
F.50b Cinema	Temperature (°C)	21.12	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.08	21	24
F.148a Prep Kitchen	Temperature (°C)	15.09	15	18
F.46 Committee Room	Temperature (°C)	20.28	19	21
F.37 Member's Room	Temperature (°C)	20.2	19	21
F.38 Office	Temperature (°C)	21.24	21	23
F.39 office	Temperature (°C)	21.22	21	23
F.40 office	Temperature (°C)	21.02	21	23
S.36a Lounge	Temperature (°C)	19.4	19	21
S.36 Office	Temperature (°C)	21.09	21	23
S.1 F&B Bar	Temperature (°C)	19.05	19	21
LG.40 Supper room	Temperature (°C)	19.4	19	21
G.57 Assembly Hall	Temperature (°C)	19.18	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.96	19	21
LG.50 M Dressing room	Temperature (°C)	19.32	19	21
LG.40c Studio1	Temperature (°C)	19.05	19	21
LG.24a AC staff faci	Temperature (°C)	19.02	19	21
G.61 Green Room	Temperature (°C)	20.26	19	21
G.27 Office	Temperature (°C)	22.09	21	23

F.51 FA Dressing Room	Temperature (°C)	19.39	19	21
S32.Public Gallery	Temperature (°C)	19.75	19	21
F.33 Council Chamber	Temperature (°C)	20.05	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.78	19	21
LG.40a AV room	Temperature (°C)	19.05	19	21
LG.40e Studio 2	Temperature (°C)	19.01	19	21
LG.40b AV room	Temperature (°C)	19.59	19	21
LG.33 Office	Temperature (°C)	21.63	21	23
LG.24c Staff facilities	Temperature (°C)	20.1	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.87	19	21
G.48 Cafe & Servery	Temperature (°C)	19.01	19	21
G.55 Function Room	Temperature (°C)	19.02	19	21
G.50 Retail	Temperature (°C)	19.49	19	21
F.50b Cinema	Temperature (°C)	21.12	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.08	21	24
F.148a Prep Kitchen	Temperature (°C)	15.09	15	18
F.46 Committee Room	Temperature (°C)	20.28	19	21
F.37 Member's Room	Temperature (°C)	20.2	19	21
F.38 Office	Temperature (°C)	21.24	21	23
F.39 office	Temperature (°C)	21.22	21	23
F.40 office	Temperature (°C)	21.02	21	23
S.36a Lounge	Temperature (°C)	19.4	19	21
S.36 Office	Temperature (°C)	21.09	21	23
S.1 F&B Bar	Temperature (°C)	19.05	19	21
LG.40 Supper room	Temperature (°C)	19.4	19	21
G.57 Assembly Hall	Temperature (°C)	19.18	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.96	19	21
LG.50 M Dressing room	Temperature (°C)	19.32	19	21
LG.40c Studio1	Temperature (°C)	19.05	19	21
LG.24a AC staff faci	Temperature (°C)	19.02	19	21
G.61 Green Room	Temperature (°C)	20.26	19	21
G.27 Office	Temperature (°C)	22.09	21	23
F.51 FA Dressing Room	Temperature (°C)	19.39	19	21
S32.Public Gallery	Temperature (°C)	19.75	19	21
F.33 Council Chamber	Temperature (°C)	20.05	19	21

Appendix F – DSY2 Summer Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	22.43	22	25
LG.22c H room	Temperature (°C)	22.25	21	25
LG.22b H Room	Temperature (°C)	22.17	21	25
LG.22a H Room	Temperature (°C)	22.15	21	25
LG.22 H room	Temperature (°C)	22.19	21	25
LG.19 H Room	Temperature (°C)	21.58	21	25
LG.15 H Room	Temperature (°C)	21.66	21	25
LG.14 H Room	Temperature (°C)	21.18	21	25
LG.10a H Room	Temperature (°C)	21.37	21	25
LG.10 H Room	Temperature (°C)	21.67	21	25
LG.25 H Room	Temperature (°C)	21.43	21	25
LG.26 H room	Temperature (°C)	21.95	21	25
LG.23 H Room	Temperature (°C)	21.8	21	25
LG.37 H room	Temperature (°C)	22.79	21	25
LG.34 H room	Temperature (°C)	22.67	21	25
G.25 H room	Temperature (°C)	21.44	21	25
G.23 H Room	Temperature (°C)	21.01	21	25
G.21a H Room	Temperature (°C)	21.31	21	25
G.19 H Room	Temperature (°C)	21.51	21	25
G.3 H Room	Temperature (°C)	21.46	21	25
G.6 H Room	Temperature (°C)	21.2	21	25
G.8 H Room	Temperature (°C)	21.21	21	25
G.9 H Room	Temperature (°C)	21.55	21	25
G.14 H Room	Temperature (°C)	22.13	21	25
G.12a H Room	Temperature (°C)	21.61	21	25
G.19a H Room	Temperature (°C)	22.2	21	25
G.19a H Room	Temperature (°C)	22.21	21	25
G.21 H Room	Temperature (°C)	21.47	21	25
G.12 H Room	Temperature (°C)	21.12	21	25
G.13 H Room	Temperature (°C)	21.4	21	25
G.15 H Room	Temperature (°C)	22.24	21	25
F.27 H Room	Temperature (°C)	22.06	21	25
F.25 H Room	Temperature (°C)	21.94	21	25
F.21a H Room	Temperature (°C)	21.3	21	25
F.21 H Room	Temperature (°C)	21.73	21	25
F.5 H Room	Temperature (°C)	21.55	21	25
F.6 H Room	Temperature (°C)	21.42	21	25
F.9 H Room	Temperature (°C)	21.46	21	25
F.9a H Room	Temperature (°C)	21.82	21	25
F.14a H Room	Temperature (°C)	22.32	21	25
F.13a H Room	Temperature (°C)	21.93	21	25
F.18 H Room	Temperature (°C)	22.36	21	25
F.20 H Room	Temperature (°C)	22.47	21	25
F.21b H Room	Temperature (°C)	21.94	21	25
F.13 H Room	Temperature (°C)	21.2	21	25
F.14 H Room	Temperature (°C)	21.22	21	25
F.15 H Room	Temperature (°C)	22.33	21	25

S.15 H Room	Temperature (°C)	22.33	21	25
S.13 H Room	Temperature (°C)	22.91	21	25
S.21 H Room	Temperature (°C)	22.96	21	25
S.22 H Room	Temperature (°C)	23.16	21	25
S.12 H Room	Temperature (°C)	22.54	21	25
S.23 H Room	Temperature (°C)	24.07	21	25
S.20 H Room	Temperature (°C)	23.01	21	25
S.10 H Room	Temperature (°C)	22.38	21	25
S.5 H Room	Temperature (°C)	21.79	21	25
S.5a H Room	Temperature (°C)	21.71	21	25
S.8 H Room	Temperature (°C)	22.3	21	25
S.6 H Room	Temperature (°C)	21.85	21	25
S.19 H Room	Temperature (°C)	22.94	21	25
S.18 H Room	Temperature (°C)	22.89	21	25
S.17 H Room	Temperature (°C)	23.02	21	25
S.16 H Room	Temperature (°C)	23.04	21	25
S.29 H Room	Temperature (°C)	21.74	21	25
S.27 H Room	Temperature (°C)	21.23	21	25
S.24 H Room	Temperature (°C)	21.25	21	25
S.26 H Room	Temperature (°C)	21.06	21	25
LG.17 H Room	Temperature (°C)	21.74	21	25
LG.45e H room	Temperature (°C)	22.32	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.43	22	25
LG.40a AV room	Temperature (°C)	22.25	21	25
LG.40e Studio 2	Temperature (°C)	22.17	21	25
LG.40b AV room	Temperature (°C)	22.15	21	25
LG.33 Office	Temperature (°C)	22.19	21	25
LG.24c Staff facilities	Temperature (°C)	21.58	21	25
G.41 Ent Hall & G.40	Temperature (°C)	21.66	21	25
G.48 Cafe & Servery	Temperature (°C)	21.18	21	25
G.55 Function Room	Temperature (°C)	21.37	21	25
G.50 Retail	Temperature (°C)	21.67	21	25
F.50b Cinema	Temperature (°C)	21.43	21	25
F.50a Cinema	Temperature (°C)	21.95	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.8	21	25
F.148a Prep Kitchen	Temperature (°C)	22.79	21	25
F.46 Committee Room	Temperature (°C)	22.67	21	25
F.37 Member's Room	Temperature (°C)	21.44	21	25
F.38 Office	Temperature (°C)	21.01	21	25
F.39 office	Temperature (°C)	21.31	21	25
F.40 office	Temperature (°C)	21.51	21	25
S.36a Lounge	Temperature (°C)	21.46	21	25
S.36 Office	Temperature (°C)	21.2	21	25
S.1 F&B Bar	Temperature (°C)	21.21	21	25
LG.40 Supper room	Temperature (°C)	21.55	21	25
G.57 Assembly Hall	Temperature (°C)	22.13	21	25
G.62 Stage 60 & 63	Temperature (°C)	21.61	21	25
LG.50 M Dressing room	Temperature (°C)	22.2	21	25
LG.40c Studio1	Temperature (°C)	22.21	21	25
LG.24a AC staff faci	Temperature (°C)	21.47	21	25
G.61 Green Room	Temperature (°C)	21.12	21	25
G.27 Office	Temperature (°C)	21.4	21	25

F.51 FA Dressing Room	Temperature (°C)	22.24	21	25
S32.Public Gallery	Temperature (°C)	22.06	21	25
F.33 Council Chamber	Temperature (°C)	21.94	21	25
LG.42 Kitchen & Bar	Temperature (°C)	21.3	21	25
LG.40a AV room	Temperature (°C)	21.73	21	25
LG.40e Studio 2	Temperature (°C)	21.55	21	25
LG.40b AV room	Temperature (°C)	21.42	21	25
LG.33 Office	Temperature (°C)	21.46	21	25
LG.24c Staff facilities	Temperature (°C)	21.82	21	25
G.41 Ent Hall & G.40	Temperature (°C)	22.32	21	25
G.48 Cafe & Servery	Temperature (°C)	21.93	21	25
G.55 Function Room	Temperature (°C)	22.36	21	25
G.50 Retail	Temperature (°C)	22.47	21	25
F.50b Cinema	Temperature (°C)	21.94	21	25
F.50a Cinema	Temperature (°C)	21.2	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.22	21	25
F.148a Prep Kitchen	Temperature (°C)	22.33	21	25
F.46 Committee Room	Temperature (°C)	22.33	21	25
F.37 Member's Room	Temperature (°C)	22.91	21	25
F.38 Office	Temperature (°C)	22.96	21	25
F.39 office	Temperature (°C)	23.16	21	25
F.40 office	Temperature (°C)	22.54	21	25
S.36a Lounge	Temperature (°C)	24.07	21	25
S.36 Office	Temperature (°C)	23.01	21	25
S.1 F&B Bar	Temperature (°C)	22.38	21	25
LG.40 Supper room	Temperature (°C)	21.79	21	25
G.57 Assembly Hall	Temperature (°C)	21.71	21	25
G.62 Stage 60 & 63	Temperature (°C)	22.3	21	25
LG.50 M Dressing room	Temperature (°C)	21.85	21	25
LG.40c Studio1	Temperature (°C)	22.94	21	25
LG.24a AC staff faci	Temperature (°C)	22.89	21	25
G.61 Green Room	Temperature (°C)	23.02	21	25
G.27 Office	Temperature (°C)	23.04	21	25
F.51 FA Dressing Room	Temperature (°C)	21.74	21	25
S32.Public Gallery	Temperature (°C)	21.23	21	25
F.33 Council Chamber	Temperature (°C)	21.25	21	25

Appendix G – DSY2 Predicted Mean Vote (PMV)

	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range
Location	<= -0.50	>-0.50 to <=-0.25	>-0.25 to <=0.00	>0.00 to <=0.25	>0.25 to <=0.50	> 0.50
LG.22c H room	50.3	8.4	8.4	28.2	4.7	0
LG.22b H Room	50.6	8.4	8.2	28	4.8	0
LG.22a H Room	49.9	7.9	9	28.2	5	0
LG.22 H room	47.3	7.2	10.5	29.2	5.9	0
LG.19 H Room	54.3	10	6.1	24	5.5	0
LG.15 H Room	57.3	6.5	7.3	24.5	4.4	0
LG.14 H Room	45.1	6	10.8	30.2	7.5	0.3
LG.10a H Room	48.5	6.6	8.9	24.6	10	1.4
LG.10 H Room	42.1	10.9	9.7	24.5	11	1.8
LG.25 H Room	38.8	5.5	11.1	32.1	10.1	2.3
LG.26 H room	40.3	6.6	11.7	32	8.4	1
LG.23 H Room	35.5	13.5	11.4	30.3	8.8	0.5
LG.37 H room	63.4	3.6	4.8	23.7	4.5	0
LG.34 H room	62.3	4.5	4	25	4.2	0
G.25 H room	46	11	9.9	27.5	5.5	0
G.23 H Room	44.5	15.5	32	7.3	0.6	0.1
G.21a H Room	49.4	6	6.9	10.1	24.5	3.2
G.19 H Room	48.8	6.3	9.7	23.4	8.2	3.7
G.3 H Room	48.4	12.5	7.9	27.8	3.4	0
G.6 H Room	54.4	9.3	7.9	25.3	3.1	0
G.8 H Room	53.5	9.7	8	25.6	3.1	0
G.9 H Room	42.9	13.2	10.1	29.2	4.5	0
G.14 H Room	34.8	6.6	11.3	31.2	12.2	3.9
G.12a H Room	34	12.9	11.4	34.4	7.1	0.2
G.19a H Room	46.6	5.5	10	24.6	9.9	3.4
G.19a H Room	48.1	6	10.2	23.9	7.9	3.8
G.21 H Room	49.9	7	10.4	28.3	4.1	0.2
G.12 H Room	37.6	10.5	4.7	7.8	10.6	28.8
G.13 H Room	33.1	9.5	5.1	13.9	29.2	9.2
G.15 H Room	30.2	10.9	10.4	30.1	13.9	4.5
F.27 H Room	47.7	6.2	9.2	25.8	10.8	0.3
F.25 H Room	48.5	6.4	9.8	27.4	7.7	0.2
F.21a H Room	48.3	6.1	9.2	28	7.9	0.4
F.21 H Room	46.6	5.7	10.2	23.8	9.4	4.3
F.5 H Room	45.1	14.9	7.3	27.1	5.6	0
F.6 H Room	52.4	10.8	6.8	24.8	5.3	0
F.9 H Room	51.6	11	6.8	25.2	5.3	0
F.9a H Room	40.3	14.7	9.6	28.3	7.1	0
F.14a H Room	30	9.1	10.9	31.2	13.6	5.2
F.13a H Room	31.2	13.9	9.9	33.7	11	0.4
F.18 H Room	45.5	5.3	10.3	24.2	11	3.7
F.20 H Room	45.1	5.8	10.8	24.5	9.5	4.4
F.21b H Room	48.7	6.3	10.1	27.3	7.3	0.3

F.13 H Room	41.2	5.4	5.1	11	30	7.4
F.14 H Room	30.2	11.4	10.4	31.7	12.7	3.6
F.15 H Room	24.6	15.1	10.5	30.3	14.8	4.7
S.15 H Room	59.5	4.3	6.8	16.1	10	3.3
S.13 H Room	57.7	4.9	8	18.1	9.5	1.9
S.21 H Room	39.2	5.3	7.2	33.4	13.5	1.4
S.22 H Room	34.2	7.5	10.8	32.4	13.6	1.5
S.12 H Room	52.9	4.5	6.8	19.9	14	1.9
S.23 H Room	13.9	10.4	10	12.2	31.8	21.7
S.20 H Room	40.7	5.8	8.7	31.1	12.7	1
S.10 H Room	48.8	8.4	7.4	19.7	13.8	1.9
S.5 H Room	59.2	6.4	7.1	16.4	9.7	1.3
S.5a H Room	62.2	6.3	7.4	14.6	8.3	1.1
S.8 H Room	59.3	4.6	7.5	17.5	10	1.2
S.6 H Room	61.7	6.5	7.5	14.6	8.5	1.2
S.19 H Room	40.8	5.8	8	31.2	13.7	0.6
S.18 H Room	40.2	4.8	7.2	33	14	0.8
S.17 H Room	35.1	6.7	8.8	30.8	14.6	3.9
S.16 H Room	31.9	8.9	9.8	30.8	14.7	3.9
S.29 H Room	42.1	15.3	5.9	3.4	11.7	21.4
S.27 H Room	45.8	13.2	5.1	3	4.1	28.9
S.24 H Room	38.8	14.9	6.9	5	3.5	30.9
S.26 H Room	45.5	9.4	5.1	4.6	6	29.4
LG.17 H Room	56.2	6.5	8.3	24.2	4.7	0.1
LG.45e H room	48.2	5.5	10.7	28.8	6.8	0
Total hours (% of sum)	27.3	5.1	5.5	14.5	6.2	4.3
LG.42 Kitchen & Bar	92.4	7.6	0	0	0	0
LG.40a AV room	80.2	17.7	2.2	0	0	0
LG.40e Studio 2	0	2.3	7	25.4	46.5	18.8
LG.40b AV room	72.4	21.7	5.7	0.3	0	0
LG.33 Office	20.3	18.1	15.3	38.4	7.9	0
LG.24c Staff facilities	0	15	36.6	10.4	4.9	33.2
G.41 Ent Hall & G.40	1.2	47.2	8.2	7.3	4.5	31.6
G.48 Cafe & Servery	69.4	21.1	8.7	0.8	0	0
G.55 Function Room	67.1	25.1	7.8	0	0	0
G.50 Retail	10.9	34	10.7	20.3	21.6	2.5
F.50b Cinema	71.3	25.2	3.5	0	0	0
F.50a Cinema	72.8	23.9	3.2	0	0	0
F.3 Mayor's Parlour	25.5	24.6	13.3	21	14	1.7
F.148a Prep Kitchen	35.4	11	8.2	6.6	7.4	31.4
F.46 Committee Room	41.5	16	10.4	17.6	10.3	4.3
F.37 Member's Room	11.6	25.6	20.7	30.9	10.7	0.6
F.38 Office	5.7	33	31.5	28.2	1.6	0
F.39 office	3	33.1	34.5	28.3	1.1	0
F.40 office	7.6	34.7	27	28.3	2.4	0
S.36a Lounge	40.7	10.5	5.9	5.5	5.5	31.9
S.36 Office	2.9	31	22.5	16.9	22.6	4.2
S.1 F&B Bar	66.5	11.8	15.8	4.5	1.4	0
LG.40 Supper room	8.9	47.4	8.3	4.9	6.3	24.3
G.57 Assembly Hall	0.4	27.4	27	6.5	5.7	33
G.62 Stage 60 & 63	71.3	16.6	10.2	2	0	0
LG.50 M Dressing room	1.4	25.3	20.7	5.2	7	40.5

LG.40c Studio1	0	10.1	23.7	38.3	25.2	2.8
LG.24a AC staff faci	0	30	29.5	6.4	3.2	31
G.61 Green Room	47	4.2	12.6	18.4	15.2	2.7
G.27 Office	3.8	18.6	21.2	13.4	25.4	17.6
F.51 FA Dressing Room	1	20.5	23.2	6.6	7.5	41.1
S32.Public Gallery	31.2	8.1	6.8	19.1	26.8	8.1
F.33 Council Chamber	19.5	29.8	14.3	29.5	7	0
Total hours (% of sum)	12.6	10.4	7	5.8	3.6	6.2
LG.42 Kitchen & Bar	92.4	7.6	0	0	0	0
LG.40a AV room	80.2	17.7	2.2	0	0	0
LG.40e Studio 2	0	2.3	7	25.4	46.5	18.8
LG.40b AV room	72.4	21.7	5.7	0.3	0	0
LG.33 Office	20.3	18.1	15.3	38.4	7.9	0
LG.24c Staff facilities	0	15	36.6	10.4	4.9	33.2
G.41 Ent Hall & G.40	1.2	47.2	8.2	7.3	4.5	31.6
G.48 Cafe & Servery	69.4	21.1	8.7	0.8	0	0
G.55 Function Room	67.1	25.1	7.8	0	0	0
G.50 Retail	10.9	34	10.7	20.3	21.6	2.5
F.50b Cinema	71.3	25.2	3.5	0	0	0
F.50a Cinema	72.8	23.9	3.2	0	0	0
F.3 Mayor's Parlour	25.5	24.6	13.3	21	14	1.7
F.148a Prep Kitchen	35.4	11	8.2	6.6	7.4	31.4
F.46 Committee Room	41.5	16	10.4	17.6	10.3	4.3
F.37 Member's Room	11.6	25.6	20.7	30.9	10.7	0.6
F.38 Office	5.7	33	31.5	28.2	1.6	0
F.39 office	3	33.1	34.5	28.3	1.1	0
F.40 office	7.6	34.7	27	28.3	2.4	0
S.36a Lounge	40.7	10.5	5.9	5.5	5.5	31.9
S.36 Office	2.9	31	22.5	16.9	22.6	4.2
S.1 F&B Bar	66.5	11.8	15.8	4.5	1.4	0
LG.40 Supper room	8.9	47.4	8.3	4.9	6.3	24.3
G.57 Assembly Hall	0.4	27.4	27	6.5	5.7	33
G.62 Stage 60 & 63	71.3	16.6	10.2	2	0	0
LG.50 M Dressing room	1.4	25.3	20.7	5.2	7	40.5
LG.40c Studio1	0	10.1	23.7	38.3	25.2	2.8
LG.24a AC staff faci	0	30	29.5	6.4	3.2	31
G.61 Green Room	47	4.2	12.6	18.4	15.2	2.7
G.27 Office	3.8	18.6	21.2	13.4	25.4	17.6
F.51 FA Dressing Room	1	20.5	23.2	6.6	7.5	41.1
S32.Public Gallery	31.2	8.1	6.8	19.1	26.8	8.1
F.33 Council Chamber	19.5	29.8	14.3	29.5	7	0
Total hours (% of sum)	12.6	10.4	7	5.8	3.6	6.2

Appendix H – DSY1 People Dissatisfied

File	Location	People dissatisfied (%) - % hours in range > 10.00
Sim 9 DSY 2.aps	LG.22c H room	50.5
Sim 9 DSY 2.aps	LG.22b H Room	50.6
Sim 9 DSY 2.aps	LG.22a H Room	50.2
Sim 9 DSY 2.aps	LG.22 H room	47.4
Sim 9 DSY 2.aps	LG.19 H Room	54.8
Sim 9 DSY 2.aps	LG.15 H Room	57.3
Sim 9 DSY 2.aps	LG.14 H Room	45.7
Sim 9 DSY 2.aps	LG.10a H Room	50.3
Sim 9 DSY 2.aps	LG.10 H Room	44.9
Sim 9 DSY 2.aps	LG.25 H Room	41.4
Sim 9 DSY 2.aps	LG.26 H room	41.5
Sim 9 DSY 2.aps	LG.23 H Room	37
Sim 9 DSY 2.aps	LG.37 H room	63.5
Sim 9 DSY 2.aps	LG.34 H room	62.5
Sim 9 DSY 2.aps	G.25 H room	46.8
Sim 9 DSY 2.aps	G.23 H Room	45.3
Sim 9 DSY 2.aps	G.21a H Room	53
Sim 9 DSY 2.aps	G.19 H Room	53
Sim 9 DSY 2.aps	G.3 H Room	49
Sim 9 DSY 2.aps	G.6 H Room	54.9
Sim 9 DSY 2.aps	G.8 H Room	54.1
Sim 9 DSY 2.aps	G.9 H Room	43.7
Sim 9 DSY 2.aps	G.14 H Room	39.3
Sim 9 DSY 2.aps	G.12a H Room	35.4
Sim 9 DSY 2.aps	G.19a H Room	50.5
Sim 9 DSY 2.aps	G.19a H Room	52.4
Sim 9 DSY 2.aps	G.21 H Room	50.2
Sim 9 DSY 2.aps	G.12 H Room	68.2
Sim 9 DSY 2.aps	G.13 H Room	44.3
Sim 9 DSY 2.aps	G.15 H Room	36
Sim 9 DSY 2.aps	F.27 H Room	48.3
Sim 9 DSY 2.aps	F.25 H Room	48.9
Sim 9 DSY 2.aps	F.21a H Room	48.9
Sim 9 DSY 2.aps	F.21 H Room	51.3
Sim 9 DSY 2.aps	F.5 H Room	46.1
Sim 9 DSY 2.aps	F.6 H Room	53.1
Sim 9 DSY 2.aps	F.9 H Room	52.3

Sim 9 DSY 2.aps	F.9a H Room	41.3
Sim 9 DSY 2.aps	F.14a H Room	36
Sim 9 DSY 2.aps	F.13a H Room	32.6
Sim 9 DSY 2.aps	F.18 H Room	49.7
Sim 9 DSY 2.aps	F.20 H Room	50.1
Sim 9 DSY 2.aps	F.21b H Room	49.1
Sim 9 DSY 2.aps	F.13 H Room	50.2
Sim 9 DSY 2.aps	F.14 H Room	35
Sim 9 DSY 2.aps	F.15 H Room	30.8
Sim 9 DSY 2.aps	S.15 H Room	63.2
Sim 9 DSY 2.aps	S.13 H Room	60
Sim 9 DSY 2.aps	S.21 H Room	40.8
Sim 9 DSY 2.aps	S.22 H Room	36.2
Sim 9 DSY 2.aps	S.12 H Room	55.2
Sim 9 DSY 2.aps	S.23 H Room	38.1
Sim 9 DSY 2.aps	S.20 H Room	41.8
Sim 9 DSY 2.aps	S.10 H Room	51.4
Sim 9 DSY 2.aps	S.5 H Room	60.9
Sim 9 DSY 2.aps	S.5a H Room	63.7
Sim 9 DSY 2.aps	S.8 H Room	60.8
Sim 9 DSY 2.aps	S.6 H Room	63.3
Sim 9 DSY 2.aps	S.19 H Room	41.6
Sim 9 DSY 2.aps	S.18 H Room	41.3
Sim 9 DSY 2.aps	S.17 H Room	39.6
Sim 9 DSY 2.aps	S.16 H Room	36.4
Sim 9 DSY 2.aps	S.29 H Room	67.1
Sim 9 DSY 2.aps	S.27 H Room	75.9
Sim 9 DSY 2.aps	S.24 H Room	71.3
Sim 9 DSY 2.aps	S.26 H Room	76.2
Sim 9 DSY 2.aps	LG.17 H Room	56.4
Sim 9 DSY 2.aps	LG.45e H room	48.3
Sim 9 DSY 2.aps	Total hours (% of sum)	31.9
Sim 11 DSY 2.aps	LG.42 Kitchen & Bar	92.7
Sim 11 DSY 2.aps	LG.40a AV room	80.7
Sim 11 DSY 2.aps	LG.40e Studio 2	20.9
Sim 11 DSY 2.aps	LG.40b AV room	72.6
Sim 11 DSY 2.aps	LG.33 Office	20.6
Sim 11 DSY 2.aps	LG.24c Staff facilities	33.3
Sim 11 DSY 2.aps	G.41 Ent Hall & G.40	33.4
Sim 11 DSY 2.aps	G.48 Cafe & Servery	69.8
Sim 11 DSY 2.aps	G.55 Function Room	67.5
Sim 11 DSY 2.aps	G.50 Retail	15

Sim 11 DSY 2.aps	F.50b Cinema	71.9
Sim 11 DSY 2.aps	F.50a Cinema	73.2
Sim 11 DSY 2.aps	F.3 Mayor's Parlour	29.1
Sim 11 DSY 2.aps	F.148a Prep Kitchen	67.9
Sim 11 DSY 2.aps	F.46 Committee Room	46.8
Sim 11 DSY 2.aps	F.37 Member's Room	12.9
Sim 11 DSY 2.aps	F.38 Office	6.4
Sim 11 DSY 2.aps	F.39 office	3.7
Sim 11 DSY 2.aps	F.40 office	8.3
Sim 11 DSY 2.aps	S.36a Lounge	73.7
Sim 11 DSY 2.aps	S.36 Office	8.2
Sim 11 DSY 2.aps	S.1 F&B Bar	66.9
Sim 11 DSY 2.aps	LG.40 Supper room	34.1
Sim 11 DSY 2.aps	G.57 Assembly Hall	33.8
Sim 11 DSY 2.aps	G.62 Stage 60 & 63	71.4
Sim 11 DSY 2.aps	LG.50 M Dressing room	42.4
Sim 11 DSY 2.aps	LG.40c Studio1	3
Sim 11 DSY 2.aps	LG.24a AC staff faci	31.2
Sim 11 DSY 2.aps	G.61 Green Room	50.2
Sim 11 DSY 2.aps	G.27 Office	23.9
Sim 11 DSY 2.aps	F.51 FA Dressing Room	42.5
Sim 11 DSY 2.aps	S32.Public Gallery	41.5
Sim 11 DSY 2.aps	F.33 Council Chamber	20.4
Sim 11 DSY 2.aps	Total hours (% of sum)	19.1

Appendix I – DSY3 Winter Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	21.04	21	23
LG.22c H room	Temperature (°C)	19.81	19	21
LG.22b H Room	Temperature (°C)	20.03	19	21
LG.22a H Room	Temperature (°C)	20.03	19	21
LG.22 H room	Temperature (°C)	19.78	19	21
LG.19 H Room	Temperature (°C)	20.6	19	21
LG.15 H Room	Temperature (°C)	19.78	19	21
LG.14 H Room	Temperature (°C)	19.57	19	21
LG.10a H Room	Temperature (°C)	19.42	19	21
LG.10 H Room	Temperature (°C)	20.2	19	21
LG.25 H Room	Temperature (°C)	19.28	19	21
LG.26 H room	Temperature (°C)	19.51	19	21
LG.23 H Room	Temperature (°C)	20.61	19	21
LG.37 H room	Temperature (°C)	19.23	19	21
LG.34 H room	Temperature (°C)	19.32	19	21
G.25 H room	Temperature (°C)	20.52	19	21
G.23 H Room	Temperature (°C)	20.52	19	21
G.21a H Room	Temperature (°C)	19.44	19	21
G.19 H Room	Temperature (°C)	19.25	19	21
G.3 H Room	Temperature (°C)	20.64	19	21
G.6 H Room	Temperature (°C)	20.49	19	21
G.8 H Room	Temperature (°C)	20.48	19	21
G.9 H Room	Temperature (°C)	20.64	19	21
G.14 H Room	Temperature (°C)	19.47	19	21
G.12a H Room	Temperature (°C)	20.52	19	21
G.19a H Room	Temperature (°C)	19.43	19	21
G.19a H Room	Temperature (°C)	19.61	19	21
G.21 H Room	Temperature (°C)	19.36	19	21
G.12 H Room	Temperature (°C)	19.74	19	21
G.13 H Room	Temperature (°C)	19.82	19	21
G.15 H Room	Temperature (°C)	20.61	19	21
F.27 H Room	Temperature (°C)	19.2	19	21
F.25 H Room	Temperature (°C)	19.24	19	21
F.21a H Room	Temperature (°C)	19.87	19	21
F.21 H Room	Temperature (°C)	19.04	19	21
F.5 H Room	Temperature (°C)	20.63	19	21
F.6 H Room	Temperature (°C)	20.53	19	21
F.9 H Room	Temperature (°C)	20.53	19	21
F.9a H Room	Temperature (°C)	20.67	19	21
F.14a H Room	Temperature (°C)	19.6	19	21
F.13a H Room	Temperature (°C)	20.54	19	21
F.18 H Room	Temperature (°C)	19.48	19	21
F.20 H Room	Temperature (°C)	19.67	19	21
F.21b H Room	Temperature (°C)	19.38	19	21
F.13 H Room	Temperature (°C)	19.04	19	21
F.14 H Room	Temperature (°C)	19.91	19	21
F.15 H Room	Temperature (°C)	20.67	19	21

S.15 H Room	Temperature (°C)	19.63	19	21
S.13 H Room	Temperature (°C)	19.57	19	21
S.21 H Room	Temperature (°C)	19.14	19	21
S.22 H Room	Temperature (°C)	19.6	19	21
S.12 H Room	Temperature (°C)	19.41	19	21
S.23 H Room	Temperature (°C)	19.08	19	21
S.20 H Room	Temperature (°C)	19.43	19	21
S.10 H Room	Temperature (°C)	20.52	19	21
S.5 H Room	Temperature (°C)	20.49	19	21
S.5a H Room	Temperature (°C)	20.48	19	21
S.8 H Room	Temperature (°C)	19.07	19	21
S.6 H Room	Temperature (°C)	20.49	19	21
S.19 H Room	Temperature (°C)	19.86	19	21
S.18 H Room	Temperature (°C)	19.76	19	21
S.17 H Room	Temperature (°C)	19.82	19	21
S.16 H Room	Temperature (°C)	19.96	19	21
S.29 H Room	Temperature (°C)	20.16	19	21
S.27 H Room	Temperature (°C)	20.29	19	21
S.24 H Room	Temperature (°C)	20.3	19	21
S.26 H Room	Temperature (°C)	19.65	19	21
LG.17 H Room	Temperature (°C)	19.45	19	21
LG.45e H room	Temperature (°C)	19.16	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.45	19	21
LG.40a AV room	Temperature (°C)	19.04	19	21
LG.40e Studio 2	Temperature (°C)	19.12	19	21
LG.40b AV room	Temperature (°C)	19.41	19	21
LG.33 Office	Temperature (°C)	21.08	21	23
LG.24c Staff facilities	Temperature (°C)	19.95	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.79	19	21
G.48 Cafe & Servery	Temperature (°C)	19.06	19	21
G.55 Function Room	Temperature (°C)	19.16	19	21
G.50 Retail	Temperature (°C)	19.35	19	21
F.50b Cinema	Temperature (°C)	21.02	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.05	21	24
F.148a Prep Kitchen	Temperature (°C)	15.01	15	18
F.46 Committee Room	Temperature (°C)	20.16	19	21
F.37 Member's Room	Temperature (°C)	20.05	19	21
F.38 Office	Temperature (°C)	21.15	21	23
F.39 office	Temperature (°C)	21.14	21	23
F.40 office	Temperature (°C)	21.05	21	23
S.36a Lounge	Temperature (°C)	19.17	19	21
S.36 Office	Temperature (°C)	21.3	21	23
S.1 F&B Bar	Temperature (°C)	19	19	21
LG.40 Supper room	Temperature (°C)	19.27	19	21
G.57 Assembly Hall	Temperature (°C)	19	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.82	19	21
LG.50 M Dressing room	Temperature (°C)	19.11	19	21
LG.40c Studio1	Temperature (°C)	19.03	19	21
LG.24a AC staff faci	Temperature (°C)	19.07	19	21
G.61 Green Room	Temperature (°C)	20.09	19	21
G.27 Office	Temperature (°C)	21.85	21	23

F.51 FA Dressing Room	Temperature (°C)	19.17	19	21
S32.Public Gallery	Temperature (°C)	19.61	19	21
F.33 Council Chamber	Temperature (°C)	19.87	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.45	19	21
LG.40a AV room	Temperature (°C)	19.04	19	21
LG.40e Studio 2	Temperature (°C)	19.12	19	21
LG.40b AV room	Temperature (°C)	19.41	19	21
LG.33 Office	Temperature (°C)	21.08	21	23
LG.24c Staff facilities	Temperature (°C)	19.95	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.79	19	21
G.48 Cafe & Servery	Temperature (°C)	19.06	19	21
G.55 Function Room	Temperature (°C)	19.16	19	21
G.50 Retail	Temperature (°C)	19.35	19	21
F.50b Cinema	Temperature (°C)	21.02	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.05	21	24
F.148a Prep Kitchen	Temperature (°C)	15.01	15	18
F.46 Committee Room	Temperature (°C)	20.16	19	21
F.37 Member's Room	Temperature (°C)	20.05	19	21
F.38 Office	Temperature (°C)	21.15	21	23
F.39 office	Temperature (°C)	21.14	21	23
F.40 office	Temperature (°C)	21.05	21	23
S.36a Lounge	Temperature (°C)	19.17	19	21
S.36 Office	Temperature (°C)	21.3	21	23
S.1 F&B Bar	Temperature (°C)	19	19	21
LG.40 Supper room	Temperature (°C)	19.27	19	21
G.57 Assembly Hall	Temperature (°C)	19	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.82	19	21
LG.50 M Dressing room	Temperature (°C)	19.11	19	21
LG.40c Studio1	Temperature (°C)	19.03	19	21
LG.24a AC staff faci	Temperature (°C)	19.07	19	21
G.61 Green Room	Temperature (°C)	20.09	19	21
G.27 Office	Temperature (°C)	21.85	21	23
F.51 FA Dressing Room	Temperature (°C)	19.17	19	21
S32.Public Gallery	Temperature (°C)	19.61	19	21
F.33 Council Chamber	Temperature (°C)	19.87	19	21

Appendix J – DSY3 Summer Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	22.24	22	25
LG.22c H room	Temperature (°C)	22.04	21	25
LG.22b H Room	Temperature (°C)	21.97	21	25
LG.22a H Room	Temperature (°C)	21.96	21	25
LG.22 H room	Temperature (°C)	21.98	21	25
LG.19 H Room	Temperature (°C)	21.36	21	25
LG.15 H Room	Temperature (°C)	21.45	21	25
LG.14 H Room	Temperature (°C)	21.02	21	25
LG.10a H Room	Temperature (°C)	21.22	21	25
LG.10 H Room	Temperature (°C)	21.49	21	25
LG.25 H Room	Temperature (°C)	21.27	21	25
LG.26 H room	Temperature (°C)	21.76	21	25
LG.23 H Room	Temperature (°C)	21.59	21	25
LG.37 H room	Temperature (°C)	22.56	21	25
LG.34 H room	Temperature (°C)	22.43	21	25
G.25 H room	Temperature (°C)	21.23	21	25
G.23 H Room	Temperature (°C)	20.79	21	25
G.21a H Room	Temperature (°C)	21.15	21	25
G.19 H Room	Temperature (°C)	21.38	21	25
G.3 H Room	Temperature (°C)	21.22	21	25
G.6 H Room	Temperature (°C)	20.95	21	25
G.8 H Room	Temperature (°C)	20.97	21	25
G.9 H Room	Temperature (°C)	21.31	21	25
G.14 H Room	Temperature (°C)	21.97	21	25
G.12a H Room	Temperature (°C)	21.35	21	25
G.19a H Room	Temperature (°C)	22.05	21	25
G.19a H Room	Temperature (°C)	22.07	21	25
G.21 H Room	Temperature (°C)	21.28	21	25
G.12 H Room	Temperature (°C)	20.86	21	25
G.13 H Room	Temperature (°C)	21.2	21	25
G.15 H Room	Temperature (°C)	22.08	21	25
F.27 H Room	Temperature (°C)	21.88	21	25
F.25 H Room	Temperature (°C)	21.76	21	25
F.21a H Room	Temperature (°C)	21.15	21	25
F.21 H Room	Temperature (°C)	21.61	21	25
F.5 H Room	Temperature (°C)	21.32	21	25
F.6 H Room	Temperature (°C)	21.18	21	25
F.9 H Room	Temperature (°C)	21.23	21	25
F.9a H Room	Temperature (°C)	21.6	21	25
F.14a H Room	Temperature (°C)	22.18	21	25
F.13a H Room	Temperature (°C)	21.7	21	25
F.18 H Room	Temperature (°C)	22.22	21	25
F.20 H Room	Temperature (°C)	22.36	21	25
F.21b H Room	Temperature (°C)	21.76	21	25
F.13 H Room	Temperature (°C)	20.96	21	25
F.14 H Room	Temperature (°C)	21.04	21	25
F.15 H Room	Temperature (°C)	22.18	21	25

S.15 H Room	Temperature (°C)	22.18	21	25
S.13 H Room	Temperature (°C)	22.8	21	25
S.21 H Room	Temperature (°C)	22.87	21	25
S.22 H Room	Temperature (°C)	23.11	21	25
S.12 H Room	Temperature (°C)	22.41	21	25
S.23 H Room	Temperature (°C)	24.03	21	25
S.20 H Room	Temperature (°C)	22.93	21	25
S.10 H Room	Temperature (°C)	22.22	21	25
S.5 H Room	Temperature (°C)	21.58	21	25
S.5a H Room	Temperature (°C)	21.5	21	25
S.8 H Room	Temperature (°C)	22.11	21	25
S.6 H Room	Temperature (°C)	21.64	21	25
S.19 H Room	Temperature (°C)	22.82	21	25
S.18 H Room	Temperature (°C)	22.77	21	25
S.17 H Room	Temperature (°C)	22.93	21	25
S.16 H Room	Temperature (°C)	22.95	21	25
S.29 H Room	Temperature (°C)	20.56	21	25
S.27 H Room	Temperature (°C)	20.93	21	25
S.24 H Room	Temperature (°C)	20.96	21	25
S.26 H Room	Temperature (°C)	20.84	21	25
LG.17 H Room	Temperature (°C)	21.55	21	25
LG.45e H room	Temperature (°C)	22.1	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.24	22	25
LG.40a AV room	Temperature (°C)	22.04	21	25
LG.40e Studio 2	Temperature (°C)	21.97	21	25
LG.40b AV room	Temperature (°C)	21.96	21	25
LG.33 Office	Temperature (°C)	21.98	21	25
LG.24c Staff facilities	Temperature (°C)	21.36	21	25
G.41 Ent Hall & G.40	Temperature (°C)	21.45	21	25
G.48 Cafe & Servery	Temperature (°C)	21.02	21	25
G.55 Function Room	Temperature (°C)	21.22	21	25
G.50 Retail	Temperature (°C)	21.49	21	25
F.50b Cinema	Temperature (°C)	21.27	21	25
F.50a Cinema	Temperature (°C)	21.76	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.59	21	25
F.148a Prep Kitchen	Temperature (°C)	22.56	21	25
F.46 Committee Room	Temperature (°C)	22.43	21	25
F.37 Member's Room	Temperature (°C)	21.23	21	25
F.38 Office	Temperature (°C)	20.79	21	25
F.39 office	Temperature (°C)	21.15	21	25
F.40 office	Temperature (°C)	21.38	21	25
S.36a Lounge	Temperature (°C)	21.22	21	25
S.36 Office	Temperature (°C)	20.95	21	25
S.1 F&B Bar	Temperature (°C)	20.97	21	25
LG.40 Supper room	Temperature (°C)	21.31	21	25
G.57 Assembly Hall	Temperature (°C)	21.97	21	25
G.62 Stage 60 & 63	Temperature (°C)	21.35	21	25
LG.50 M Dressing room	Temperature (°C)	22.05	21	25
LG.40c Studio1	Temperature (°C)	22.07	21	25
LG.24a AC staff faci	Temperature (°C)	21.28	21	25
G.61 Green Room	Temperature (°C)	20.86	21	25
G.27 Office	Temperature (°C)	21.2	21	25

F.51 FA Dressing Room	Temperature (°C)	22.08	21	25
S32.Public Gallery	Temperature (°C)	21.88	21	25
F.33 Council Chamber	Temperature (°C)	21.76	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.22	21	25
LG.40a AV room	Temperature (°C)	21.71	21	25
LG.40e Studio 2	Temperature (°C)	22.75	21	25
LG.40b AV room	Temperature (°C)	22.55	21	25
LG.33 Office	Temperature (°C)	22.74	22	25
LG.24c Staff facilities	Temperature (°C)	23.94	21	25
G.41 Ent Hall & G.40	Temperature (°C)	24.75	21	25
G.48 Cafe & Servery	Temperature (°C)	21.87	21	25
G.55 Function Room	Temperature (°C)	22.17	21	25
G.50 Retail	Temperature (°C)	21.98	21	25
F.50b Cinema	Temperature (°C)	22.59	22	25
F.50a Cinema	Temperature (°C)	22.37	22	25
F.3 Mayor's Parlour	Temperature (°C)	22.87	22	25
F.148a Prep Kitchen	Temperature (°C)	20.5	18	25
F.46 Committee Room	Temperature (°C)	22.51	21	25
F.37 Member's Room	Temperature (°C)	22.49	21	25
F.38 Office	Temperature (°C)	22.52	22	25
F.39 office	Temperature (°C)	22.5	22	25
F.40 office	Temperature (°C)	22.49	22	25
S.36a Lounge	Temperature (°C)	25.44	21	25
S.36 Office	Temperature (°C)	23.28	22	25
S.1 F&B Bar	Temperature (°C)	22.23	21	25
LG.40 Supper room	Temperature (°C)	23.59	21	25
G.57 Assembly Hall	Temperature (°C)	24.09	21	25
G.62 Stage 60 & 63	Temperature (°C)	22.37	21	25
LG.50 M Dressing room	Temperature (°C)	24.66	21	25
LG.40c Studio1	Temperature (°C)	21.64	21	25
LG.24a AC staff faci	Temperature (°C)	23.31	21	25
G.61 Green Room	Temperature (°C)	21.64	21	25
G.27 Office	Temperature (°C)	21.86	22	25
F.51 FA Dressing Room	Temperature (°C)	24.12	21	25
S32.Public Gallery	Temperature (°C)	22.4	21	25
F.33 Council Chamber	Temperature (°C)	22.63	21	25

Appendix K - DSY3 Predicted Mean Vote (PMV)

	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range
Location	<= -0.50	>-0.50 to <=-0.25	>-0.25 to <=0.00	>0.00 to <=0.25	>0.25 to <=0.50	> 0.50
LG.22c H room	53.8	3.5	6.9	30.9	4.9	0
LG.22b H Room	53.9	3.6	6.9	30.6	4.9	0
LG.22a H Room	53.6	3.4	7	30.8	5.1	0
LG.22 H room	51.8	3.9	6.3	32	5.6	0.5
LG.19 H Room	54.2	8.4	7.3	25.2	4.9	0
LG.15 H Room	57.5	4.9	7.8	26.1	3.5	0.1
LG.14 H Room	48.8	5.2	6.4	31.8	6	1.9
LG.10a H Room	51.7	3.7	6.9	26.3	10.2	1.3
LG.10 H Room	45.5	8.7	6.8	26.2	10.8	2
LG.25 H Room	44.1	4.6	7	33.2	7.2	4
LG.26 H room	46.4	4.2	7.5	33.4	5.3	3.3
LG.23 H Room	41.9	10.3	7.1	32.1	6.1	2.6
LG.37 H room	61.4	4.5	7.1	24.2	2.8	0
LG.34 H room	60.2	4.5	7.4	25.3	2.6	0
G.25 H room	48.6	8.9	7.4	29.3	5.2	0.5
G.23 H Room	47.7	11.6	33	5.3	1.3	1.1
G.21a H Room	51.3	5.1	5.2	9.5	27	2
G.19 H Room	51.4	4.6	6.9	25.4	7.9	3.9
G.3 H Room	49.3	10	7.6	30.4	2.7	0
G.6 H Room	53.9	8.3	7.9	28.3	1.5	0
G.8 H Room	53.4	8.3	7.9	28.7	1.6	0
G.9 H Room	47.1	9.3	7.8	31.3	4.3	0.1
G.14 H Room	37.9	6.4	9.7	31.4	9.6	5
G.12a H Room	39	12.7	6	34.7	5.5	2.1
G.19a H Room	49.3	4.6	6.6	25.9	9.6	4
G.19a H Room	50.4	4.9	7.2	25.8	7.5	4.2
G.21 H Room	52	5.6	8.4	29.8	3.1	1
G.12 H Room	40.8	10.5	3.1	4.9	10.1	30.6
G.13 H Room	35.5	9.9	6.3	8.6	30.2	9.5
G.15 H Room	33.2	10.5	9	30.5	11.1	5.7
F.27 H Room	50.1	5.2	6.1	27.5	9.9	1.1
F.25 H Room	50.8	5.5	6.7	29.2	6.7	1
F.21a H Room	50.4	5.3	7	29	7.1	1.2
F.21 H Room	48.9	5.1	6.9	25.5	9	4.6
F.5 H Room	46.9	12.4	6.2	29.3	5.3	0
F.6 H Room	52.3	9.8	6.4	27	4.4	0
F.9 H Room	51.8	9.9	6.7	27.1	4.7	0
F.9a H Room	44.4	11.5	6.3	30.8	6.4	0.5
F.14a H Room	34.1	7.1	9.8	33.2	10.2	5.6
F.13a H Room	34.3	14.5	6.7	34	8.3	2.3
F.18 H Room	48.4	4.5	6.4	25.9	10.2	4.5
F.20 H Room	47.6	5.3	7.2	26.2	8.8	5
F.21b H Room	50.7	5.7	7.1	29.1	6.3	1.1

F.13 H Room	43.4	6	3.8	7.4	31.9	7.5
F.14 H Room	32.9	11.4	9.4	31.8	9.7	4.8
F.15 H Room	28.4	13.7	10	30	12.1	5.9
S.15 H Room	59.8	4.6	6.6	16.1	9.8	3.2
S.13 H Room	58	4.9	7.6	18.8	8.5	2.1
S.21 H Room	41.2	5.2	8.1	31.6	10.6	3.3
S.22 H Room	37.3	6	9	33.2	13.3	1.2
S.12 H Room	54.3	3.9	5.9	20.1	14.2	1.7
S.23 H Room	17.9	10	9.1	9.5	30.6	22.9
S.20 H Room	42.9	5.8	7.8	31.1	9.7	2.7
S.10 H Room	50.3	8	5.9	20.3	13.8	1.7
S.5 H Room	59.9	6.6	6.2	16.2	9.9	1.1
S.5a H Room	62.5	7.2	6.4	14.7	8.2	1
S.8 H Room	59.9	4.7	6.7	18	9.6	1.1
S.6 H Room	62.1	7.1	6.6	14.8	8.2	1.2
S.19 H Room	43.1	5.9	6.6	30.1	12.1	2.2
S.18 H Room	41.7	5.5	7.1	31.5	11.3	2.9
S.17 H Room	38	5.7	8.8	30.6	11.9	4.9
S.16 H Room	36.1	6.8	9.5	30.6	12.5	4.6
S.29 H Room	45.1	12.3	3.2	4.9	13.5	21.1
S.27 H Room	47.6	10.5	3.6	4.4	5.9	27.9
S.24 H Room	43.1	12.7	2.9	4.4	5.4	31.4
S.26 H Room	47.6	8.4	3.5	4.2	6.7	29.6
LG.17 H Room	57	4.9	7.9	25.9	3.9	0.3
LG.45e H room	52.6	2.8	5.9	31.9	6.6	0.1
Total hours (% of sum)	28.7	4.3	4.5	15.1	5.7	4.5
LG.42 Kitchen & Bar	93.2	6.8	0	0	0	0
LG.40a AV room	80.1	18.3	1.6	0	0	0
LG.40e Studio 2	0	3.6	11.9	21.5	40.7	22.3
LG.40b AV room	72.6	22.1	5.3	0.1	0	0
LG.33 Office	27.9	15.4	12.4	37.2	7	0
LG.24c Staff facilities	0	18.6	35.5	6.9	6.1	32.9
G.41 Ent Hall & G.40	1.4	50.5	6.4	5.1	5.7	30.9
G.48 Cafe & Servery	69	22	8.3	0.7	0	0
G.55 Function Room	66	26.9	7.1	0	0	0
G.50 Retail	14.6	33.3	8.6	17.8	23.9	1.8
F.50b Cinema	70.5	27.2	2.3	0	0	0
F.50a Cinema	71.9	26.1	2	0	0	0
F.3 Mayor's Parlour	28.3	24.9	11	19.8	14	2
F.148a Prep Kitchen	39.3	10.8	6.6	5.6	6.2	31.5
F.46 Committee Room	43.9	15.5	10	15.7	10.3	4.6
F.37 Member's Room	13.4	27.2	18.6	28.9	11.7	0.1
F.38 Office	7	34.3	26.6	31.6	0.5	0
F.39 office	3.8	35.9	28.8	31.3	0.3	0
F.40 office	9.3	36.1	21.7	31.1	1.7	0
S.36a Lounge	44.1	8.6	6.2	5	5.3	30.8
S.36 Office	4.1	32.9	22.9	12.2	23.7	4.2
S.1 F&B Bar	66.3	12.5	13.8	6.3	1.1	0
LG.40 Supper room	13.6	44	6.6	6.9	6.7	22.1
G.57 Assembly Hall	0.8	30.7	25.4	5.3	5.4	32.4
G.62 Stage 60 & 63	70.9	16.8	10.3	2	0	0
LG.50 M Dressing room	1.6	29.5	19.5	5	3.6	40.9

LG.40c Studio1	0	14.8	22.5	32.3	28.5	1.9
LG.24a AC staff faci	0	32.8	26.6	5.4	5.5	29.7
G.61 Green Room	49.2	5	8.7	19.3	15.4	2.5
G.27 Office	5.8	21.2	21.7	11.6	21.7	18.1
F.51 FA Dressing Room	0.4	26.1	21.7	6.2	4.2	41.4
S32.Public Gallery	34.8	6.1	6.2	17.4	26.5	9
F.33 Council Chamber	23.4	28.2	13.1	27.9	7.4	0
Total hours (% of sum)	13.3	10.9	6.3	5.5	3.5	6.1
LG.42 Kitchen & Bar	93.2	6.8	0	0	0	0
LG.40a AV room	80.1	18.3	1.6	0	0	0
LG.40e Studio 2	0	3.6	11.9	21.5	40.7	22.3
LG.40b AV room	72.6	22.1	5.3	0.1	0	0
LG.33 Office	27.9	15.4	12.4	37.2	7	0
LG.24c Staff facilities	0	18.6	35.5	6.9	6.1	32.9
G.41 Ent Hall & G.40	1.4	50.5	6.4	5.1	5.7	30.9
G.48 Cafe & Servery	69	22	8.3	0.7	0	0
G.55 Function Room	66	26.9	7.1	0	0	0
G.50 Retail	14.6	33.3	8.6	17.8	23.9	1.8
F.50b Cinema	70.5	27.2	2.3	0	0	0
F.50a Cinema	71.9	26.1	2	0	0	0
F.3 Mayor's Parlour	28.3	24.9	11	19.8	14	2
F.148a Prep Kitchen	39.3	10.8	6.6	5.6	6.2	31.5
F.46 Committee Room	43.9	15.5	10	15.7	10.3	4.6
F.37 Member's Room	13.4	27.2	18.6	28.9	11.7	0.1
F.38 Office	7	34.3	26.6	31.6	0.5	0
F.39 office	3.8	35.9	28.8	31.3	0.3	0
F.40 office	9.3	36.1	21.7	31.1	1.7	0
S.36a Lounge	44.1	8.6	6.2	5	5.3	30.8
S.36 Office	4.1	32.9	22.9	12.2	23.7	4.2
S.1 F&B Bar	66.3	12.5	13.8	6.3	1.1	0
LG.40 Supper room	13.6	44	6.6	6.9	6.7	22.1
G.57 Assembly Hall	0.8	30.7	25.4	5.3	5.4	32.4
G.62 Stage 60 & 63	70.9	16.8	10.3	2	0	0
LG.50 M Dressing room	1.6	29.5	19.5	5	3.6	40.9
LG.40c Studio1	0	14.8	22.5	32.3	28.5	1.9
LG.24a AC staff faci	0	32.8	26.6	5.4	5.5	29.7
G.61 Green Room	49.2	5	8.7	19.3	15.4	2.5
G.27 Office	5.8	21.2	21.7	11.6	21.7	18.1
F.51 FA Dressing Room	0.4	26.1	21.7	6.2	4.2	41.4
S32.Public Gallery	34.8	6.1	6.2	17.4	26.5	9
F.33 Council Chamber	23.4	28.2	13.1	27.9	7.4	0
Total hours (% of sum)	13.3	10.9	6.3	5.5	3.5	6.1

Appendix L – DSY3 People Dissastified

File	Location	People dissatisfied (%) - % hours in range > 10.00
Sim 9 DSY 3.aps	LG.22c H room	53.9
Sim 9 DSY 3.aps	LG.22b H Room	53.9
Sim 9 DSY 3.aps	LG.22a H Room	53.7
Sim 9 DSY 3.aps	LG.22 H room	52.7
Sim 9 DSY 3.aps	LG.19 H Room	54.7
Sim 9 DSY 3.aps	LG.15 H Room	57.7
Sim 9 DSY 3.aps	LG.14 H Room	50.9
Sim 9 DSY 3.aps	LG.10a H Room	53.4
Sim 9 DSY 3.aps	LG.10 H Room	48.5
Sim 9 DSY 3.aps	LG.25 H Room	48.2
Sim 9 DSY 3.aps	LG.26 H room	49.8
Sim 9 DSY 3.aps	LG.23 H Room	45.3
Sim 9 DSY 3.aps	LG.37 H room	61.5
Sim 9 DSY 3.aps	LG.34 H room	60.4
Sim 9 DSY 3.aps	G.25 H room	50.1
Sim 9 DSY 3.aps	G.23 H Room	49.5
Sim 9 DSY 3.aps	G.21a H Room	54.2
Sim 9 DSY 3.aps	G.19 H Room	55.8
Sim 9 DSY 3.aps	G.3 H Room	49.9
Sim 9 DSY 3.aps	G.6 H Room	54.5
Sim 9 DSY 3.aps	G.8 H Room	54
Sim 9 DSY 3.aps	G.9 H Room	47.9
Sim 9 DSY 3.aps	G.14 H Room	43.4
Sim 9 DSY 3.aps	G.12a H Room	41.9
Sim 9 DSY 3.aps	G.19a H Room	54.1
Sim 9 DSY 3.aps	G.19a H Room	55.1
Sim 9 DSY 3.aps	G.21 H Room	53.1
Sim 9 DSY 3.aps	G.12 H Room	73.3
Sim 9 DSY 3.aps	G.13 H Room	46.6
Sim 9 DSY 3.aps	G.15 H Room	39.9
Sim 9 DSY 3.aps	F.27 H Room	51.5
Sim 9 DSY 3.aps	F.25 H Room	52
Sim 9 DSY 3.aps	F.21a H Room	51.8
Sim 9 DSY 3.aps	F.21 H Room	54.1
Sim 9 DSY 3.aps	F.5 H Room	47.8
Sim 9 DSY 3.aps	F.6 H Room	53.2
Sim 9 DSY 3.aps	F.9 H Room	52.6

Sim 9 DSY 3.aps	F.9a H Room	46
Sim 9 DSY 3.aps	F.14a H Room	40.4
Sim 9 DSY 3.aps	F.13a H Room	37.6
Sim 9 DSY 3.aps	F.18 H Room	53.4
Sim 9 DSY 3.aps	F.20 H Room	53.2
Sim 9 DSY 3.aps	F.21b H Room	52.1
Sim 9 DSY 3.aps	F.13 H Room	52.5
Sim 9 DSY 3.aps	F.14 H Room	38.6
Sim 9 DSY 3.aps	F.15 H Room	35.3
Sim 9 DSY 3.aps	S.15 H Room	63.3
Sim 9 DSY 3.aps	S.13 H Room	60.4
Sim 9 DSY 3.aps	S.21 H Room	44.6
Sim 9 DSY 3.aps	S.22 H Room	38.9
Sim 9 DSY 3.aps	S.12 H Room	56.4
Sim 9 DSY 3.aps	S.23 H Room	43.1
Sim 9 DSY 3.aps	S.20 H Room	45.8
Sim 9 DSY 3.aps	S.10 H Room	52.8
Sim 9 DSY 3.aps	S.5 H Room	61.4
Sim 9 DSY 3.aps	S.5a H Room	63.8
Sim 9 DSY 3.aps	S.8 H Room	61.3
Sim 9 DSY 3.aps	S.6 H Room	63.7
Sim 9 DSY 3.aps	S.19 H Room	45.6
Sim 9 DSY 3.aps	S.18 H Room	44.8
Sim 9 DSY 3.aps	S.17 H Room	43.3
Sim 9 DSY 3.aps	S.16 H Room	41.2
Sim 9 DSY 3.aps	S.29 H Room	69.3
Sim 9 DSY 3.aps	S.27 H Room	77.1
Sim 9 DSY 3.aps	S.24 H Room	76.1
Sim 9 DSY 3.aps	S.26 H Room	78.4
Sim 9 DSY 3.aps	LG.17 H Room	57.4
Sim 9 DSY 3.aps	LG.45e H room	53.1
Sim 9 DSY 3.aps	Total hours (% of sum)	33.6
Sim 11 DSY 3.aps	LG.42 Kitchen & Bar	93.5
Sim 11 DSY 3.aps	LG.40a AV room	80.3
Sim 11 DSY 3.aps	LG.40e Studio 2	24.1
Sim 11 DSY 3.aps	LG.40b AV room	72.9
Sim 11 DSY 3.aps	LG.33 Office	28.3
Sim 11 DSY 3.aps	LG.24c Staff facilities	33.5
Sim 11 DSY 3.aps	G.41 Ent Hall & G.40	33
Sim 11 DSY 3.aps	G.48 Cafe & Servery	69.4
Sim 11 DSY 3.aps	G.55 Function Room	66.1
Sim 11 DSY 3.aps	G.50 Retail	17.8

Sim 11 DSY 3.aps	F.50b Cinema	70.9
Sim 11 DSY 3.aps	F.50a Cinema	72.3
Sim 11 DSY 3.aps	F.3 Mayor's Parlour	32
Sim 11 DSY 3.aps	F.148a Prep Kitchen	71.6
Sim 11 DSY 3.aps	F.46 Committee Room	49.6
Sim 11 DSY 3.aps	F.37 Member's Room	14.4
Sim 11 DSY 3.aps	F.38 Office	7.8
Sim 11 DSY 3.aps	F.39 office	4.5
Sim 11 DSY 3.aps	F.40 office	10.1
Sim 11 DSY 3.aps	S.36a Lounge	75.6
Sim 11 DSY 3.aps	S.36 Office	9.6
Sim 11 DSY 3.aps	S.1 F&B Bar	66.5
Sim 11 DSY 3.aps	LG.40 Supper room	37.1
Sim 11 DSY 3.aps	G.57 Assembly Hall	33.8
Sim 11 DSY 3.aps	G.62 Stage 60 & 63	71.1
Sim 11 DSY 3.aps	LG.50 M Dressing room	43
Sim 11 DSY 3.aps	LG.40c Studio1	2.2
Sim 11 DSY 3.aps	LG.24a AC staff faci	29.9
Sim 11 DSY 3.aps	G.61 Green Room	52.6
Sim 11 DSY 3.aps	G.27 Office	26.2
Sim 11 DSY 3.aps	F.51 FA Dressing Room	42.2
Sim 11 DSY 3.aps	S32.Public Gallery	45
Sim 11 DSY 3.aps	F.33 Council Chamber	24.3
Sim 11 DSY 3.aps	Total hours (% of sum)	19.7

The background features abstract geometric shapes in shades of blue and green. On the left, there are overlapping triangles and polygons in various tones of blue and teal. On the right, a large white rectangular area is defined by blue borders at the top and bottom, and a green border at the bottom. The overall design is modern and minimalist.

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WHITECODE
CONSULTING

Thermal Comfort Analysis – HEA04

Hornsey Town Hall

Prepared for Ardmore

Drawing No. 10687-WCL-ZZ-ZZ-RP-SS-0010

Revision P01

18th January 2023

Executive Summary

Whitecode Consulting has been appointed by Ardmore to carry out a thermal comfort assessment for the new purpose-built student accommodation at Hornsey Town Hall, Haringey, to secure two credits under HEA04 of BREEAM Refurb and fit out 2014.

The building was simulated using Integrated Environmental Solutions (IES) Virtual Environment (VE) 2022, a software suite accredited under CIBSE AM11 for the simulation of building energy and thermal modelling.

This report includes the criteria and assumptions used to assess the future thermal comfort of the occupants using the BREEAM HEA04 guidance. Results of the current and future weather files are summarised below and are presented in Section 4.

Results of the analysis for the current and future weather files show that all zones comply with the BREEAM requirements in that the mean summer and winter operative temperatures, in occupied spaces, remain within the ranges defined within CIBSE Guide A during occupied hours.

This report demonstrates that the scheme achieves **one credit** under BREEAM HEA04 for thermal modelling and an additional **one credit** for the inclusion of the future weather files giving **two credits** in total.

	Weather File	Zones Within Range	Zones Out of Range
Design Summer Year 1 (DSY1)	Winter	136	0
	Summer	136	0
Design Summer Year 2 (DSY2)	Winter	136	0
	Summer	136	0
Design Summer Year 3 (DSY3)	Winter	136	0
	Summer	136	0

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Revisions:

Rev No:	Status/Comments:	Date:	Prepared by:	Checked by:
P01	Initial Report	18/01/2023	AW	KV

1. Introduction

Whitecode Consulting has been appointed by Ardmere to carry out a thermal comfort assessment for the commercial space at Hornsey Town Hall, Haringey, to secure three credits under HEA 04 of BREEAM refurb and fit out 2014.

The occupied areas are mechanically ventilated and provided with heating and cooling services throughout.

This report assesses comfort criteria in accordance with CIBSE Guide A Table 1.5 and presents the result in terms of PPD, PMV.

The thermal model uses the current DSY weather data and projected CIBSE weather data for the 2020's high emission scenario, 50th percentile DSY2 and DSY3.

2. BREEAM HEA04 Criteria

In order to secure two credits for the thermal comfort of future occupants under HEA 04 the below criteria must be met.

One credit - Thermal modelling

- 1- Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling. – [See Section 3.1](#)
- 2- The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance with CIBSE AM11). – [See Section 3.1](#)
- 3- The modelling demonstrates that:
 - a. For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type); or the thermal environment in occupied spaces meet the Category B requirements for PPD, PMV and local discomfort set out in Table A.1 of Annex A of ISO 7730:2005. – [See Section 4](#)
 - b. For naturally ventilated buildings:
 - i. Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental Design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type). – [See Section 4](#)
 - ii. The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings or CIBSE TM59: Design methodology for the assessment of overheating risk in homes. – [See Section 4](#)
- 4- For air-conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.

One credit – Design for Future Thermal Comfort

- 5- Criteria 1 to 4 are achieved. – [See above](#)
- 6- The thermal modelling demonstrates that the relevant requirements set out in criterion 3 are achieved for a projected climate change environment (see Definitions). – [See Appendices](#)
- 7- Where criterion 6 is not met, the project team demonstrates how the building has been adapted or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements under criterion 6. – [Not required](#)
- 8- For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.

3. Thermal Model Design Criteria

3.1. Choice of Modelling Tool and Approach

Integrated Environmental Solutions (IES) Virtual Environment (VE) is a suite of building performance analysis applications that provide accurate virtual modelling of buildings. The software allows for the inclusion of variables such as building location, thermal characteristics, system efficiencies and site exposure and is accredited for these purposes according to CIBSE AM11.

3.2. Thermal Comfort Criteria

CIBSE Guide A Table 1.5 provides winter and summer temperature ranges for a variety of space types. Table 3.1 below provides these ranges for the applicable zones. Where zones do not align exactly with those in Guide A, the most similar zone type was selected.

Space Use	Winter °C	Summer °C
Offices	21-23	22-25
Exhibition Halls	19-21	21-25
Educational Buildings	19-21	21-25
Kitchens	15-18	18-25
Cinema	21-23	22-25
TV Studios	19-21	21-25
Changing Rooms	21-24	22-25
Eating / Drinking Area	19-21	21-25
Hotel Room	19-21	21-25
Gym	-	-
Common Areas	19-21	21-25

Table 3.1 CIBSE Guide A recommended comfort criteria for the occupied zones

3.3. Location and Weather Data

The proposed building is in Haringey, London, therefore, the weather file used was the London Heathrow Design Summer Year (DSY). As per BREEAM Guidance, for mechanically ventilated buildings, the projected climate scenarios used the Design Summer Years 2 and 3 for the 2020's high emissions scenario, 50th percentile.

3.4. Building Fabric

Table 3.2 below details the thermal properties that were assigned to the building envelope. Thermal mass and thermal bridging were accounted for in the build-up of the constructions.

Element	Thermal Transmittance, W/m ² K	G-value
Glazing	5.50 1.60	0.42
Ground floor	0.20 0.45	-
Main Roof	0.16 0.18 0.26 0.75	-
External Wall	0.20 0.30 1.48	-
Air permeability	0.15 ach	

Table 3.2 Thermal envelope properties

3.5. Internal Gains and Associated Energy Use

Typical values from the National Calculation Methodology (NCM) profiles have been used.

3.6. User Interaction

A building logbook will be provided on the completion of the works by the construction team in accordance with the requirements of the Building Regulations. This document will be structured to provide the building owner/operator with a simple guide to the installed building services, including controls.

Therefore, it has been assumed that the occupants will have the necessary knowledge to interact with controls to obtain a balance between preferences.

4. Results

The table below summarises the results of the current and future weather scenarios. All zones remain within the comfort range during occupied hours for both the current and future weather files. Full results can be found in the appendices.

	Weather File	Zones Within Range	Zones Out of Range
Design Summer Year 1 (DSY1)	Winter	136	0
	Summer	136	0
Design Summer Year 2 (DSY2)	Winter	136	0
	Summer	136	0
Design Summer Year 3 (DSY3)	Winter	136	0
	Summer	136	0

5. Conclusion

A thermal model has been created using IES VE software and simulations have been performed using current and future London weather files, predicted internal conditions and design criteria; results are analysed in terms of mean operative temperature during occupied hours according to CIBSE Guide A guidelines.

Results of the analysis for the current and future weather files show that all zones comply with the BREEAM requirements in that the mean summer and winter operative temperatures, in occupied spaces, remain within the ranges defined within CIBSE Guide A during occupied hours.

This report demonstrates that the scheme achieves **one credit** under BREEAM HEA04 for thermal modelling and an additional **one credit** for the inclusion of the future weather files giving **two credits** in total.

Appendix A – DSY1 Winter Average Operative

Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	21.18	21	23
LG.22c H room	Temperature (°C)	20.04	19	21
LG.22b H Room	Temperature (°C)	20.17	19	21
LG.22a H Room	Temperature (°C)	20.17	19	21
LG.22 H room	Temperature (°C)	20	19	21
LG.19 H Room	Temperature (°C)	20.75	19	21
LG.15 H Room	Temperature (°C)	19.97	19	21
LG.14 H Room	Temperature (°C)	20.18	19	21
LG.10a H Room	Temperature (°C)	20.08	19	21
LG.10 H Room	Temperature (°C)	20.51	19	21
LG.25 H Room	Temperature (°C)	19.93	19	21
LG.26 H room	Temperature (°C)	19.83	19	21
LG.23 H Room	Temperature (°C)	20.75	19	21
LG.37 H room	Temperature (°C)	19.48	19	21
LG.34 H room	Temperature (°C)	19.59	19	21
G.25 H room	Temperature (°C)	20.73	19	21
G.23 H Room	Temperature (°C)	20.7	19	21
G.21a H Room	Temperature (°C)	20.07	19	21
G.19 H Room	Temperature (°C)	20.04	19	21
G.3 H Room	Temperature (°C)	20.74	19	21
G.6 H Room	Temperature (°C)	20.61	19	21
G.8 H Room	Temperature (°C)	20.61	19	21
G.9 H Room	Temperature (°C)	20.74	19	21
G.14 H Room	Temperature (°C)	19.84	19	21
G.12a H Room	Temperature (°C)	20.63	19	21
G.19a H Room	Temperature (°C)	19.84	19	21
G.19a H Room	Temperature (°C)	20.04	19	21
G.21 H Room	Temperature (°C)	19.64	19	21
G.12 H Room	Temperature (°C)	19.99	19	21
G.13 H Room	Temperature (°C)	20.15	19	21
G.15 H Room	Temperature (°C)	20.89	19	21
F.27 H Room	Temperature (°C)	19.26	19	21
F.25 H Room	Temperature (°C)	19.19	19	21
F.21a H Room	Temperature (°C)	19.47	19	21
F.21 H Room	Temperature (°C)	19.75	19	21
F.5 H Room	Temperature (°C)	20.73	19	21
F.6 H Room	Temperature (°C)	20.65	19	21
F.9 H Room	Temperature (°C)	20.65	19	21
F.9a H Room	Temperature (°C)	20.77	19	21
F.14a H Room	Temperature (°C)	19.99	19	21
F.13a H Room	Temperature (°C)	20.65	19	21
F.18 H Room	Temperature (°C)	19.86	19	21
F.20 H Room	Temperature (°C)	20.1	19	21
F.21b H Room	Temperature (°C)	19.66	19	21

F.13 H Room	Temperature (°C)	19.24	19	21
F.14 H Room	Temperature (°C)	20.23	19	21
F.15 H Room	Temperature (°C)	20.94	19	21
S.15 H Room	Temperature (°C)	19.33	19	21
S.13 H Room	Temperature (°C)	20.01	19	21
S.21 H Room	Temperature (°C)	19.82	19	21
S.22 H Room	Temperature (°C)	20.39	19	21
S.12 H Room	Temperature (°C)	19.78	19	21
S.23 H Room	Temperature (°C)	21	19	21
S.20 H Room	Temperature (°C)	20.05	19	21
S.10 H Room	Temperature (°C)	20.79	19	21
S.5 H Room	Temperature (°C)	20.64	19	21
S.5a H Room	Temperature (°C)	20.63	19	21
S.8 H Room	Temperature (°C)	19.29	19	21
S.6 H Room	Temperature (°C)	20.65	19	21
S.19 H Room	Temperature (°C)	20.22	19	21
S.18 H Room	Temperature (°C)	20.1	19	21
S.17 H Room	Temperature (°C)	20.33	19	21
S.16 H Room	Temperature (°C)	20.54	19	21
S.29 H Room	Temperature (°C)	20.32	19	21
S.27 H Room	Temperature (°C)	20.44	19	21
S.24 H Room	Temperature (°C)	20.44	19	21
S.26 H Room	Temperature (°C)	20.05	19	21
LG.17 H Room	Temperature (°C)	19.72	19	21
LG.45e H room	Temperature (°C)	19.41	19	21
LG.42 Kitchen & Bar	Temperature (°C)	20.3	19	21
LG.40a AV room	Temperature (°C)	19.11	19	21
LG.40e Studio 2	Temperature (°C)	19.59	19	21
LG.40b AV room	Temperature (°C)	19.67	19	21
LG.33 Office	Temperature (°C)	21.01	21	23
LG.24c Staff facilities	Temperature (°C)	20.11	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.91	19	21
G.48 Cafe & Servery	Temperature (°C)	19	19	21
G.55 Function Room	Temperature (°C)	19.12	19	21
G.50 Retail	Temperature (°C)	19.73	19	21
F.50b Cinema	Temperature (°C)	21.29	21	23
F.50a Cinema	Temperature (°C)	21.07	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.06	21	24
F.148a Prep Kitchen	Temperature (°C)	15.33	15	18
F.46 Committee Room	Temperature (°C)	20.52	19	21
F.37 Member's Room	Temperature (°C)	20.5	19	21
F.38 Office	Temperature (°C)	21.36	21	23
F.39 office	Temperature (°C)	21.34	21	23
F.40 office	Temperature (°C)	21.16	21	23
S.36a Lounge	Temperature (°C)	19.48	19	21
S.36 Office	Temperature (°C)	21.18	21	23
S.1 F&B Bar	Temperature (°C)	19.24	19	21
LG.40 Supper room	Temperature (°C)	19.51	19	21
G.57 Assembly Hall	Temperature (°C)	19.51	19	21
G.62 Stage 60 & 63	Temperature (°C)	20.26	19	21
LG.50 M Dressing room	Temperature (°C)	19.54	19	21
LG.40c Studio1	Temperature (°C)	19.2	19	21

LG.24a AC staff faci	Temperature (°C)	19.21	19	21
G.61 Green Room	Temperature (°C)	20.46	19	21
G.27 Office	Temperature (°C)	22.35	21	23
F.51 FA Dressing Room	Temperature (°C)	19.63	19	21
S32.Public Gallery	Temperature (°C)	19.98	19	21
F.33 Council Chamber	Temperature (°C)	20.41	19	21
LG.42 Kitchen & Bar	Temperature (°C)	20.3	19	21
LG.40a AV room	Temperature (°C)	19.11	19	21
LG.40e Studio 2	Temperature (°C)	19.59	19	21
LG.40b AV room	Temperature (°C)	19.67	19	21
LG.33 Office	Temperature (°C)	21.01	21	23
LG.24c Staff facilities	Temperature (°C)	20.11	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.91	19	21
G.48 Cafe & Servery	Temperature (°C)	19	19	21
G.55 Function Room	Temperature (°C)	19.12	19	21
G.50 Retail	Temperature (°C)	19.73	19	21
F.50b Cinema	Temperature (°C)	21.29	21	23
F.50a Cinema	Temperature (°C)	21.07	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.06	21	24
F.148a Prep Kitchen	Temperature (°C)	15.33	15	18
F.46 Committee Room	Temperature (°C)	20.52	19	21
F.37 Member's Room	Temperature (°C)	20.5	19	21
F.38 Office	Temperature (°C)	21.36	21	23
F.39 office	Temperature (°C)	21.34	21	23
F.40 office	Temperature (°C)	21.16	21	23
S.36a Lounge	Temperature (°C)	19.48	19	21
S.36 Office	Temperature (°C)	21.18	21	23
S.1 F&B Bar	Temperature (°C)	19.24	19	21
LG.40 Supper room	Temperature (°C)	19.51	19	21
G.57 Assembly Hall	Temperature (°C)	19.51	19	21
G.62 Stage 60 & 63	Temperature (°C)	20.26	19	21
LG.50 M Dressing room	Temperature (°C)	19.54	19	21
LG.40c Studio1	Temperature (°C)	19.2	19	21
LG.24a AC staff faci	Temperature (°C)	19.21	19	21
G.61 Green Room	Temperature (°C)	20.46	19	21
G.27 Office	Temperature (°C)	22.35	21	23
F.51 FA Dressing Room	Temperature (°C)	19.63	19	21
S32.Public Gallery	Temperature (°C)	19.98	19	21
F.33 Council Chamber	Temperature (°C)	20.41	19	21

Appendix B – DSY1 Summer Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	22.36	22	25
LG.22c H room	Temperature (°C)	22.09	21	25
LG.22b H Room	Temperature (°C)	22.03	21	25
LG.22a H Room	Temperature (°C)	22.02	21	25
LG.22 H room	Temperature (°C)	22.04	21	25
LG.19 H Room	Temperature (°C)	21.57	21	25
LG.15 H Room	Temperature (°C)	21.63	21	25
LG.14 H Room	Temperature (°C)	21.17	21	25
LG.10a H Room	Temperature (°C)	21.39	21	25
LG.10 H Room	Temperature (°C)	21.67	21	25
LG.25 H Room	Temperature (°C)	21.43	21	25
LG.26 H room	Temperature (°C)	21.89	21	25
LG.23 H Room	Temperature (°C)	21.78	21	25
LG.37 H room	Temperature (°C)	22.5	21	25
LG.34 H room	Temperature (°C)	22.39	21	25
G.25 H room	Temperature (°C)	21.43	21	25
G.23 H Room	Temperature (°C)	21.41	21	25
G.21a H Room	Temperature (°C)	21.31	21	25
G.19 H Room	Temperature (°C)	21.52	21	25
G.3 H Room	Temperature (°C)	21.39	21	25
G.6 H Room	Temperature (°C)	21.12	21	25
G.8 H Room	Temperature (°C)	21.14	21	25
G.9 H Room	Temperature (°C)	21.47	21	25
G.14 H Room	Temperature (°C)	22.1	21	25
G.12a H Room	Temperature (°C)	21.51	21	25
G.19a H Room	Temperature (°C)	22.19	21	25
G.19a H Room	Temperature (°C)	22.18	21	25
G.21 H Room	Temperature (°C)	21.45	21	25
G.12 H Room	Temperature (°C)	21.05	21	25
G.13 H Room	Temperature (°C)	21.38	21	25
G.15 H Room	Temperature (°C)	22.21	21	25
F.27 H Room	Temperature (°C)	22.04	21	25
F.25 H Room	Temperature (°C)	21.9	21	25
F.21a H Room	Temperature (°C)	21.28	21	25
F.21 H Room	Temperature (°C)	21.74	21	25
F.5 H Room	Temperature (°C)	21.5	21	25
F.6 H Room	Temperature (°C)	21.36	21	25
F.9 H Room	Temperature (°C)	21.4	21	25
F.9a H Room	Temperature (°C)	21.75	21	25
F.14a H Room	Temperature (°C)	22.28	21	25
F.13a H Room	Temperature (°C)	21.83	21	25
F.18 H Room	Temperature (°C)	22.34	21	25
F.20 H Room	Temperature (°C)	22.43	21	25
F.21b H Room	Temperature (°C)	21.88	21	25
F.13 H Room	Temperature (°C)	21.13	21	25
F.14 H Room	Temperature (°C)	21.18	21	25
F.15 H Room	Temperature (°C)	22.3	21	25

S.15 H Room	Temperature (°C)	22.3	21	25
S.13 H Room	Temperature (°C)	22.8	21	25
S.21 H Room	Temperature (°C)	22.86	21	25
S.22 H Room	Temperature (°C)	23.08	21	25
S.12 H Room	Temperature (°C)	22.52	21	25
S.23 H Room	Temperature (°C)	24.03	21	25
S.20 H Room	Temperature (°C)	22.9	21	25
S.10 H Room	Temperature (°C)	22.35	21	25
S.5 H Room	Temperature (°C)	21.74	21	25
S.5a H Room	Temperature (°C)	21.63	21	25
S.8 H Room	Temperature (°C)	22.19	21	25
S.6 H Room	Temperature (°C)	21.76	21	25
S.19 H Room	Temperature (°C)	22.8	21	25
S.18 H Room	Temperature (°C)	22.77	21	25
S.17 H Room	Temperature (°C)	22.91	21	25
S.16 H Room	Temperature (°C)	22.93	21	25
S.29 H Room	Temperature (°C)	21.05	21	25
S.27 H Room	Temperature (°C)	21.18	21	25
S.24 H Room	Temperature (°C)	21.21	21	25
S.26 H Room	Temperature (°C)	21.02	21	25
LG.17 H Room	Temperature (°C)	21.69	21	25
LG.45e H room	Temperature (°C)	22.12	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.36	22	25
LG.40a AV room	Temperature (°C)	22.09	21	25
LG.40e Studio 2	Temperature (°C)	22.03	21	25
LG.40b AV room	Temperature (°C)	22.02	21	25
LG.33 Office	Temperature (°C)	22.04	21	25
LG.24c Staff facilities	Temperature (°C)	21.57	21	25
G.41 Ent Hall & G.40	Temperature (°C)	21.63	21	25
G.48 Cafe & Servery	Temperature (°C)	21.17	21	25
G.55 Function Room	Temperature (°C)	21.39	21	25
G.50 Retail	Temperature (°C)	21.67	21	25
F.50b Cinema	Temperature (°C)	21.43	21	25
F.50a Cinema	Temperature (°C)	21.89	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.78	21	25
F.148a Prep Kitchen	Temperature (°C)	22.5	21	25
F.46 Committee Room	Temperature (°C)	22.39	21	25
F.37 Member's Room	Temperature (°C)	21.43	21	25
F.38 Office	Temperature (°C)	21.41	21	25
F.39 office	Temperature (°C)	21.31	21	25
F.40 office	Temperature (°C)	21.52	21	25
S.36a Lounge	Temperature (°C)	21.39	21	25
S.36 Office	Temperature (°C)	21.12	21	25
S.1 F&B Bar	Temperature (°C)	21.14	21	25
LG.40 Supper room	Temperature (°C)	21.47	21	25
G.57 Assembly Hall	Temperature (°C)	22.1	21	25
G.62 Stage 60 & 63	Temperature (°C)	21.51	21	25
LG.50 M Dressing room	Temperature (°C)	22.19	21	25
LG.40c Studio1	Temperature (°C)	22.18	21	25
LG.24a AC staff faci	Temperature (°C)	21.45	21	25
G.61 Green Room	Temperature (°C)	21.05	21	25
G.27 Office	Temperature (°C)	21.38	21	25

F.51 FA Dressing Room	Temperature (°C)	22.21	21	25
S32.Public Gallery	Temperature (°C)	22.04	21	25
F.33 Council Chamber	Temperature (°C)	21.9	21	25
LG.42 Kitchen & Bar	Temperature (°C)	21.28	21	25
LG.40a AV room	Temperature (°C)	21.74	21	25
LG.40e Studio 2	Temperature (°C)	21.5	21	25
LG.40b AV room	Temperature (°C)	21.36	21	25
LG.33 Office	Temperature (°C)	21.4	21	25
LG.24c Staff facilities	Temperature (°C)	21.75	21	25
G.41 Ent Hall & G.40	Temperature (°C)	22.28	21	25
G.48 Cafe & Servery	Temperature (°C)	21.83	21	25
G.55 Function Room	Temperature (°C)	22.34	21	25
G.50 Retail	Temperature (°C)	22.43	21	25
F.50b Cinema	Temperature (°C)	21.88	21	25
F.50a Cinema	Temperature (°C)	21.13	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.18	21	25
F.148a Prep Kitchen	Temperature (°C)	22.3	21	25
F.46 Committee Room	Temperature (°C)	22.3	21	25
F.37 Member's Room	Temperature (°C)	22.8	21	25
F.38 Office	Temperature (°C)	22.86	21	25
F.39 office	Temperature (°C)	23.08	21	25
F.40 office	Temperature (°C)	22.52	21	25
S.36a Lounge	Temperature (°C)	24.03	21	25
S.36 Office	Temperature (°C)	22.9	21	25
S.1 F&B Bar	Temperature (°C)	22.35	21	25
LG.40 Supper room	Temperature (°C)	21.74	21	25
G.57 Assembly Hall	Temperature (°C)	21.63	21	25
G.62 Stage 60 & 63	Temperature (°C)	22.19	21	25
LG.50 M Dressing room	Temperature (°C)	21.76	21	25
LG.40c Studio1	Temperature (°C)	22.8	21	25
LG.24a AC staff faci	Temperature (°C)	22.77	21	25
G.61 Green Room	Temperature (°C)	22.91	21	25
G.27 Office	Temperature (°C)	22.93	21	25
F.51 FA Dressing Room	Temperature (°C)	21.05	21	25
S32.Public Gallery	Temperature (°C)	21.18	21	25
F.33 Council Chamber	Temperature (°C)	21.21	21	25

Appendix C – DSY1 Predicted Mean Vote (PMV)

	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range
Location	<= -0.50	>-0.50 to <=-0.25	>-0.25 to <=0.00	>0.00 to <=0.25	>0.25 to <=0.50	> 0.50
LG.22c H room	48.3	5.3	9.8	32.8	3.8	0
LG.22b H Room	48.3	6.1	9.3	32.6	3.8	0
LG.22a H Room	48.1	5.3	9.9	32.9	3.8	0
LG.22 H room	46.8	3.9	9.9	34.5	4.9	0
LG.19 H Room	48.4	11.3	9.8	26.2	4.4	0
LG.15 H Room	52.9	6.1	11	26.9	3.2	0
LG.14 H Room	45.2	2.6	9.3	34.1	8.5	0.3
LG.10a H Room	45.6	5.3	9.5	29	9.4	1.2
LG.10 H Room	39.2	9.8	9.7	29.3	10.2	1.9
LG.25 H Room	40.8	4.6	5.9	32	12.3	4.5
LG.26 H room	43	3.4	7.1	34.5	9.7	2.3
LG.23 H Room	35.9	12	6.3	34.7	10.1	1
LG.37 H room	59.3	5.1	6.8	25.6	3.2	0
LG.34 H room	58.2	5.8	6.1	26.9	3.1	0
LG.32 H Gym	0	0	0	0	0	100
G.25 H room	42.9	9.3	10	33.2	4.6	0
G.23 H Room	42.1	11.6	36	8.9	1.4	0
G.21a H Room	46.4	4.7	6.8	12.5	27.5	2.2
G.19 H Room	45.8	5.6	9.7	28	7	4
G.3 H Room	41.9	14.3	10.2	31.2	2.4	0
G.6 H Room	49	10.8	11	27	2.2	0
G.8 H Room	48.3	10.7	11.5	27.3	2.3	0
G.9 H Room	39.7	11.8	10.7	34.7	3.1	0
G.14 H Room	32.9	8.6	7	32.2	13.6	5.6
G.12a H Room	34.1	13	6.3	38.8	7.6	0.2
G.19a H Room	44.3	4.5	8.9	29.6	9.2	3.5
G.19a H Room	45	5.4	10.2	28.3	7.1	4
G.21 H Room	47.2	5.4	10.8	32.5	3.9	0.2
G.12 H Room	35.4	11.9	4.3	6.1	12.3	30
G.13 H Room	29.8	13	2.7	10.4	34.3	9.8
G.15 H Room	27.7	13	6.5	30.9	15.7	6.3
F.27 H Room	45.8	4	7.7	30.8	11.4	0.1
F.25 H Room	46.3	4.2	9.3	33.1	6.9	0.2
F.21a H Room	45.8	4.2	8.8	32.7	8.2	0.3
F.21 H Room	44.2	4.6	9	29	8.8	4.4
F.5 H Room	38.8	16.2	9.5	30.9	4.5	0
F.6 H Room	45.3	13.7	9.8	26.9	4.2	0
F.9 H Room	44.5	13.7	10.1	27.4	4.3	0
F.9a H Room	37.5	13	9.5	33.6	6.4	0
F.14a H Room	28.4	8.6	9.8	31	14.5	7.7
F.13a H Room	29.1	16	5.3	37.2	12.1	0.2
F.18 H Room	43.6	4.2	8.3	29.6	10.3	3.9
F.20 H Room	43.3	4.2	9.5	29.5	8.9	4.6

F.21b H Room	46.3	4.5	9.5	32.7	6.8	0.3
F.13 H Room	39.1	5.8	4.5	9.9	34.9	5.8
F.14 H Room	27.3	14.4	6.3	32.5	14.3	5.3
F.15 H Room	23.1	14.9	8.5	30.3	16.9	6.3
S.15 H Room	57.1	4.8	6.7	17.4	10.8	3.3
S.13 H Room	54.7	5.6	8	20.1	9.6	2
S.21 H Room	36.3	7.3	4.5	33.1	15.4	3.4
S.22 H Room	31.9	7.7	8.5	36.7	14	1.3
S.12 H Room	49.5	5.4	6.8	21.2	15.7	1.4
S.23 H Room	11.8	10.5	10	10.4	34	23.3
S.20 H Room	38.4	6.2	5.3	34.4	13.8	1.9
S.10 H Room	44.5	9.9	7.3	21.5	15.4	1.4
S.5 H Room	55.6	8.7	6.4	17.8	10.3	1.1
S.5a H Room	58.9	8.8	6.7	15.9	8.8	1
S.8 H Room	56.9	5.3	7	19.2	10.6	1
S.6 H Room	58.4	8.6	7.1	16.1	8.7	1.1
S.19 H Room	38.4	6.2	5.8	33.2	16	0.4
S.18 H Room	36.9	6.8	4.5	34.4	16.3	1.1
S.17 H Room	33	7.2	6.8	30.8	16.8	5.5
S.16 H Room	30.7	7.9	8.2	30.8	16.8	5.6
S.29 H Room	37.8	16.2	4.4	4.1	15.1	22.3
S.27 H Room	40.3	14.5	4.6	3.7	7	29.8
S.24 H Room	36.5	15.9	4.5	3.9	6.2	33
S.26 H Room	41.7	10.9	5.3	4.7	6.5	30.9
LG.17 H Room	52.4	6	11	27.1	3.5	0.1
LG.45e H room	48	2.9	9.8	33.9	5.4	0
Total hours (% of sum)	25.6	5	5.2	16	6.5	4.5
LG.40a AV room	78.8	19.8	1.4	0	0	0
LG.40e Studio 2	0	0.2	6.7	24.5	47.1	21.6
LG.40b AV room	71.4	24.3	4.2	0.1	0	0
LG.33 Office	19.7	18.6	13.1	40.4	8.1	0
LG.24c Staff facilities	0	11.8	36.8	9.2	6.7	35.6
G.41 Ent Hall & G.40	0.1	47.7	7.6	6.2	4.4	34
G.48 Cafe & Servery	68.4	22.3	8.8	0.5	0	0
G.55 Function Room	63.6	28.5	7.8	0.1	0	0
G.50 Retail	6.7	36.9	9.4	21.1	24.1	1.8
F.50b Cinema	69.6	27.7	2.8	0	0	0
F.50a Cinema	71.7	26.2	2.1	0	0	0
F.3 Mayor's Parlour	21.5	27.8	13.6	20.4	14.7	2.1
F.148a Prep Kitchen	33.5	11.4	7.7	7.4	6.8	33.2
F.46 Committee Room	38.1	18.3	11	16.7	11.2	4.7
F.37 Member's Room	8.1	26.6	21.1	31.9	12.1	0.2
F.38 Office	2.5	33.9	31.1	31.7	0.8	0
F.39 office	0.9	33.1	33.9	31.6	0.5	0
F.40 office	3.4	37	26.3	31.6	1.7	0
S.36a Lounge	38.9	9.8	7.2	6.2	5.6	32.2
S.36 Office	1.3	28	26.4	16.8	23.2	4.3
S.1 F&B Bar	64.3	13.2	14.8	6.7	0.9	0
LG.40 Supper room	4	49.9	8.5	6.2	7.3	24.2
G.57 Assembly Hall	0.1	25	28.4	6.7	5.6	34.3
G.62 Stage 60 & 63	70.6	16.3	11.8	1.3	0	0
LG.40c Studio1	0	6.2	25.9	37.1	28.9	1.9

LG.24a AC staff faci	0	27.1	28.2	7.1	5.5	32.1
G.61 Green Room	43.6	5.3	11.6	20.1	17	2.3
G.27 Office	3.4	15.3	24	11.1	23.7	22.4
S32.Public Gallery	30.7	7.2	5.4	17.8	28.5	10.4
F.33 Council Chamber	16.5	30.1	14.6	30.4	8.4	0
Total hours (% of sum)	11.8	10.4	7	6	3.8	6.5
LG.40a AV room	78.8	19.8	1.4	0	0	0
LG.40e Studio 2	0	0.2	6.7	24.5	47.1	21.6
LG.40b AV room	71.4	24.3	4.2	0.1	0	0
LG.33 Office	19.7	18.6	13.1	40.4	8.1	0
LG.24c Staff facilities	0	11.8	36.8	9.2	6.7	35.6
G.41 Ent Hall & G.40	0.1	47.7	7.6	6.2	4.4	34
G.48 Cafe & Servery	68.4	22.3	8.8	0.5	0	0
G.55 Function Room	63.6	28.5	7.8	0.1	0	0
G.50 Retail	6.7	36.9	9.4	21.1	24.1	1.8
F.50b Cinema	69.6	27.7	2.8	0	0	0
F.50a Cinema	71.7	26.2	2.1	0	0	0
F.3 Mayor's Parlour	21.5	27.8	13.6	20.4	14.7	2.1
F.148a Prep Kitchen	33.5	11.4	7.7	7.4	6.8	33.2
F.46 Committee Room	38.1	18.3	11	16.7	11.2	4.7
F.37 Member's Room	8.1	26.6	21.1	31.9	12.1	0.2
F.38 Office	2.5	33.9	31.1	31.7	0.8	0
F.39 office	0.9	33.1	33.9	31.6	0.5	0
F.40 office	3.4	37	26.3	31.6	1.7	0
S.36a Lounge	38.9	9.8	7.2	6.2	5.6	32.2
S.36 Office	1.3	28	26.4	16.8	23.2	4.3
S.1 F&B Bar	64.3	13.2	14.8	6.7	0.9	0
LG.40 Supper room	4	49.9	8.5	6.2	7.3	24.2
G.57 Assembly Hall	0.1	25	28.4	6.7	5.6	34.3
G.62 Stage 60 & 63	70.6	16.3	11.8	1.3	0	0
LG.40c Studio1	0	6.2	25.9	37.1	28.9	1.9
LG.24a AC staff faci	0	27.1	28.2	7.1	5.5	32.1
G.61 Green Room	43.6	5.3	11.6	20.1	17	2.3
G.27 Office	3.4	15.3	24	11.1	23.7	22.4
S32.Public Gallery	30.7	7.2	5.4	17.8	28.5	10.4
F.33 Council Chamber	16.5	30.1	14.6	30.4	8.4	0
Total hours (% of sum)	11.8	10.4	7	6	3.8	6.5

Appendix D – DSY1 People Dissastified

File	Location	People dissatisfied (%) - % hours in range
		> 10.00
Sim 9 DSY 1.aps	LG.22c H room	48.4
Sim 9 DSY 1.aps	LG.22b H Room	48.4
Sim 9 DSY 1.aps	LG.22a H Room	48.2
Sim 9 DSY 1.aps	LG.22 H room	46.9
Sim 9 DSY 1.aps	LG.19 H Room	49.3
Sim 9 DSY 1.aps	LG.15 H Room	53
Sim 9 DSY 1.aps	LG.14 H Room	45.8
Sim 9 DSY 1.aps	LG.10a H Room	47.2
Sim 9 DSY 1.aps	LG.10 H Room	42.5
Sim 9 DSY 1.aps	LG.25 H Room	46.1
Sim 9 DSY 1.aps	LG.26 H room	45.7
Sim 9 DSY 1.aps	LG.23 H Room	38
Sim 9 DSY 1.aps	LG.37 H room	59.5
Sim 9 DSY 1.aps	LG.34 H room	58.3
Sim 9 DSY 1.aps	G.25 H room	43.9
Sim 9 DSY 1.aps	G.23 H Room	43
Sim 9 DSY 1.aps	G.21a H Room	49.3
Sim 9 DSY 1.aps	G.19 H Room	50.1
Sim 9 DSY 1.aps	G.3 H Room	43.1
Sim 9 DSY 1.aps	G.6 H Room	49.9
Sim 9 DSY 1.aps	G.8 H Room	49.2
Sim 9 DSY 1.aps	G.9 H Room	40.5
Sim 9 DSY 1.aps	G.14 H Room	39.3
Sim 9 DSY 1.aps	G.12a H Room	35.1
Sim 9 DSY 1.aps	G.19a H Room	48.3
Sim 9 DSY 1.aps	G.19a H Room	49.5
Sim 9 DSY 1.aps	G.21 H Room	47.4
Sim 9 DSY 1.aps	G.12 H Room	67.7
Sim 9 DSY 1.aps	G.13 H Room	41.3
Sim 9 DSY 1.aps	G.15 H Room	35.1
Sim 9 DSY 1.aps	F.27 H Room	46
Sim 9 DSY 1.aps	F.25 H Room	46.6
Sim 9 DSY 1.aps	F.21a H Room	46.3
Sim 9 DSY 1.aps	F.21 H Room	49
Sim 9 DSY 1.aps	F.5 H Room	39.7
Sim 9 DSY 1.aps	F.6 H Room	46.6
Sim 9 DSY 1.aps	F.9 H Room	45.8

Sim 9 DSY 1.aps	F.9a H Room	38.5
Sim 9 DSY 1.aps	F.14a H Room	36.9
Sim 9 DSY 1.aps	F.13a H Room	30.4
Sim 9 DSY 1.aps	F.18 H Room	48
Sim 9 DSY 1.aps	F.20 H Room	48.3
Sim 9 DSY 1.aps	F.21b H Room	46.7
Sim 9 DSY 1.aps	F.13 H Room	47.1
Sim 9 DSY 1.aps	F.14 H Room	33.7
Sim 9 DSY 1.aps	F.15 H Room	30.7
Sim 9 DSY 1.aps	S.15 H Room	60.7
Sim 9 DSY 1.aps	S.13 H Room	57.1
Sim 9 DSY 1.aps	S.21 H Room	40.1
Sim 9 DSY 1.aps	S.22 H Room	33.6
Sim 9 DSY 1.aps	S.12 H Room	51.4
Sim 9 DSY 1.aps	S.23 H Room	38
Sim 9 DSY 1.aps	S.20 H Room	40.8
Sim 9 DSY 1.aps	S.10 H Room	46.7
Sim 9 DSY 1.aps	S.5 H Room	57.3
Sim 9 DSY 1.aps	S.5a H Room	60.4
Sim 9 DSY 1.aps	S.8 H Room	58.3
Sim 9 DSY 1.aps	S.6 H Room	60.1
Sim 9 DSY 1.aps	S.19 H Room	39.2
Sim 9 DSY 1.aps	S.18 H Room	38.6
Sim 9 DSY 1.aps	S.17 H Room	39
Sim 9 DSY 1.aps	S.16 H Room	37
Sim 9 DSY 1.aps	S.29 H Room	63.6
Sim 9 DSY 1.aps	S.27 H Room	71.4
Sim 9 DSY 1.aps	S.24 H Room	71.4
Sim 9 DSY 1.aps	S.26 H Room	74.1
Sim 9 DSY 1.aps	LG.17 H Room	52.5
Sim 9 DSY 1.aps	LG.45e H room	48.1
Sim 9 DSY 1.aps	Total hours (% of sum)	30.6
Sim 11 DSY 1.aps	LG.42 Kitchen & Bar	93.2
Sim 11 DSY 1.aps	LG.40a AV room	79.1
Sim 11 DSY 1.aps	LG.40e Studio 2	24
Sim 11 DSY 1.aps	LG.40b AV room	72
Sim 11 DSY 1.aps	LG.33 Office	20.2
Sim 11 DSY 1.aps	LG.24c Staff facilities	35.9
Sim 11 DSY 1.aps	G.41 Ent Hall & G.40	34.3
Sim 11 DSY 1.aps	G.48 Cafe & Servery	68.9
Sim 11 DSY 1.aps	G.55 Function Room	64.1
Sim 11 DSY 1.aps	G.50 Retail	9.8

Sim 11 DSY 1.aps	F.50b Cinema	69.9
Sim 11 DSY 1.aps	F.50a Cinema	72
Sim 11 DSY 1.aps	F.3 Mayor's Parlour	25.3
Sim 11 DSY 1.aps	F.148a Prep Kitchen	67.5
Sim 11 DSY 1.aps	F.46 Committee Room	44
Sim 11 DSY 1.aps	F.37 Member's Room	9
Sim 11 DSY 1.aps	F.38 Office	2.9
Sim 11 DSY 1.aps	F.39 office	1.3
Sim 11 DSY 1.aps	F.40 office	3.9
Sim 11 DSY 1.aps	S.36a Lounge	72.2
Sim 11 DSY 1.aps	S.36 Office	6.6
Sim 11 DSY 1.aps	S.1 F&B Bar	64.5
Sim 11 DSY 1.aps	LG.40 Supper room	29.8
Sim 11 DSY 1.aps	G.57 Assembly Hall	34.6
Sim 11 DSY 1.aps	G.62 Stage 60 & 63	70.8
Sim 11 DSY 1.aps	LG.50 M Dressing room	45.2
Sim 11 DSY 1.aps	LG.40c Studio1	2.3
Sim 11 DSY 1.aps	LG.24a AC staff faci	32.4
Sim 11 DSY 1.aps	G.61 Green Room	46.6
Sim 11 DSY 1.aps	G.27 Office	27.9
Sim 11 DSY 1.aps	F.51 FA Dressing Room	44.9
Sim 11 DSY 1.aps	S32.Public Gallery	42.9
Sim 11 DSY 1.aps	F.33 Council Chamber	17.5
Sim 11 DSY 1.aps	Total hours (% of sum)	18.7

Appendix E – DSY2 Winter Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	21.05	21	23
LG.22c H room	Temperature (°C)	19.93	19	21
LG.22b H Room	Temperature (°C)	20.11	19	21
LG.22a H Room	Temperature (°C)	20.11	19	21
LG.22 H room	Temperature (°C)	19.9	19	21
LG.19 H Room	Temperature (°C)	20.69	19	21
LG.15 H Room	Temperature (°C)	19.91	19	21
LG.14 H Room	Temperature (°C)	19.83	19	21
LG.10a H Room	Temperature (°C)	19.7	19	21
LG.10 H Room	Temperature (°C)	20.34	19	21
LG.25 H Room	Temperature (°C)	19.56	19	21
LG.26 H room	Temperature (°C)	19.68	19	21
LG.23 H Room	Temperature (°C)	20.67	19	21
LG.37 H room	Temperature (°C)	19.38	19	21
LG.34 H room	Temperature (°C)	19.48	19	21
G.25 H room	Temperature (°C)	20.64	19	21
G.23 H Room	Temperature (°C)	20.62	19	21
G.21a H Room	Temperature (°C)	19.71	19	21
G.19 H Room	Temperature (°C)	19.57	19	21
G.3 H Room	Temperature (°C)	20.68	19	21
G.6 H Room	Temperature (°C)	20.53	19	21
G.8 H Room	Temperature (°C)	20.53	19	21
G.9 H Room	Temperature (°C)	20.68	19	21
G.14 H Room	Temperature (°C)	19.67	19	21
G.12a H Room	Temperature (°C)	20.56	19	21
G.19a H Room	Temperature (°C)	19.65	19	21
G.19a H Room	Temperature (°C)	19.85	19	21
G.21 H Room	Temperature (°C)	19.54	19	21
G.12 H Room	Temperature (°C)	19.82	19	21
G.13 H Room	Temperature (°C)	19.95	19	21
G.15 H Room	Temperature (°C)	20.76	19	21
F.27 H Room	Temperature (°C)	19.15	19	21
F.25 H Room	Temperature (°C)	19.12	19	21
F.21a H Room	Temperature (°C)	19.08	19	21
F.21 H Room	Temperature (°C)	19.28	19	21
F.5 H Room	Temperature (°C)	20.67	19	21
F.6 H Room	Temperature (°C)	20.57	19	21
F.9 H Room	Temperature (°C)	20.57	19	21
F.9a H Room	Temperature (°C)	20.71	19	21
F.14a H Room	Temperature (°C)	19.83	19	21
F.13a H Room	Temperature (°C)	20.58	19	21
F.18 H Room	Temperature (°C)	19.7	19	21
F.20 H Room	Temperature (°C)	19.93	19	21
F.21b H Room	Temperature (°C)	19.58	19	21
F.13 H Room	Temperature (°C)	19.09	19	21
F.14 H Room	Temperature (°C)	20.04	19	21
F.15 H Room	Temperature (°C)	20.81	19	21

S.15 H Room	Temperature (°C)	19.22	19	21
S.13 H Room	Temperature (°C)	19.94	19	21
S.21 H Room	Temperature (°C)	19.6	19	21
S.22 H Room	Temperature (°C)	19.89	19	21
S.12 H Room	Temperature (°C)	19.63	19	21
S.23 H Room	Temperature (°C)	20.81	19	21
S.20 H Room	Temperature (°C)	19.85	19	21
S.10 H Room	Temperature (°C)	20.66	19	21
S.5 H Room	Temperature (°C)	20.56	19	21
S.5a H Room	Temperature (°C)	20.55	19	21
S.8 H Room	Temperature (°C)	19.22	19	21
S.6 H Room	Temperature (°C)	20.57	19	21
S.19 H Room	Temperature (°C)	20.16	19	21
S.18 H Room	Temperature (°C)	20.05	19	21
S.17 H Room	Temperature (°C)	20.22	19	21
S.16 H Room	Temperature (°C)	20.32	19	21
S.29 H Room	Temperature (°C)	20.21	19	21
S.27 H Room	Temperature (°C)	20.34	19	21
S.24 H Room	Temperature (°C)	20.34	19	21
S.26 H Room	Temperature (°C)	19.85	19	21
LG.17 H Room	Temperature (°C)	19.64	19	21
LG.45e H room	Temperature (°C)	19.31	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.78	19	21
LG.40a AV room	Temperature (°C)	19.05	19	21
LG.40e Studio 2	Temperature (°C)	19.01	19	21
LG.40b AV room	Temperature (°C)	19.59	19	21
LG.33 Office	Temperature (°C)	21.63	21	23
LG.24c Staff facilities	Temperature (°C)	20.1	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.87	19	21
G.48 Cafe & Servery	Temperature (°C)	19.01	19	21
G.55 Function Room	Temperature (°C)	19.02	19	21
G.50 Retail	Temperature (°C)	19.49	19	21
F.50b Cinema	Temperature (°C)	21.12	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.08	21	24
F.148a Prep Kitchen	Temperature (°C)	15.09	15	18
F.46 Committee Room	Temperature (°C)	20.28	19	21
F.37 Member's Room	Temperature (°C)	20.2	19	21
F.38 Office	Temperature (°C)	21.24	21	23
F.39 office	Temperature (°C)	21.22	21	23
F.40 office	Temperature (°C)	21.02	21	23
S.36a Lounge	Temperature (°C)	19.4	19	21
S.36 Office	Temperature (°C)	21.09	21	23
S.1 F&B Bar	Temperature (°C)	19.05	19	21
LG.40 Supper room	Temperature (°C)	19.4	19	21
G.57 Assembly Hall	Temperature (°C)	19.18	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.96	19	21
LG.50 M Dressing room	Temperature (°C)	19.32	19	21
LG.40c Studio1	Temperature (°C)	19.05	19	21
LG.24a AC staff faci	Temperature (°C)	19.02	19	21
G.61 Green Room	Temperature (°C)	20.26	19	21
G.27 Office	Temperature (°C)	22.09	21	23

F.51 FA Dressing Room	Temperature (°C)	19.39	19	21
S32.Public Gallery	Temperature (°C)	19.75	19	21
F.33 Council Chamber	Temperature (°C)	20.05	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.78	19	21
LG.40a AV room	Temperature (°C)	19.05	19	21
LG.40e Studio 2	Temperature (°C)	19.01	19	21
LG.40b AV room	Temperature (°C)	19.59	19	21
LG.33 Office	Temperature (°C)	21.63	21	23
LG.24c Staff facilities	Temperature (°C)	20.1	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.87	19	21
G.48 Cafe & Servery	Temperature (°C)	19.01	19	21
G.55 Function Room	Temperature (°C)	19.02	19	21
G.50 Retail	Temperature (°C)	19.49	19	21
F.50b Cinema	Temperature (°C)	21.12	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.08	21	24
F.148a Prep Kitchen	Temperature (°C)	15.09	15	18
F.46 Committee Room	Temperature (°C)	20.28	19	21
F.37 Member's Room	Temperature (°C)	20.2	19	21
F.38 Office	Temperature (°C)	21.24	21	23
F.39 office	Temperature (°C)	21.22	21	23
F.40 office	Temperature (°C)	21.02	21	23
S.36a Lounge	Temperature (°C)	19.4	19	21
S.36 Office	Temperature (°C)	21.09	21	23
S.1 F&B Bar	Temperature (°C)	19.05	19	21
LG.40 Supper room	Temperature (°C)	19.4	19	21
G.57 Assembly Hall	Temperature (°C)	19.18	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.96	19	21
LG.50 M Dressing room	Temperature (°C)	19.32	19	21
LG.40c Studio1	Temperature (°C)	19.05	19	21
LG.24a AC staff faci	Temperature (°C)	19.02	19	21
G.61 Green Room	Temperature (°C)	20.26	19	21
G.27 Office	Temperature (°C)	22.09	21	23
F.51 FA Dressing Room	Temperature (°C)	19.39	19	21
S32.Public Gallery	Temperature (°C)	19.75	19	21
F.33 Council Chamber	Temperature (°C)	20.05	19	21

Appendix F – DSY2 Summer Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	22.43	22	25
LG.22c H room	Temperature (°C)	22.25	21	25
LG.22b H Room	Temperature (°C)	22.17	21	25
LG.22a H Room	Temperature (°C)	22.15	21	25
LG.22 H room	Temperature (°C)	22.19	21	25
LG.19 H Room	Temperature (°C)	21.58	21	25
LG.15 H Room	Temperature (°C)	21.66	21	25
LG.14 H Room	Temperature (°C)	21.18	21	25
LG.10a H Room	Temperature (°C)	21.37	21	25
LG.10 H Room	Temperature (°C)	21.67	21	25
LG.25 H Room	Temperature (°C)	21.43	21	25
LG.26 H room	Temperature (°C)	21.95	21	25
LG.23 H Room	Temperature (°C)	21.8	21	25
LG.37 H room	Temperature (°C)	22.79	21	25
LG.34 H room	Temperature (°C)	22.67	21	25
G.25 H room	Temperature (°C)	21.44	21	25
G.23 H Room	Temperature (°C)	21.01	21	25
G.21a H Room	Temperature (°C)	21.31	21	25
G.19 H Room	Temperature (°C)	21.51	21	25
G.3 H Room	Temperature (°C)	21.46	21	25
G.6 H Room	Temperature (°C)	21.2	21	25
G.8 H Room	Temperature (°C)	21.21	21	25
G.9 H Room	Temperature (°C)	21.55	21	25
G.14 H Room	Temperature (°C)	22.13	21	25
G.12a H Room	Temperature (°C)	21.61	21	25
G.19a H Room	Temperature (°C)	22.2	21	25
G.19a H Room	Temperature (°C)	22.21	21	25
G.21 H Room	Temperature (°C)	21.47	21	25
G.12 H Room	Temperature (°C)	21.12	21	25
G.13 H Room	Temperature (°C)	21.4	21	25
G.15 H Room	Temperature (°C)	22.24	21	25
F.27 H Room	Temperature (°C)	22.06	21	25
F.25 H Room	Temperature (°C)	21.94	21	25
F.21a H Room	Temperature (°C)	21.3	21	25
F.21 H Room	Temperature (°C)	21.73	21	25
F.5 H Room	Temperature (°C)	21.55	21	25
F.6 H Room	Temperature (°C)	21.42	21	25
F.9 H Room	Temperature (°C)	21.46	21	25
F.9a H Room	Temperature (°C)	21.82	21	25
F.14a H Room	Temperature (°C)	22.32	21	25
F.13a H Room	Temperature (°C)	21.93	21	25
F.18 H Room	Temperature (°C)	22.36	21	25
F.20 H Room	Temperature (°C)	22.47	21	25
F.21b H Room	Temperature (°C)	21.94	21	25
F.13 H Room	Temperature (°C)	21.2	21	25
F.14 H Room	Temperature (°C)	21.22	21	25
F.15 H Room	Temperature (°C)	22.33	21	25

S.15 H Room	Temperature (°C)	22.33	21	25
S.13 H Room	Temperature (°C)	22.91	21	25
S.21 H Room	Temperature (°C)	22.96	21	25
S.22 H Room	Temperature (°C)	23.16	21	25
S.12 H Room	Temperature (°C)	22.54	21	25
S.23 H Room	Temperature (°C)	24.07	21	25
S.20 H Room	Temperature (°C)	23.01	21	25
S.10 H Room	Temperature (°C)	22.38	21	25
S.5 H Room	Temperature (°C)	21.79	21	25
S.5a H Room	Temperature (°C)	21.71	21	25
S.8 H Room	Temperature (°C)	22.3	21	25
S.6 H Room	Temperature (°C)	21.85	21	25
S.19 H Room	Temperature (°C)	22.94	21	25
S.18 H Room	Temperature (°C)	22.89	21	25
S.17 H Room	Temperature (°C)	23.02	21	25
S.16 H Room	Temperature (°C)	23.04	21	25
S.29 H Room	Temperature (°C)	21.74	21	25
S.27 H Room	Temperature (°C)	21.23	21	25
S.24 H Room	Temperature (°C)	21.25	21	25
S.26 H Room	Temperature (°C)	21.06	21	25
LG.17 H Room	Temperature (°C)	21.74	21	25
LG.45e H room	Temperature (°C)	22.32	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.43	22	25
LG.40a AV room	Temperature (°C)	22.25	21	25
LG.40e Studio 2	Temperature (°C)	22.17	21	25
LG.40b AV room	Temperature (°C)	22.15	21	25
LG.33 Office	Temperature (°C)	22.19	21	25
LG.24c Staff facilities	Temperature (°C)	21.58	21	25
G.41 Ent Hall & G.40	Temperature (°C)	21.66	21	25
G.48 Cafe & Servery	Temperature (°C)	21.18	21	25
G.55 Function Room	Temperature (°C)	21.37	21	25
G.50 Retail	Temperature (°C)	21.67	21	25
F.50b Cinema	Temperature (°C)	21.43	21	25
F.50a Cinema	Temperature (°C)	21.95	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.8	21	25
F.148a Prep Kitchen	Temperature (°C)	22.79	21	25
F.46 Committee Room	Temperature (°C)	22.67	21	25
F.37 Member's Room	Temperature (°C)	21.44	21	25
F.38 Office	Temperature (°C)	21.01	21	25
F.39 office	Temperature (°C)	21.31	21	25
F.40 office	Temperature (°C)	21.51	21	25
S.36a Lounge	Temperature (°C)	21.46	21	25
S.36 Office	Temperature (°C)	21.2	21	25
S.1 F&B Bar	Temperature (°C)	21.21	21	25
LG.40 Supper room	Temperature (°C)	21.55	21	25
G.57 Assembly Hall	Temperature (°C)	22.13	21	25
G.62 Stage 60 & 63	Temperature (°C)	21.61	21	25
LG.50 M Dressing room	Temperature (°C)	22.2	21	25
LG.40c Studio1	Temperature (°C)	22.21	21	25
LG.24a AC staff faci	Temperature (°C)	21.47	21	25
G.61 Green Room	Temperature (°C)	21.12	21	25
G.27 Office	Temperature (°C)	21.4	21	25

F.51 FA Dressing Room	Temperature (°C)	22.24	21	25
S32.Public Gallery	Temperature (°C)	22.06	21	25
F.33 Council Chamber	Temperature (°C)	21.94	21	25
LG.42 Kitchen & Bar	Temperature (°C)	21.3	21	25
LG.40a AV room	Temperature (°C)	21.73	21	25
LG.40e Studio 2	Temperature (°C)	21.55	21	25
LG.40b AV room	Temperature (°C)	21.42	21	25
LG.33 Office	Temperature (°C)	21.46	21	25
LG.24c Staff facilities	Temperature (°C)	21.82	21	25
G.41 Ent Hall & G.40	Temperature (°C)	22.32	21	25
G.48 Cafe & Servery	Temperature (°C)	21.93	21	25
G.55 Function Room	Temperature (°C)	22.36	21	25
G.50 Retail	Temperature (°C)	22.47	21	25
F.50b Cinema	Temperature (°C)	21.94	21	25
F.50a Cinema	Temperature (°C)	21.2	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.22	21	25
F.148a Prep Kitchen	Temperature (°C)	22.33	21	25
F.46 Committee Room	Temperature (°C)	22.33	21	25
F.37 Member's Room	Temperature (°C)	22.91	21	25
F.38 Office	Temperature (°C)	22.96	21	25
F.39 office	Temperature (°C)	23.16	21	25
F.40 office	Temperature (°C)	22.54	21	25
S.36a Lounge	Temperature (°C)	24.07	21	25
S.36 Office	Temperature (°C)	23.01	21	25
S.1 F&B Bar	Temperature (°C)	22.38	21	25
LG.40 Supper room	Temperature (°C)	21.79	21	25
G.57 Assembly Hall	Temperature (°C)	21.71	21	25
G.62 Stage 60 & 63	Temperature (°C)	22.3	21	25
LG.50 M Dressing room	Temperature (°C)	21.85	21	25
LG.40c Studio1	Temperature (°C)	22.94	21	25
LG.24a AC staff faci	Temperature (°C)	22.89	21	25
G.61 Green Room	Temperature (°C)	23.02	21	25
G.27 Office	Temperature (°C)	23.04	21	25
F.51 FA Dressing Room	Temperature (°C)	21.74	21	25
S32.Public Gallery	Temperature (°C)	21.23	21	25
F.33 Council Chamber	Temperature (°C)	21.25	21	25

Appendix G – DSY2 Predicted Mean Vote (PMV)

	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range
Location	<= -0.50	>-0.50 to <=-0.25	>-0.25 to <=0.00	>0.00 to <=0.25	>0.25 to <=0.50	> 0.50
LG.22c H room	50.3	8.4	8.4	28.2	4.7	0
LG.22b H Room	50.6	8.4	8.2	28	4.8	0
LG.22a H Room	49.9	7.9	9	28.2	5	0
LG.22 H room	47.3	7.2	10.5	29.2	5.9	0
LG.19 H Room	54.3	10	6.1	24	5.5	0
LG.15 H Room	57.3	6.5	7.3	24.5	4.4	0
LG.14 H Room	45.1	6	10.8	30.2	7.5	0.3
LG.10a H Room	48.5	6.6	8.9	24.6	10	1.4
LG.10 H Room	42.1	10.9	9.7	24.5	11	1.8
LG.25 H Room	38.8	5.5	11.1	32.1	10.1	2.3
LG.26 H room	40.3	6.6	11.7	32	8.4	1
LG.23 H Room	35.5	13.5	11.4	30.3	8.8	0.5
LG.37 H room	63.4	3.6	4.8	23.7	4.5	0
LG.34 H room	62.3	4.5	4	25	4.2	0
G.25 H room	46	11	9.9	27.5	5.5	0
G.23 H Room	44.5	15.5	32	7.3	0.6	0.1
G.21a H Room	49.4	6	6.9	10.1	24.5	3.2
G.19 H Room	48.8	6.3	9.7	23.4	8.2	3.7
G.3 H Room	48.4	12.5	7.9	27.8	3.4	0
G.6 H Room	54.4	9.3	7.9	25.3	3.1	0
G.8 H Room	53.5	9.7	8	25.6	3.1	0
G.9 H Room	42.9	13.2	10.1	29.2	4.5	0
G.14 H Room	34.8	6.6	11.3	31.2	12.2	3.9
G.12a H Room	34	12.9	11.4	34.4	7.1	0.2
G.19a H Room	46.6	5.5	10	24.6	9.9	3.4
G.19a H Room	48.1	6	10.2	23.9	7.9	3.8
G.21 H Room	49.9	7	10.4	28.3	4.1	0.2
G.12 H Room	37.6	10.5	4.7	7.8	10.6	28.8
G.13 H Room	33.1	9.5	5.1	13.9	29.2	9.2
G.15 H Room	30.2	10.9	10.4	30.1	13.9	4.5
F.27 H Room	47.7	6.2	9.2	25.8	10.8	0.3
F.25 H Room	48.5	6.4	9.8	27.4	7.7	0.2
F.21a H Room	48.3	6.1	9.2	28	7.9	0.4
F.21 H Room	46.6	5.7	10.2	23.8	9.4	4.3
F.5 H Room	45.1	14.9	7.3	27.1	5.6	0
F.6 H Room	52.4	10.8	6.8	24.8	5.3	0
F.9 H Room	51.6	11	6.8	25.2	5.3	0
F.9a H Room	40.3	14.7	9.6	28.3	7.1	0
F.14a H Room	30	9.1	10.9	31.2	13.6	5.2
F.13a H Room	31.2	13.9	9.9	33.7	11	0.4
F.18 H Room	45.5	5.3	10.3	24.2	11	3.7
F.20 H Room	45.1	5.8	10.8	24.5	9.5	4.4
F.21b H Room	48.7	6.3	10.1	27.3	7.3	0.3

F.13 H Room	41.2	5.4	5.1	11	30	7.4
F.14 H Room	30.2	11.4	10.4	31.7	12.7	3.6
F.15 H Room	24.6	15.1	10.5	30.3	14.8	4.7
S.15 H Room	59.5	4.3	6.8	16.1	10	3.3
S.13 H Room	57.7	4.9	8	18.1	9.5	1.9
S.21 H Room	39.2	5.3	7.2	33.4	13.5	1.4
S.22 H Room	34.2	7.5	10.8	32.4	13.6	1.5
S.12 H Room	52.9	4.5	6.8	19.9	14	1.9
S.23 H Room	13.9	10.4	10	12.2	31.8	21.7
S.20 H Room	40.7	5.8	8.7	31.1	12.7	1
S.10 H Room	48.8	8.4	7.4	19.7	13.8	1.9
S.5 H Room	59.2	6.4	7.1	16.4	9.7	1.3
S.5a H Room	62.2	6.3	7.4	14.6	8.3	1.1
S.8 H Room	59.3	4.6	7.5	17.5	10	1.2
S.6 H Room	61.7	6.5	7.5	14.6	8.5	1.2
S.19 H Room	40.8	5.8	8	31.2	13.7	0.6
S.18 H Room	40.2	4.8	7.2	33	14	0.8
S.17 H Room	35.1	6.7	8.8	30.8	14.6	3.9
S.16 H Room	31.9	8.9	9.8	30.8	14.7	3.9
S.29 H Room	42.1	15.3	5.9	3.4	11.7	21.4
S.27 H Room	45.8	13.2	5.1	3	4.1	28.9
S.24 H Room	38.8	14.9	6.9	5	3.5	30.9
S.26 H Room	45.5	9.4	5.1	4.6	6	29.4
LG.17 H Room	56.2	6.5	8.3	24.2	4.7	0.1
LG.45e H room	48.2	5.5	10.7	28.8	6.8	0
Total hours (% of sum)	27.3	5.1	5.5	14.5	6.2	4.3
LG.42 Kitchen & Bar	92.4	7.6	0	0	0	0
LG.40a AV room	80.2	17.7	2.2	0	0	0
LG.40e Studio 2	0	2.3	7	25.4	46.5	18.8
LG.40b AV room	72.4	21.7	5.7	0.3	0	0
LG.33 Office	20.3	18.1	15.3	38.4	7.9	0
LG.24c Staff facilities	0	15	36.6	10.4	4.9	33.2
G.41 Ent Hall & G.40	1.2	47.2	8.2	7.3	4.5	31.6
G.48 Cafe & Servery	69.4	21.1	8.7	0.8	0	0
G.55 Function Room	67.1	25.1	7.8	0	0	0
G.50 Retail	10.9	34	10.7	20.3	21.6	2.5
F.50b Cinema	71.3	25.2	3.5	0	0	0
F.50a Cinema	72.8	23.9	3.2	0	0	0
F.3 Mayor's Parlour	25.5	24.6	13.3	21	14	1.7
F.148a Prep Kitchen	35.4	11	8.2	6.6	7.4	31.4
F.46 Committee Room	41.5	16	10.4	17.6	10.3	4.3
F.37 Member's Room	11.6	25.6	20.7	30.9	10.7	0.6
F.38 Office	5.7	33	31.5	28.2	1.6	0
F.39 office	3	33.1	34.5	28.3	1.1	0
F.40 office	7.6	34.7	27	28.3	2.4	0
S.36a Lounge	40.7	10.5	5.9	5.5	5.5	31.9
S.36 Office	2.9	31	22.5	16.9	22.6	4.2
S.1 F&B Bar	66.5	11.8	15.8	4.5	1.4	0
LG.40 Supper room	8.9	47.4	8.3	4.9	6.3	24.3
G.57 Assembly Hall	0.4	27.4	27	6.5	5.7	33
G.62 Stage 60 & 63	71.3	16.6	10.2	2	0	0
LG.50 M Dressing room	1.4	25.3	20.7	5.2	7	40.5

LG.40c Studio1	0	10.1	23.7	38.3	25.2	2.8
LG.24a AC staff faci	0	30	29.5	6.4	3.2	31
G.61 Green Room	47	4.2	12.6	18.4	15.2	2.7
G.27 Office	3.8	18.6	21.2	13.4	25.4	17.6
F.51 FA Dressing Room	1	20.5	23.2	6.6	7.5	41.1
S32.Public Gallery	31.2	8.1	6.8	19.1	26.8	8.1
F.33 Council Chamber	19.5	29.8	14.3	29.5	7	0
Total hours (% of sum)	12.6	10.4	7	5.8	3.6	6.2
LG.42 Kitchen & Bar	92.4	7.6	0	0	0	0
LG.40a AV room	80.2	17.7	2.2	0	0	0
LG.40e Studio 2	0	2.3	7	25.4	46.5	18.8
LG.40b AV room	72.4	21.7	5.7	0.3	0	0
LG.33 Office	20.3	18.1	15.3	38.4	7.9	0
LG.24c Staff facilities	0	15	36.6	10.4	4.9	33.2
G.41 Ent Hall & G.40	1.2	47.2	8.2	7.3	4.5	31.6
G.48 Cafe & Servery	69.4	21.1	8.7	0.8	0	0
G.55 Function Room	67.1	25.1	7.8	0	0	0
G.50 Retail	10.9	34	10.7	20.3	21.6	2.5
F.50b Cinema	71.3	25.2	3.5	0	0	0
F.50a Cinema	72.8	23.9	3.2	0	0	0
F.3 Mayor's Parlour	25.5	24.6	13.3	21	14	1.7
F.148a Prep Kitchen	35.4	11	8.2	6.6	7.4	31.4
F.46 Committee Room	41.5	16	10.4	17.6	10.3	4.3
F.37 Member's Room	11.6	25.6	20.7	30.9	10.7	0.6
F.38 Office	5.7	33	31.5	28.2	1.6	0
F.39 office	3	33.1	34.5	28.3	1.1	0
F.40 office	7.6	34.7	27	28.3	2.4	0
S.36a Lounge	40.7	10.5	5.9	5.5	5.5	31.9
S.36 Office	2.9	31	22.5	16.9	22.6	4.2
S.1 F&B Bar	66.5	11.8	15.8	4.5	1.4	0
LG.40 Supper room	8.9	47.4	8.3	4.9	6.3	24.3
G.57 Assembly Hall	0.4	27.4	27	6.5	5.7	33
G.62 Stage 60 & 63	71.3	16.6	10.2	2	0	0
LG.50 M Dressing room	1.4	25.3	20.7	5.2	7	40.5
LG.40c Studio1	0	10.1	23.7	38.3	25.2	2.8
LG.24a AC staff faci	0	30	29.5	6.4	3.2	31
G.61 Green Room	47	4.2	12.6	18.4	15.2	2.7
G.27 Office	3.8	18.6	21.2	13.4	25.4	17.6
F.51 FA Dressing Room	1	20.5	23.2	6.6	7.5	41.1
S32.Public Gallery	31.2	8.1	6.8	19.1	26.8	8.1
F.33 Council Chamber	19.5	29.8	14.3	29.5	7	0
Total hours (% of sum)	12.6	10.4	7	5.8	3.6	6.2

Appendix H – DSY1 People Dissastified

File	Location	People dissatisfied (%) - % hours in range
		> 10.00
Sim 9 DSY 2.aps	LG.22c H room	50.5
Sim 9 DSY 2.aps	LG.22b H Room	50.6
Sim 9 DSY 2.aps	LG.22a H Room	50.2
Sim 9 DSY 2.aps	LG.22 H room	47.4
Sim 9 DSY 2.aps	LG.19 H Room	54.8
Sim 9 DSY 2.aps	LG.15 H Room	57.3
Sim 9 DSY 2.aps	LG.14 H Room	45.7
Sim 9 DSY 2.aps	LG.10a H Room	50.3
Sim 9 DSY 2.aps	LG.10 H Room	44.9
Sim 9 DSY 2.aps	LG.25 H Room	41.4
Sim 9 DSY 2.aps	LG.26 H room	41.5
Sim 9 DSY 2.aps	LG.23 H Room	37
Sim 9 DSY 2.aps	LG.37 H room	63.5
Sim 9 DSY 2.aps	LG.34 H room	62.5
Sim 9 DSY 2.aps	G.25 H room	46.8
Sim 9 DSY 2.aps	G.23 H Room	45.3
Sim 9 DSY 2.aps	G.21a H Room	53
Sim 9 DSY 2.aps	G.19 H Room	53
Sim 9 DSY 2.aps	G.3 H Room	49
Sim 9 DSY 2.aps	G.6 H Room	54.9
Sim 9 DSY 2.aps	G.8 H Room	54.1
Sim 9 DSY 2.aps	G.9 H Room	43.7
Sim 9 DSY 2.aps	G.14 H Room	39.3
Sim 9 DSY 2.aps	G.12a H Room	35.4
Sim 9 DSY 2.aps	G.19a H Room	50.5
Sim 9 DSY 2.aps	G.19a H Room	52.4
Sim 9 DSY 2.aps	G.21 H Room	50.2
Sim 9 DSY 2.aps	G.12 H Room	68.2
Sim 9 DSY 2.aps	G.13 H Room	44.3
Sim 9 DSY 2.aps	G.15 H Room	36
Sim 9 DSY 2.aps	F.27 H Room	48.3
Sim 9 DSY 2.aps	F.25 H Room	48.9
Sim 9 DSY 2.aps	F.21a H Room	48.9
Sim 9 DSY 2.aps	F.21 H Room	51.3
Sim 9 DSY 2.aps	F.5 H Room	46.1
Sim 9 DSY 2.aps	F.6 H Room	53.1
Sim 9 DSY 2.aps	F.9 H Room	52.3

Sim 9 DSY 2.aps	F.9a H Room	41.3
Sim 9 DSY 2.aps	F.14a H Room	36
Sim 9 DSY 2.aps	F.13a H Room	32.6
Sim 9 DSY 2.aps	F.18 H Room	49.7
Sim 9 DSY 2.aps	F.20 H Room	50.1
Sim 9 DSY 2.aps	F.21b H Room	49.1
Sim 9 DSY 2.aps	F.13 H Room	50.2
Sim 9 DSY 2.aps	F.14 H Room	35
Sim 9 DSY 2.aps	F.15 H Room	30.8
Sim 9 DSY 2.aps	S.15 H Room	63.2
Sim 9 DSY 2.aps	S.13 H Room	60
Sim 9 DSY 2.aps	S.21 H Room	40.8
Sim 9 DSY 2.aps	S.22 H Room	36.2
Sim 9 DSY 2.aps	S.12 H Room	55.2
Sim 9 DSY 2.aps	S.23 H Room	38.1
Sim 9 DSY 2.aps	S.20 H Room	41.8
Sim 9 DSY 2.aps	S.10 H Room	51.4
Sim 9 DSY 2.aps	S.5 H Room	60.9
Sim 9 DSY 2.aps	S.5a H Room	63.7
Sim 9 DSY 2.aps	S.8 H Room	60.8
Sim 9 DSY 2.aps	S.6 H Room	63.3
Sim 9 DSY 2.aps	S.19 H Room	41.6
Sim 9 DSY 2.aps	S.18 H Room	41.3
Sim 9 DSY 2.aps	S.17 H Room	39.6
Sim 9 DSY 2.aps	S.16 H Room	36.4
Sim 9 DSY 2.aps	S.29 H Room	67.1
Sim 9 DSY 2.aps	S.27 H Room	75.9
Sim 9 DSY 2.aps	S.24 H Room	71.3
Sim 9 DSY 2.aps	S.26 H Room	76.2
Sim 9 DSY 2.aps	LG.17 H Room	56.4
Sim 9 DSY 2.aps	LG.45e H room	48.3
Sim 9 DSY 2.aps	Total hours (% of sum)	31.9
Sim 11 DSY 2.aps	LG.42 Kitchen & Bar	92.7
Sim 11 DSY 2.aps	LG.40a AV room	80.7
Sim 11 DSY 2.aps	LG.40e Studio 2	20.9
Sim 11 DSY 2.aps	LG.40b AV room	72.6
Sim 11 DSY 2.aps	LG.33 Office	20.6
Sim 11 DSY 2.aps	LG.24c Staff facilities	33.3
Sim 11 DSY 2.aps	G.41 Ent Hall & G.40	33.4
Sim 11 DSY 2.aps	G.48 Cafe & Servery	69.8
Sim 11 DSY 2.aps	G.55 Function Room	67.5
Sim 11 DSY 2.aps	G.50 Retail	15

Sim 11 DSY 2.aps	F.50b Cinema	71.9
Sim 11 DSY 2.aps	F.50a Cinema	73.2
Sim 11 DSY 2.aps	F.3 Mayor's Parlour	29.1
Sim 11 DSY 2.aps	F.148a Prep Kitchen	67.9
Sim 11 DSY 2.aps	F.46 Committee Room	46.8
Sim 11 DSY 2.aps	F.37 Member's Room	12.9
Sim 11 DSY 2.aps	F.38 Office	6.4
Sim 11 DSY 2.aps	F.39 office	3.7
Sim 11 DSY 2.aps	F.40 office	8.3
Sim 11 DSY 2.aps	S.36a Lounge	73.7
Sim 11 DSY 2.aps	S.36 Office	8.2
Sim 11 DSY 2.aps	S.1 F&B Bar	66.9
Sim 11 DSY 2.aps	LG.40 Supper room	34.1
Sim 11 DSY 2.aps	G.57 Assembly Hall	33.8
Sim 11 DSY 2.aps	G.62 Stage 60 & 63	71.4
Sim 11 DSY 2.aps	LG.50 M Dressing room	42.4
Sim 11 DSY 2.aps	LG.40c Studio1	3
Sim 11 DSY 2.aps	LG.24a AC staff faci	31.2
Sim 11 DSY 2.aps	G.61 Green Room	50.2
Sim 11 DSY 2.aps	G.27 Office	23.9
Sim 11 DSY 2.aps	F.51 FA Dressing Room	42.5
Sim 11 DSY 2.aps	S32.Public Gallery	41.5
Sim 11 DSY 2.aps	F.33 Council Chamber	20.4
Sim 11 DSY 2.aps	Total hours (% of sum)	19.1

Appendix I – DSY3 Winter Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	21.04	21	23
LG.22c H room	Temperature (°C)	19.81	19	21
LG.22b H Room	Temperature (°C)	20.03	19	21
LG.22a H Room	Temperature (°C)	20.03	19	21
LG.22 H room	Temperature (°C)	19.78	19	21
LG.19 H Room	Temperature (°C)	20.6	19	21
LG.15 H Room	Temperature (°C)	19.78	19	21
LG.14 H Room	Temperature (°C)	19.57	19	21
LG.10a H Room	Temperature (°C)	19.42	19	21
LG.10 H Room	Temperature (°C)	20.2	19	21
LG.25 H Room	Temperature (°C)	19.28	19	21
LG.26 H room	Temperature (°C)	19.51	19	21
LG.23 H Room	Temperature (°C)	20.61	19	21
LG.37 H room	Temperature (°C)	19.23	19	21
LG.34 H room	Temperature (°C)	19.32	19	21
G.25 H room	Temperature (°C)	20.52	19	21
G.23 H Room	Temperature (°C)	20.52	19	21
G.21a H Room	Temperature (°C)	19.44	19	21
G.19 H Room	Temperature (°C)	19.25	19	21
G.3 H Room	Temperature (°C)	20.64	19	21
G.6 H Room	Temperature (°C)	20.49	19	21
G.8 H Room	Temperature (°C)	20.48	19	21
G.9 H Room	Temperature (°C)	20.64	19	21
G.14 H Room	Temperature (°C)	19.47	19	21
G.12a H Room	Temperature (°C)	20.52	19	21
G.19a H Room	Temperature (°C)	19.43	19	21
G.19a H Room	Temperature (°C)	19.61	19	21
G.21 H Room	Temperature (°C)	19.36	19	21
G.12 H Room	Temperature (°C)	19.74	19	21
G.13 H Room	Temperature (°C)	19.82	19	21
G.15 H Room	Temperature (°C)	20.61	19	21
F.27 H Room	Temperature (°C)	19.2	19	21
F.25 H Room	Temperature (°C)	19.24	19	21
F.21a H Room	Temperature (°C)	19.87	19	21
F.21 H Room	Temperature (°C)	19.04	19	21
F.5 H Room	Temperature (°C)	20.63	19	21
F.6 H Room	Temperature (°C)	20.53	19	21
F.9 H Room	Temperature (°C)	20.53	19	21
F.9a H Room	Temperature (°C)	20.67	19	21
F.14a H Room	Temperature (°C)	19.6	19	21
F.13a H Room	Temperature (°C)	20.54	19	21
F.18 H Room	Temperature (°C)	19.48	19	21
F.20 H Room	Temperature (°C)	19.67	19	21
F.21b H Room	Temperature (°C)	19.38	19	21
F.13 H Room	Temperature (°C)	19.04	19	21
F.14 H Room	Temperature (°C)	19.91	19	21
F.15 H Room	Temperature (°C)	20.67	19	21

S.15 H Room	Temperature (°C)	19.63	19	21
S.13 H Room	Temperature (°C)	19.57	19	21
S.21 H Room	Temperature (°C)	19.14	19	21
S.22 H Room	Temperature (°C)	19.6	19	21
S.12 H Room	Temperature (°C)	19.41	19	21
S.23 H Room	Temperature (°C)	19.08	19	21
S.20 H Room	Temperature (°C)	19.43	19	21
S.10 H Room	Temperature (°C)	20.52	19	21
S.5 H Room	Temperature (°C)	20.49	19	21
S.5a H Room	Temperature (°C)	20.48	19	21
S.8 H Room	Temperature (°C)	19.07	19	21
S.6 H Room	Temperature (°C)	20.49	19	21
S.19 H Room	Temperature (°C)	19.86	19	21
S.18 H Room	Temperature (°C)	19.76	19	21
S.17 H Room	Temperature (°C)	19.82	19	21
S.16 H Room	Temperature (°C)	19.96	19	21
S.29 H Room	Temperature (°C)	20.16	19	21
S.27 H Room	Temperature (°C)	20.29	19	21
S.24 H Room	Temperature (°C)	20.3	19	21
S.26 H Room	Temperature (°C)	19.65	19	21
LG.17 H Room	Temperature (°C)	19.45	19	21
LG.45e H room	Temperature (°C)	19.16	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.45	19	21
LG.40a AV room	Temperature (°C)	19.04	19	21
LG.40e Studio 2	Temperature (°C)	19.12	19	21
LG.40b AV room	Temperature (°C)	19.41	19	21
LG.33 Office	Temperature (°C)	21.08	21	23
LG.24c Staff facilities	Temperature (°C)	19.95	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.79	19	21
G.48 Cafe & Servery	Temperature (°C)	19.06	19	21
G.55 Function Room	Temperature (°C)	19.16	19	21
G.50 Retail	Temperature (°C)	19.35	19	21
F.50b Cinema	Temperature (°C)	21.02	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.05	21	24
F.148a Prep Kitchen	Temperature (°C)	15.01	15	18
F.46 Committee Room	Temperature (°C)	20.16	19	21
F.37 Member's Room	Temperature (°C)	20.05	19	21
F.38 Office	Temperature (°C)	21.15	21	23
F.39 office	Temperature (°C)	21.14	21	23
F.40 office	Temperature (°C)	21.05	21	23
S.36a Lounge	Temperature (°C)	19.17	19	21
S.36 Office	Temperature (°C)	21.3	21	23
S.1 F&B Bar	Temperature (°C)	19	19	21
LG.40 Supper room	Temperature (°C)	19.27	19	21
G.57 Assembly Hall	Temperature (°C)	19	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.82	19	21
LG.50 M Dressing room	Temperature (°C)	19.11	19	21
LG.40c Studio1	Temperature (°C)	19.03	19	21
LG.24a AC staff faci	Temperature (°C)	19.07	19	21
G.61 Green Room	Temperature (°C)	20.09	19	21
G.27 Office	Temperature (°C)	21.85	21	23

F.51 FA Dressing Room	Temperature (°C)	19.17	19	21
S32.Public Gallery	Temperature (°C)	19.61	19	21
F.33 Council Chamber	Temperature (°C)	19.87	19	21
LG.42 Kitchen & Bar	Temperature (°C)	19.45	19	21
LG.40a AV room	Temperature (°C)	19.04	19	21
LG.40e Studio 2	Temperature (°C)	19.12	19	21
LG.40b AV room	Temperature (°C)	19.41	19	21
LG.33 Office	Temperature (°C)	21.08	21	23
LG.24c Staff facilities	Temperature (°C)	19.95	19	21
G.41 Ent Hall & G.40	Temperature (°C)	19.79	19	21
G.48 Cafe & Servery	Temperature (°C)	19.06	19	21
G.55 Function Room	Temperature (°C)	19.16	19	21
G.50 Retail	Temperature (°C)	19.35	19	21
F.50b Cinema	Temperature (°C)	21.02	21	23
F.50a Cinema	Temperature (°C)	21.01	21	23
F.3 Mayor's Parlour	Temperature (°C)	21.05	21	24
F.148a Prep Kitchen	Temperature (°C)	15.01	15	18
F.46 Committee Room	Temperature (°C)	20.16	19	21
F.37 Member's Room	Temperature (°C)	20.05	19	21
F.38 Office	Temperature (°C)	21.15	21	23
F.39 office	Temperature (°C)	21.14	21	23
F.40 office	Temperature (°C)	21.05	21	23
S.36a Lounge	Temperature (°C)	19.17	19	21
S.36 Office	Temperature (°C)	21.3	21	23
S.1 F&B Bar	Temperature (°C)	19	19	21
LG.40 Supper room	Temperature (°C)	19.27	19	21
G.57 Assembly Hall	Temperature (°C)	19	19	21
G.62 Stage 60 & 63	Temperature (°C)	19.82	19	21
LG.50 M Dressing room	Temperature (°C)	19.11	19	21
LG.40c Studio1	Temperature (°C)	19.03	19	21
LG.24a AC staff faci	Temperature (°C)	19.07	19	21
G.61 Green Room	Temperature (°C)	20.09	19	21
G.27 Office	Temperature (°C)	21.85	21	23
F.51 FA Dressing Room	Temperature (°C)	19.17	19	21
S32.Public Gallery	Temperature (°C)	19.61	19	21
F.33 Council Chamber	Temperature (°C)	19.87	19	21

Appendix J – DSY3 Summer Average Operative Temperatures

Location	Type	Mean	Target Range	
LG.5a Security	Temperature (°C)	22.24	22	25
LG.22c H room	Temperature (°C)	22.04	21	25
LG.22b H Room	Temperature (°C)	21.97	21	25
LG.22a H Room	Temperature (°C)	21.96	21	25
LG.22 H room	Temperature (°C)	21.98	21	25
LG.19 H Room	Temperature (°C)	21.36	21	25
LG.15 H Room	Temperature (°C)	21.45	21	25
LG.14 H Room	Temperature (°C)	21.02	21	25
LG.10a H Room	Temperature (°C)	21.22	21	25
LG.10 H Room	Temperature (°C)	21.49	21	25
LG.25 H Room	Temperature (°C)	21.27	21	25
LG.26 H room	Temperature (°C)	21.76	21	25
LG.23 H Room	Temperature (°C)	21.59	21	25
LG.37 H room	Temperature (°C)	22.56	21	25
LG.34 H room	Temperature (°C)	22.43	21	25
G.25 H room	Temperature (°C)	21.23	21	25
G.23 H Room	Temperature (°C)	20.79	21	25
G.21a H Room	Temperature (°C)	21.15	21	25
G.19 H Room	Temperature (°C)	21.38	21	25
G.3 H Room	Temperature (°C)	21.22	21	25
G.6 H Room	Temperature (°C)	20.95	21	25
G.8 H Room	Temperature (°C)	20.97	21	25
G.9 H Room	Temperature (°C)	21.31	21	25
G.14 H Room	Temperature (°C)	21.97	21	25
G.12a H Room	Temperature (°C)	21.35	21	25
G.19a H Room	Temperature (°C)	22.05	21	25
G.19a H Room	Temperature (°C)	22.07	21	25
G.21 H Room	Temperature (°C)	21.28	21	25
G.12 H Room	Temperature (°C)	20.86	21	25
G.13 H Room	Temperature (°C)	21.2	21	25
G.15 H Room	Temperature (°C)	22.08	21	25
F.27 H Room	Temperature (°C)	21.88	21	25
F.25 H Room	Temperature (°C)	21.76	21	25
F.21a H Room	Temperature (°C)	21.15	21	25
F.21 H Room	Temperature (°C)	21.61	21	25
F.5 H Room	Temperature (°C)	21.32	21	25
F.6 H Room	Temperature (°C)	21.18	21	25
F.9 H Room	Temperature (°C)	21.23	21	25
F.9a H Room	Temperature (°C)	21.6	21	25
F.14a H Room	Temperature (°C)	22.18	21	25
F.13a H Room	Temperature (°C)	21.7	21	25
F.18 H Room	Temperature (°C)	22.22	21	25
F.20 H Room	Temperature (°C)	22.36	21	25
F.21b H Room	Temperature (°C)	21.76	21	25
F.13 H Room	Temperature (°C)	20.96	21	25
F.14 H Room	Temperature (°C)	21.04	21	25
F.15 H Room	Temperature (°C)	22.18	21	25

S.15 H Room	Temperature (°C)	22.18	21	25
S.13 H Room	Temperature (°C)	22.8	21	25
S.21 H Room	Temperature (°C)	22.87	21	25
S.22 H Room	Temperature (°C)	23.11	21	25
S.12 H Room	Temperature (°C)	22.41	21	25
S.23 H Room	Temperature (°C)	24.03	21	25
S.20 H Room	Temperature (°C)	22.93	21	25
S.10 H Room	Temperature (°C)	22.22	21	25
S.5 H Room	Temperature (°C)	21.58	21	25
S.5a H Room	Temperature (°C)	21.5	21	25
S.8 H Room	Temperature (°C)	22.11	21	25
S.6 H Room	Temperature (°C)	21.64	21	25
S.19 H Room	Temperature (°C)	22.82	21	25
S.18 H Room	Temperature (°C)	22.77	21	25
S.17 H Room	Temperature (°C)	22.93	21	25
S.16 H Room	Temperature (°C)	22.95	21	25
S.29 H Room	Temperature (°C)	20.56	21	25
S.27 H Room	Temperature (°C)	20.93	21	25
S.24 H Room	Temperature (°C)	20.96	21	25
S.26 H Room	Temperature (°C)	20.84	21	25
LG.17 H Room	Temperature (°C)	21.55	21	25
LG.45e H room	Temperature (°C)	22.1	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.24	22	25
LG.40a AV room	Temperature (°C)	22.04	21	25
LG.40e Studio 2	Temperature (°C)	21.97	21	25
LG.40b AV room	Temperature (°C)	21.96	21	25
LG.33 Office	Temperature (°C)	21.98	21	25
LG.24c Staff facilities	Temperature (°C)	21.36	21	25
G.41 Ent Hall & G.40	Temperature (°C)	21.45	21	25
G.48 Cafe & Servery	Temperature (°C)	21.02	21	25
G.55 Function Room	Temperature (°C)	21.22	21	25
G.50 Retail	Temperature (°C)	21.49	21	25
F.50b Cinema	Temperature (°C)	21.27	21	25
F.50a Cinema	Temperature (°C)	21.76	21	25
F.3 Mayor's Parlour	Temperature (°C)	21.59	21	25
F.148a Prep Kitchen	Temperature (°C)	22.56	21	25
F.46 Committee Room	Temperature (°C)	22.43	21	25
F.37 Member's Room	Temperature (°C)	21.23	21	25
F.38 Office	Temperature (°C)	20.79	21	25
F.39 office	Temperature (°C)	21.15	21	25
F.40 office	Temperature (°C)	21.38	21	25
S.36a Lounge	Temperature (°C)	21.22	21	25
S.36 Office	Temperature (°C)	20.95	21	25
S.1 F&B Bar	Temperature (°C)	20.97	21	25
LG.40 Supper room	Temperature (°C)	21.31	21	25
G.57 Assembly Hall	Temperature (°C)	21.97	21	25
G.62 Stage 60 & 63	Temperature (°C)	21.35	21	25
LG.50 M Dressing room	Temperature (°C)	22.05	21	25
LG.40c Studio1	Temperature (°C)	22.07	21	25
LG.24a AC staff faci	Temperature (°C)	21.28	21	25
G.61 Green Room	Temperature (°C)	20.86	21	25
G.27 Office	Temperature (°C)	21.2	21	25

F.51 FA Dressing Room	Temperature (°C)	22.08	21	25
S32.Public Gallery	Temperature (°C)	21.88	21	25
F.33 Council Chamber	Temperature (°C)	21.76	21	25
LG.42 Kitchen & Bar	Temperature (°C)	22.22	21	25
LG.40a AV room	Temperature (°C)	21.71	21	25
LG.40e Studio 2	Temperature (°C)	22.75	21	25
LG.40b AV room	Temperature (°C)	22.55	21	25
LG.33 Office	Temperature (°C)	22.74	22	25
LG.24c Staff facilities	Temperature (°C)	23.94	21	25
G.41 Ent Hall & G.40	Temperature (°C)	24.75	21	25
G.48 Cafe & Servery	Temperature (°C)	21.87	21	25
G.55 Function Room	Temperature (°C)	22.17	21	25
G.50 Retail	Temperature (°C)	21.98	21	25
F.50b Cinema	Temperature (°C)	22.59	22	25
F.50a Cinema	Temperature (°C)	22.37	22	25
F.3 Mayor's Parlour	Temperature (°C)	22.87	22	25
F.148a Prep Kitchen	Temperature (°C)	20.5	18	25
F.46 Committee Room	Temperature (°C)	22.51	21	25
F.37 Member's Room	Temperature (°C)	22.49	21	25
F.38 Office	Temperature (°C)	22.52	22	25
F.39 office	Temperature (°C)	22.5	22	25
F.40 office	Temperature (°C)	22.49	22	25
S.36a Lounge	Temperature (°C)	25.44	21	25
S.36 Office	Temperature (°C)	23.28	22	25
S.1 F&B Bar	Temperature (°C)	22.23	21	25
LG.40 Supper room	Temperature (°C)	23.59	21	25
G.57 Assembly Hall	Temperature (°C)	24.09	21	25
G.62 Stage 60 & 63	Temperature (°C)	22.37	21	25
LG.50 M Dressing room	Temperature (°C)	24.66	21	25
LG.40c Studio1	Temperature (°C)	21.64	21	25
LG.24a AC staff faci	Temperature (°C)	23.31	21	25
G.61 Green Room	Temperature (°C)	21.64	21	25
G.27 Office	Temperature (°C)	21.86	22	25
F.51 FA Dressing Room	Temperature (°C)	24.12	21	25
S32.Public Gallery	Temperature (°C)	22.4	21	25
F.33 Council Chamber	Temperature (°C)	22.63	21	25

Appendix K - DSY3 Predicted Mean Vote (PMV)

	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range	Occupied PMV - % hours in range
Location	<= -0.50	>-0.50 to <=-0.25	>-0.25 to <=0.00	>0.00 to <=0.25	>0.25 to <=0.50	> 0.50
LG.22c H room	53.8	3.5	6.9	30.9	4.9	0
LG.22b H Room	53.9	3.6	6.9	30.6	4.9	0
LG.22a H Room	53.6	3.4	7	30.8	5.1	0
LG.22 H room	51.8	3.9	6.3	32	5.6	0.5
LG.19 H Room	54.2	8.4	7.3	25.2	4.9	0
LG.15 H Room	57.5	4.9	7.8	26.1	3.5	0.1
LG.14 H Room	48.8	5.2	6.4	31.8	6	1.9
LG.10a H Room	51.7	3.7	6.9	26.3	10.2	1.3
LG.10 H Room	45.5	8.7	6.8	26.2	10.8	2
LG.25 H Room	44.1	4.6	7	33.2	7.2	4
LG.26 H room	46.4	4.2	7.5	33.4	5.3	3.3
LG.23 H Room	41.9	10.3	7.1	32.1	6.1	2.6
LG.37 H room	61.4	4.5	7.1	24.2	2.8	0
LG.34 H room	60.2	4.5	7.4	25.3	2.6	0
G.25 H room	48.6	8.9	7.4	29.3	5.2	0.5
G.23 H Room	47.7	11.6	33	5.3	1.3	1.1
G.21a H Room	51.3	5.1	5.2	9.5	27	2
G.19 H Room	51.4	4.6	6.9	25.4	7.9	3.9
G.3 H Room	49.3	10	7.6	30.4	2.7	0
G.6 H Room	53.9	8.3	7.9	28.3	1.5	0
G.8 H Room	53.4	8.3	7.9	28.7	1.6	0
G.9 H Room	47.1	9.3	7.8	31.3	4.3	0.1
G.14 H Room	37.9	6.4	9.7	31.4	9.6	5
G.12a H Room	39	12.7	6	34.7	5.5	2.1
G.19a H Room	49.3	4.6	6.6	25.9	9.6	4
G.19a H Room	50.4	4.9	7.2	25.8	7.5	4.2
G.21 H Room	52	5.6	8.4	29.8	3.1	1
G.12 H Room	40.8	10.5	3.1	4.9	10.1	30.6
G.13 H Room	35.5	9.9	6.3	8.6	30.2	9.5
G.15 H Room	33.2	10.5	9	30.5	11.1	5.7
F.27 H Room	50.1	5.2	6.1	27.5	9.9	1.1
F.25 H Room	50.8	5.5	6.7	29.2	6.7	1
F.21a H Room	50.4	5.3	7	29	7.1	1.2
F.21 H Room	48.9	5.1	6.9	25.5	9	4.6
F.5 H Room	46.9	12.4	6.2	29.3	5.3	0
F.6 H Room	52.3	9.8	6.4	27	4.4	0
F.9 H Room	51.8	9.9	6.7	27.1	4.7	0
F.9a H Room	44.4	11.5	6.3	30.8	6.4	0.5
F.14a H Room	34.1	7.1	9.8	33.2	10.2	5.6
F.13a H Room	34.3	14.5	6.7	34	8.3	2.3
F.18 H Room	48.4	4.5	6.4	25.9	10.2	4.5
F.20 H Room	47.6	5.3	7.2	26.2	8.8	5
F.21b H Room	50.7	5.7	7.1	29.1	6.3	1.1

F.13 H Room	43.4	6	3.8	7.4	31.9	7.5
F.14 H Room	32.9	11.4	9.4	31.8	9.7	4.8
F.15 H Room	28.4	13.7	10	30	12.1	5.9
S.15 H Room	59.8	4.6	6.6	16.1	9.8	3.2
S.13 H Room	58	4.9	7.6	18.8	8.5	2.1
S.21 H Room	41.2	5.2	8.1	31.6	10.6	3.3
S.22 H Room	37.3	6	9	33.2	13.3	1.2
S.12 H Room	54.3	3.9	5.9	20.1	14.2	1.7
S.23 H Room	17.9	10	9.1	9.5	30.6	22.9
S.20 H Room	42.9	5.8	7.8	31.1	9.7	2.7
S.10 H Room	50.3	8	5.9	20.3	13.8	1.7
S.5 H Room	59.9	6.6	6.2	16.2	9.9	1.1
S.5a H Room	62.5	7.2	6.4	14.7	8.2	1
S.8 H Room	59.9	4.7	6.7	18	9.6	1.1
S.6 H Room	62.1	7.1	6.6	14.8	8.2	1.2
S.19 H Room	43.1	5.9	6.6	30.1	12.1	2.2
S.18 H Room	41.7	5.5	7.1	31.5	11.3	2.9
S.17 H Room	38	5.7	8.8	30.6	11.9	4.9
S.16 H Room	36.1	6.8	9.5	30.6	12.5	4.6
S.29 H Room	45.1	12.3	3.2	4.9	13.5	21.1
S.27 H Room	47.6	10.5	3.6	4.4	5.9	27.9
S.24 H Room	43.1	12.7	2.9	4.4	5.4	31.4
S.26 H Room	47.6	8.4	3.5	4.2	6.7	29.6
LG.17 H Room	57	4.9	7.9	25.9	3.9	0.3
LG.45e H room	52.6	2.8	5.9	31.9	6.6	0.1
Total hours (% of sum)	28.7	4.3	4.5	15.1	5.7	4.5
LG.42 Kitchen & Bar	93.2	6.8	0	0	0	0
LG.40a AV room	80.1	18.3	1.6	0	0	0
LG.40e Studio 2	0	3.6	11.9	21.5	40.7	22.3
LG.40b AV room	72.6	22.1	5.3	0.1	0	0
LG.33 Office	27.9	15.4	12.4	37.2	7	0
LG.24c Staff facilities	0	18.6	35.5	6.9	6.1	32.9
G.41 Ent Hall & G.40	1.4	50.5	6.4	5.1	5.7	30.9
G.48 Cafe & Servery	69	22	8.3	0.7	0	0
G.55 Function Room	66	26.9	7.1	0	0	0
G.50 Retail	14.6	33.3	8.6	17.8	23.9	1.8
F.50b Cinema	70.5	27.2	2.3	0	0	0
F.50a Cinema	71.9	26.1	2	0	0	0
F.3 Mayor's Parlour	28.3	24.9	11	19.8	14	2
F.148a Prep Kitchen	39.3	10.8	6.6	5.6	6.2	31.5
F.46 Committee Room	43.9	15.5	10	15.7	10.3	4.6
F.37 Member's Room	13.4	27.2	18.6	28.9	11.7	0.1
F.38 Office	7	34.3	26.6	31.6	0.5	0
F.39 office	3.8	35.9	28.8	31.3	0.3	0
F.40 office	9.3	36.1	21.7	31.1	1.7	0
S.36a Lounge	44.1	8.6	6.2	5	5.3	30.8
S.36 Office	4.1	32.9	22.9	12.2	23.7	4.2
S.1 F&B Bar	66.3	12.5	13.8	6.3	1.1	0
LG.40 Supper room	13.6	44	6.6	6.9	6.7	22.1
G.57 Assembly Hall	0.8	30.7	25.4	5.3	5.4	32.4
G.62 Stage 60 & 63	70.9	16.8	10.3	2	0	0
LG.50 M Dressing room	1.6	29.5	19.5	5	3.6	40.9

LG.40c Studio1	0	14.8	22.5	32.3	28.5	1.9
LG.24a AC staff faci	0	32.8	26.6	5.4	5.5	29.7
G.61 Green Room	49.2	5	8.7	19.3	15.4	2.5
G.27 Office	5.8	21.2	21.7	11.6	21.7	18.1
F.51 FA Dressing Room	0.4	26.1	21.7	6.2	4.2	41.4
S32.Public Gallery	34.8	6.1	6.2	17.4	26.5	9
F.33 Council Chamber	23.4	28.2	13.1	27.9	7.4	0
Total hours (% of sum)	13.3	10.9	6.3	5.5	3.5	6.1
LG.42 Kitchen & Bar	93.2	6.8	0	0	0	0
LG.40a AV room	80.1	18.3	1.6	0	0	0
LG.40e Studio 2	0	3.6	11.9	21.5	40.7	22.3
LG.40b AV room	72.6	22.1	5.3	0.1	0	0
LG.33 Office	27.9	15.4	12.4	37.2	7	0
LG.24c Staff facilities	0	18.6	35.5	6.9	6.1	32.9
G.41 Ent Hall & G.40	1.4	50.5	6.4	5.1	5.7	30.9
G.48 Cafe & Servery	69	22	8.3	0.7	0	0
G.55 Function Room	66	26.9	7.1	0	0	0
G.50 Retail	14.6	33.3	8.6	17.8	23.9	1.8
F.50b Cinema	70.5	27.2	2.3	0	0	0
F.50a Cinema	71.9	26.1	2	0	0	0
F.3 Mayor's Parlour	28.3	24.9	11	19.8	14	2
F.148a Prep Kitchen	39.3	10.8	6.6	5.6	6.2	31.5
F.46 Committee Room	43.9	15.5	10	15.7	10.3	4.6
F.37 Member's Room	13.4	27.2	18.6	28.9	11.7	0.1
F.38 Office	7	34.3	26.6	31.6	0.5	0
F.39 office	3.8	35.9	28.8	31.3	0.3	0
F.40 office	9.3	36.1	21.7	31.1	1.7	0
S.36a Lounge	44.1	8.6	6.2	5	5.3	30.8
S.36 Office	4.1	32.9	22.9	12.2	23.7	4.2
S.1 F&B Bar	66.3	12.5	13.8	6.3	1.1	0
LG.40 Supper room	13.6	44	6.6	6.9	6.7	22.1
G.57 Assembly Hall	0.8	30.7	25.4	5.3	5.4	32.4
G.62 Stage 60 & 63	70.9	16.8	10.3	2	0	0
LG.50 M Dressing room	1.6	29.5	19.5	5	3.6	40.9
LG.40c Studio1	0	14.8	22.5	32.3	28.5	1.9
LG.24a AC staff faci	0	32.8	26.6	5.4	5.5	29.7
G.61 Green Room	49.2	5	8.7	19.3	15.4	2.5
G.27 Office	5.8	21.2	21.7	11.6	21.7	18.1
F.51 FA Dressing Room	0.4	26.1	21.7	6.2	4.2	41.4
S32.Public Gallery	34.8	6.1	6.2	17.4	26.5	9
F.33 Council Chamber	23.4	28.2	13.1	27.9	7.4	0
Total hours (% of sum)	13.3	10.9	6.3	5.5	3.5	6.1

Appendix L – DSY3 People Dissastified

		People dissatisfied (%) - % hours in range
File	Location	> 10.00
Sim 9 DSY 3.aps	LG.22c H room	53.9
Sim 9 DSY 3.aps	LG.22b H Room	53.9
Sim 9 DSY 3.aps	LG.22a H Room	53.7
Sim 9 DSY 3.aps	LG.22 H room	52.7
Sim 9 DSY 3.aps	LG.19 H Room	54.7
Sim 9 DSY 3.aps	LG.15 H Room	57.7
Sim 9 DSY 3.aps	LG.14 H Room	50.9
Sim 9 DSY 3.aps	LG.10a H Room	53.4
Sim 9 DSY 3.aps	LG.10 H Room	48.5
Sim 9 DSY 3.aps	LG.25 H Room	48.2
Sim 9 DSY 3.aps	LG.26 H room	49.8
Sim 9 DSY 3.aps	LG.23 H Room	45.3
Sim 9 DSY 3.aps	LG.37 H room	61.5
Sim 9 DSY 3.aps	LG.34 H room	60.4
Sim 9 DSY 3.aps	G.25 H room	50.1
Sim 9 DSY 3.aps	G.23 H Room	49.5
Sim 9 DSY 3.aps	G.21a H Room	54.2
Sim 9 DSY 3.aps	G.19 H Room	55.8
Sim 9 DSY 3.aps	G.3 H Room	49.9
Sim 9 DSY 3.aps	G.6 H Room	54.5
Sim 9 DSY 3.aps	G.8 H Room	54
Sim 9 DSY 3.aps	G.9 H Room	47.9
Sim 9 DSY 3.aps	G.14 H Room	43.4
Sim 9 DSY 3.aps	G.12a H Room	41.9
Sim 9 DSY 3.aps	G.19a H Room	54.1
Sim 9 DSY 3.aps	G.19a H Room	55.1
Sim 9 DSY 3.aps	G.21 H Room	53.1
Sim 9 DSY 3.aps	G.12 H Room	73.3
Sim 9 DSY 3.aps	G.13 H Room	46.6
Sim 9 DSY 3.aps	G.15 H Room	39.9
Sim 9 DSY 3.aps	F.27 H Room	51.5
Sim 9 DSY 3.aps	F.25 H Room	52
Sim 9 DSY 3.aps	F.21a H Room	51.8
Sim 9 DSY 3.aps	F.21 H Room	54.1
Sim 9 DSY 3.aps	F.5 H Room	47.8
Sim 9 DSY 3.aps	F.6 H Room	53.2
Sim 9 DSY 3.aps	F.9 H Room	52.6

Sim 9 DSY 3.aps	F.9a H Room	46
Sim 9 DSY 3.aps	F.14a H Room	40.4
Sim 9 DSY 3.aps	F.13a H Room	37.6
Sim 9 DSY 3.aps	F.18 H Room	53.4
Sim 9 DSY 3.aps	F.20 H Room	53.2
Sim 9 DSY 3.aps	F.21b H Room	52.1
Sim 9 DSY 3.aps	F.13 H Room	52.5
Sim 9 DSY 3.aps	F.14 H Room	38.6
Sim 9 DSY 3.aps	F.15 H Room	35.3
Sim 9 DSY 3.aps	S.15 H Room	63.3
Sim 9 DSY 3.aps	S.13 H Room	60.4
Sim 9 DSY 3.aps	S.21 H Room	44.6
Sim 9 DSY 3.aps	S.22 H Room	38.9
Sim 9 DSY 3.aps	S.12 H Room	56.4
Sim 9 DSY 3.aps	S.23 H Room	43.1
Sim 9 DSY 3.aps	S.20 H Room	45.8
Sim 9 DSY 3.aps	S.10 H Room	52.8
Sim 9 DSY 3.aps	S.5 H Room	61.4
Sim 9 DSY 3.aps	S.5a H Room	63.8
Sim 9 DSY 3.aps	S.8 H Room	61.3
Sim 9 DSY 3.aps	S.6 H Room	63.7
Sim 9 DSY 3.aps	S.19 H Room	45.6
Sim 9 DSY 3.aps	S.18 H Room	44.8
Sim 9 DSY 3.aps	S.17 H Room	43.3
Sim 9 DSY 3.aps	S.16 H Room	41.2
Sim 9 DSY 3.aps	S.29 H Room	69.3
Sim 9 DSY 3.aps	S.27 H Room	77.1
Sim 9 DSY 3.aps	S.24 H Room	76.1
Sim 9 DSY 3.aps	S.26 H Room	78.4
Sim 9 DSY 3.aps	LG.17 H Room	57.4
Sim 9 DSY 3.aps	LG.45e H room	53.1
Sim 9 DSY 3.aps	Total hours (% of sum)	33.6
Sim 11 DSY 3.aps	LG.42 Kitchen & Bar	93.5
Sim 11 DSY 3.aps	LG.40a AV room	80.3
Sim 11 DSY 3.aps	LG.40e Studio 2	24.1
Sim 11 DSY 3.aps	LG.40b AV room	72.9
Sim 11 DSY 3.aps	LG.33 Office	28.3
Sim 11 DSY 3.aps	LG.24c Staff facilities	33.5
Sim 11 DSY 3.aps	G.41 Ent Hall & G.40	33
Sim 11 DSY 3.aps	G.48 Cafe & Servery	69.4
Sim 11 DSY 3.aps	G.55 Function Room	66.1
Sim 11 DSY 3.aps	G.50 Retail	17.8

Sim 11 DSY 3.aps	F.50b Cinema	70.9
Sim 11 DSY 3.aps	F.50a Cinema	72.3
Sim 11 DSY 3.aps	F.3 Mayor's Parlour	32
Sim 11 DSY 3.aps	F.148a Prep Kitchen	71.6
Sim 11 DSY 3.aps	F.46 Committee Room	49.6
Sim 11 DSY 3.aps	F.37 Member's Room	14.4
Sim 11 DSY 3.aps	F.38 Office	7.8
Sim 11 DSY 3.aps	F.39 office	4.5
Sim 11 DSY 3.aps	F.40 office	10.1
Sim 11 DSY 3.aps	S.36a Lounge	75.6
Sim 11 DSY 3.aps	S.36 Office	9.6
Sim 11 DSY 3.aps	S.1 F&B Bar	66.5
Sim 11 DSY 3.aps	LG.40 Supper room	37.1
Sim 11 DSY 3.aps	G.57 Assembly Hall	33.8
Sim 11 DSY 3.aps	G.62 Stage 60 & 63	71.1
Sim 11 DSY 3.aps	LG.50 M Dressing room	43
Sim 11 DSY 3.aps	LG.40c Studio1	2.2
Sim 11 DSY 3.aps	LG.24a AC staff faci	29.9
Sim 11 DSY 3.aps	G.61 Green Room	52.6
Sim 11 DSY 3.aps	G.27 Office	26.2
Sim 11 DSY 3.aps	F.51 FA Dressing Room	42.2
Sim 11 DSY 3.aps	S32.Public Gallery	45
Sim 11 DSY 3.aps	F.33 Council Chamber	24.3
Sim 11 DSY 3.aps	Total hours (% of sum)	19.7

The background features abstract geometric shapes in shades of blue and green. On the left, there are overlapping triangles and polygons in various tones of blue and teal. On the right, there are horizontal bands of blue and green, with some diagonal lines intersecting them. The overall effect is a modern, minimalist design.

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