

Project name

Hotel Part L Lean

As designed

Date: Thu Oct 24 12:19:41 2024

Administrative information

Building Details

Address:

Certifier details

Name:

Telephone number:

Address: , ,

Certification tool

Calculation engine: Apache

Calculation engine version: 7.0.26

Interface to calculation engine: IES Virtual Environment

Interface to calculation engine version: 7.0.26

BRUKL compliance module version: v6.1.e.1

Foundation area [m²]: 634.83The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	10.25
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	9.44
Target primary energy rate (TPER), kWh _{PE} /m ² .annum	111.59
Building primary energy rate (BPER), kWh _{PE} /m ² .annum	102.78
Do the building's emission and primary energy rates exceed the targets?	BER =< TER BPER =< TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _{a-Limit}	U _{a-Calc}	U _{i-Calc}	First surface with maximum value
Walls*	0.26	0.15	0.15	SP000033:Surf[0]
Floors	0.18	0.15	0.15	BS000016:Surf[0]
Pitched roofs	0.16	-	-	No pitched roofs in building
Flat roofs	0.18	0.15	0.15	BS000022:Surf[1]
Windows** and roof windows	1.6	1.4	1.4	L000000B:Surf[0]
Rooflights***	2.2	-	-	No roof lights in building
Personnel doors^	1.6	-	-	No personnel doors in building
Vehicle access & similar large doors	1.3	-	-	No vehicle access doors in building
High usage entrance doors	3	-	-	No high usage entrance doors in building

U_{a-Limit} = Limiting area-weighted average U-values [W/(m²K)]U_{i-Calc} = Calculated maximum individual element U-values [W/(m²K)]U_{a-Calc} = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	3

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	YES
Whole building electric power factor achieved by power factor correction	>0.95

1- NV ASHP Rads (Hotel) - LEAN

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.64	-	0.2	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

2- Central AHU VRF (Hotel) - LEAN

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.64	9.16	0	1.1	0.85
Standard value	2.5*	N/A	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					
^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.					

3- Local MVHR VRF - LEAN

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.64	9.16	0	0.4	0.85
Standard value	2.5*	N/A	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					
^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.					

1- DHW ASHP (Hotel) - LEAN

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	2.86	0.005
Standard value	2*	N/A
* Standard shown is for all types except absorption and gas engine heat pumps.		

"No zones in project where local mechanical ventilation, exhaust, or terminal unit is applicable"

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
01-Hotel-Cupboard		140	-	-
01-Hotel-Cupboard		140	-	-
01-Hotel-Stair-002		120	-	-
Basement		140	-	-
Basement		140	-	-
B0 - Store		140	-	-
B0 - Circulation		120	-	-

General lighting and display lighting		General luminaire		Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]	
	Standard value	95	80	0.3	
B0 - Stair		120	-	-	
B0 - Stairs		120	-	-	
B0 - Staff Training		130	-	-	
B0 - Circulation		120	-	-	
B0 - Commercial Sprinkler Tank and Pumps		140	-	-	
B0 - Plant Room		140	-	-	
B0 - Staff Lockers / WCs		120	-	-	
B0 - Staff Lockers / WCs		120	-	-	
B0 - Computer / Telephone Equipment		140	-	-	
B0 - Circulation		120	-	-	
B0 - Cycle Store 4 (Hotel)		140	-	-	
B0 - Cycle Store 3 (Retail)		140	-	-	
Store		140	-	-	
L00 Switch Room		140	-	-	
L00 Refuse		140	-	-	
L00 Circulation		120	-	-	
L00 Stairs		120	-	-	
L00 Hotel Lobby		110	100	1.35	
L00 Circulation		120	-	-	
L00 Retail		100	100	1.5	
L00 Circulation		120	-	-	
L00 Circulation		120	-	-	
L00 Stairs		120	-	-	
L00 Retail Unit Belmont Road		100	100	1.5	
Space		120	-	-	
L00 Circulation		120	-	-	
L00 Retail Unit		100	100	1.5	
L00 Substation		140	-	-	
LM Circulation		120	-	-	
LM Stairs		120	-	-	
LM Circulation		120	-	-	
LM Circulation		120	-	-	
LM Stairs		120	-	-	
LM Switch Room		140	-	-	
LM Circulation		120	-	-	
LM Circulation		120	-	-	
LM Retail Mezzanine		100	100	1.5	
01-Hotel-Accessible-Bedroom-002		110	-	-	
01-Hotel-Accessible-Bedroom-001		110	-	-	
01-Hotel-Standard-Bedroom-008		110	-	-	
01-Hotel-Standard-Ensuite-008		110	-	-	
01-Hotel-Standard-Bedroom-009		110	-	-	
01-Hotel-Standard-Ensuite-009		110	-	-	

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
01-Hotel-Standard-Bedroom-010		110	-	-
01-Hotel-Standard-Ensuite-010		110	-	-
01-Hotel-Standard-Bedroom-011		110	-	-
01-Hotel-Standard-Ensuite-011		110	-	-
01-Hotel-Standard-Bedroom-012		110	-	-
01-Hotel-Standard-Ensuite-012		110	-	-
01-Hotel-Standard-Bedroom-013		110	-	-
01-Hotel-Standard-Ensuite-013		110	-	-
01-Hotel-Standard-Bedroom-014		110	-	-
01-Hotel-Standard-Ensuite-014		110	-	-
01-Hotel-Standard-Bedroom-015		110	-	-
01-Hotel-Standard-Ensuite-015		110	-	-
01-Hotel-Standard-Bedroom-016		110	-	-
01-Hotel-Standard-Ensuite-016		110	-	-
01-Hotel-Standard-Bedroom-017		110	-	-
01-Hotel-Standard-Ensuite-017		110	-	-
01-Hotel-Standard-Bedroom-018		110	-	-
01-Hotel-Standard-Ensuite-018		110	-	-
01-Hotel-Family-Bedroom		110	-	-
01-Hotel-Family-Ensuite		110	-	-
01-Hotel-Circ-001		120	-	-
01-Hotel-Family-Bedroom		110	-	-
01-Hotel-Family-Ensuite		110	-	-
01-Hotel-Standard-Ensuite-020		110	-	-
01-Hotel-Standard-Bedroom-019		110	-	-
01-Hotel-Standard-Ensuite-019		110	-	-
01-Hotel-Lift-Lobby		120	-	-
L01 - Hotel-Stair		120	-	-
01-Hotel-Store		140	-	-
01-Hotel-Accessible-Bathroom-002		110	-	-
01-Hotel-Accessible-Bathroom-001		110	-	-
01-Hotel-Circ-001		120	-	-
01-Hotel-Standard-Bedroom-020		110	-	-
01-Hotel-Standard-Bedroom-007		110	-	-
01-Hotel-Standard-ensuite-007		110	-	-
01-Hotel-Standard-Bedroom-006		110	-	-
01-Hotel-Standard-Bedroom-001		110	-	-
01-Hotel-Standard-Ensuite-001		110	-	-
01-Hotel-Standard-Bedroom-002		110	-	-
01-Hotel-Standard-Ensuite-002		110	-	-
01-Hotel-Standard-Bedroom-003		110	-	-
01-Hotel-Standard-Ensuite-003		110	-	-
01-Hotel-Standard-Bedroom-004		110	-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
01-Hotel-Standard-Ensuite-004		110	-	-
01-Hotel-Standard-Bedroom-005		110	-	-
01-Hotel-Standard-Ensuite-005		110	-	-
01-Hotel-Standard-Ensuite-006		110	-	-
L08 Stairs		120	-	-
L08 Circulation		120	-	-
L08 Luggage Store		140	-	-
L08 Public Toilets		120	-	-
L08 Stores		140	-	-
L08 Social Hub Seating		110	-	-
L08 Stairs		120	-	-
L08 Circulation		120	-	-
L08 Food Store		140	-	-
L08 Kitchen		130	-	-
L08 General Office Area		130	-	-
02-Hotel-Cupboard		140	-	-
02-Hotel-Cupboard		140	-	-
02-Hotel-Stair-002		120	-	-
02-Hotel-Accessible-Bedroom-002		110	-	-
02-Hotel-Accessible-Bedroom-001		110	-	-
02-Hotel-Standard-Bedroom-008		110	-	-
02-Hotel-Standard-Ensuite-008		110	-	-
02-Hotel-Standard-Bedroom-009		110	-	-
02-Hotel-Standard-Ensuite-009		110	-	-
02-Hotel-Standard-Bedroom-010		110	-	-
02-Hotel-Standard-Ensuite-010		110	-	-
02-Hotel-Standard-Bedroom-011		110	-	-
02-Hotel-Standard-Ensuite-011		110	-	-
02-Hotel-Standard-Bedroom-012		110	-	-
02-Hotel-Standard-Ensuite-012		110	-	-
02-Hotel-Standard-Bedroom-013		110	-	-
02-Hotel-Standard-Ensuite-013		110	-	-
02-Hotel-Standard-Bedroom-014		110	-	-
02-Hotel-Standard-Ensuite-014		110	-	-
02-Hotel-Standard-Bedroom-015		110	-	-
02-Hotel-Standard-Ensuite-015		110	-	-
02-Hotel-Standard-Bedroom-016		110	-	-
02-Hotel-Standard-Ensuite-016		110	-	-
02-Hotel-Standard-Bedroom-017		110	-	-
02-Hotel-Standard-Ensuite-017		110	-	-
02-Hotel-Standard-Bedroom-018		110	-	-
02-Hotel-Standard-Ensuite-018		110	-	-
02-Hotel-Family-Bedroom		110	-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
02-Hotel-Family-Ensuite		110	-	-
02-Hotel-Circ-001		120	-	-
02-Hotel-Family-Bedroom		110	-	-
02-Hotel-Family-Ensuite		110	-	-
02-Hotel-Standard-Ensuite-020		110	-	-
02-Hotel-Standard-Bedroom-019		110	-	-
02-Hotel-Standard-Ensuite-019		110	-	-
02-Hotel-Lift-Lobby		120	-	-
L01 - Hotel-Stair		120	-	-
02-Hotel-Store		140	-	-
02-Hotel-Accessible-Bathroom-002		110	-	-
02-Hotel-Accessible-Bathroom-001		110	-	-
02-Hotel-Circ-001		120	-	-
02-Hotel-Standard-Bedroom-020		110	-	-
02-Hotel-Standard-Bedroom-007		110	-	-
02-Hotel-Standard-ensuite-007		110	-	-
02-Hotel-Standard-Bedroom-006		110	-	-
02-Hotel-Standard-Bedroom-001		110	-	-
02-Hotel-Standard-Ensuite-001		110	-	-
02-Hotel-Standard-Bedroom-002		110	-	-
02-Hotel-Standard-Ensuite-002		110	-	-
02-Hotel-Standard-Bedroom-003		110	-	-
02-Hotel-Standard-Ensuite-003		110	-	-
02-Hotel-Standard-Bedroom-004		110	-	-
02-Hotel-Standard-Ensuite-004		110	-	-
02-Hotel-Standard-Bedroom-005		110	-	-
02-Hotel-Standard-Ensuite-005		110	-	-
02-Hotel-Standard-Ensuite-006		110	-	-
03-Hotel-Cupboard		140	-	-
03-Hotel-Cupboard		140	-	-
03-Hotel-Stair-002		120	-	-
03-Hotel-Accessible-Bedroom-002		110	-	-
03-Hotel-Accessible-Bedroom-001		110	-	-
03-Hotel-Standard-Bedroom-008		110	-	-
03-Hotel-Standard-Ensuite-008		110	-	-
03-Hotel-Standard-Bedroom-009		110	-	-
03-Hotel-Standard-Ensuite-009		110	-	-
03-Hotel-Standard-Bedroom-010		110	-	-
03-Hotel-Standard-Ensuite-010		110	-	-
03-Hotel-Standard-Bedroom-011		110	-	-
03-Hotel-Standard-Ensuite-011		110	-	-
03-Hotel-Standard-Bedroom-012		110	-	-
03-Hotel-Standard-Ensuite-012		110	-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
03-Hotel-Standard-Bedroom-013		110	-	-
03-Hotel-Standard-Ensuite-013		110	-	-
03-Hotel-Standard-Bedroom-014		110	-	-
03-Hotel-Standard-Ensuite-014		110	-	-
03-Hotel-Standard-Bedroom-015		110	-	-
03-Hotel-Standard-Ensuite-015		110	-	-
03-Hotel-Standard-Bedroom-016		110	-	-
03-Hotel-Standard-Ensuite-016		110	-	-
03-Hotel-Standard-Bedroom-017		110	-	-
03-Hotel-Standard-Ensuite-017		110	-	-
03-Hotel-Standard-Bedroom-018		110	-	-
03-Hotel-Standard-Ensuite-018		110	-	-
03-Hotel-Family-Bedroom		110	-	-
03-Hotel-Family-Ensuite		110	-	-
03-Hotel-Circ-001		120	-	-
03-Hotel-Family-Bedroom		110	-	-
03-Hotel-Family-Ensuite		110	-	-
03-Hotel-Standard-Ensuite-020		110	-	-
03-Hotel-Standard-Bedroom-019		110	-	-
03-Hotel-Standard-Ensuite-019		110	-	-
03-Hotel-Lift-Lobby		120	-	-
L01 - Hotel-Stair		120	-	-
03-Hotel-Store		140	-	-
03-Hotel-Accessible-Bathroom-002		110	-	-
03-Hotel-Accessible-Bathroom-001		110	-	-
03-Hotel-Circ-001		120	-	-
03-Hotel-Standard-Bedroom-020		110	-	-
03-Hotel-Standard-Bedroom-007		110	-	-
03-Hotel-Standard-ensuite-007		110	-	-
03-Hotel-Standard-Bedroom-006		110	-	-
03-Hotel-Standard-Bedroom-001		110	-	-
03-Hotel-Standard-Ensuite-001		110	-	-
03-Hotel-Standard-Bedroom-002		110	-	-
03-Hotel-Standard-Ensuite-002		110	-	-
03-Hotel-Standard-Bedroom-003		110	-	-
03-Hotel-Standard-Ensuite-003		110	-	-
03-Hotel-Standard-Bedroom-004		110	-	-
03-Hotel-Standard-Ensuite-004		110	-	-
03-Hotel-Standard-Bedroom-005		110	-	-
03-Hotel-Standard-Ensuite-005		110	-	-
03-Hotel-Standard-Ensuite-006		110	-	-
04-Hotel-Cupboard		140	-	-
04-Hotel-Cupboard		140	-	-

General lighting and display lighting		General luminaire		Display light source	
Zone name		Efficacy [lm/W]		Efficacy [lm/W]	Power density [W/m²]
	Standard value	95		80	0.3
04-Hotel-Stair-002		120		-	-
04-Hotel-Accessible-Bedroom-002		110		-	-
04-Hotel-Accessible-Bedroom-001		110		-	-
04-Hotel-Standard-Bedroom-008		110		-	-
04-Hotel-Standard-Ensuite-008		110		-	-
04-Hotel-Standard-Bedroom-009		110		-	-
04-Hotel-Standard-Ensuite-009		110		-	-
04-Hotel-Standard-Bedroom-010		110		-	-
04-Hotel-Standard-Ensuite-010		110		-	-
04-Hotel-Standard-Bedroom-011		110		-	-
04-Hotel-Standard-Ensuite-011		110		-	-
04-Hotel-Standard-Bedroom-012		110		-	-
04-Hotel-Standard-Ensuite-012		110		-	-
04-Hotel-Standard-Bedroom-013		110		-	-
04-Hotel-Standard-Ensuite-013		110		-	-
04-Hotel-Standard-Bedroom-014		110		-	-
04-Hotel-Standard-Ensuite-014		110		-	-
04-Hotel-Standard-Bedroom-015		110		-	-
04-Hotel-Standard-Ensuite-015		110		-	-
04-Hotel-Standard-Bedroom-016		110		-	-
04-Hotel-Standard-Ensuite-016		110		-	-
04-Hotel-Standard-Bedroom-017		110		-	-
04-Hotel-Standard-Ensuite-017		110		-	-
04-Hotel-Standard-Bedroom-018		110		-	-
04-Hotel-Standard-Ensuite-018		110		-	-
04-Hotel-Family-Bedroom		110		-	-
04-Hotel-Family-Ensuite		110		-	-
04-Hotel-Circ-001		120		-	-
04-Hotel-Family-Bedroom		110		-	-
04-Hotel-Family-Ensuite		110		-	-
04-Hotel-Standard-Ensuite-020		110		-	-
04-Hotel-Standard-Bedroom-019		110		-	-
04-Hotel-Standard-Ensuite-019		110		-	-
04-Hotel-Lift-Lobby		120		-	-
L01 - Hotel-Stair		120		-	-
04-Hotel-Store		140		-	-
04-Hotel-Accessible-Bathroom-002		110		-	-
04-Hotel-Accessible-Bathroom-001		110		-	-
04-Hotel-Circ-001		120		-	-
04-Hotel-Standard-Bedroom-020		110		-	-
04-Hotel-Standard-Bedroom-007		110		-	-
04-Hotel-Standard-ensuite-007		110		-	-
04-Hotel-Standard-Bedroom-006		110		-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
04-Hotel-Standard-Bedroom-001		110	-	-
04-Hotel-Standard-Ensuite-001		110	-	-
04-Hotel-Standard-Bedroom-002		110	-	-
04-Hotel-Standard-Ensuite-002		110	-	-
04-Hotel-Standard-Bedroom-003		110	-	-
04-Hotel-Standard-Ensuite-003		110	-	-
04-Hotel-Standard-Bedroom-004		110	-	-
04-Hotel-Standard-Ensuite-004		110	-	-
04-Hotel-Standard-Bedroom-005		110	-	-
04-Hotel-Standard-Ensuite-005		110	-	-
04-Hotel-Standard-Ensuite-006		110	-	-
05-Hotel-Cupboard		140	-	-
05-Hotel-Cupboard		140	-	-
05-Hotel-Stair-002		120	-	-
05-Hotel-Accessible-Bedroom-002		110	-	-
05-Hotel-Accessible-Bedroom-001		110	-	-
05-Hotel-Standard-Bedroom-008		110	-	-
05-Hotel-Standard-Ensuite-008		110	-	-
05-Hotel-Standard-Bedroom-009		110	-	-
05-Hotel-Standard-Ensuite-009		110	-	-
05-Hotel-Standard-Bedroom-010		110	-	-
05-Hotel-Standard-Ensuite-010		110	-	-
05-Hotel-Standard-Bedroom-011		110	-	-
05-Hotel-Standard-Ensuite-011		110	-	-
05-Hotel-Standard-Bedroom-012		110	-	-
05-Hotel-Standard-Ensuite-012		110	-	-
05-Hotel-Standard-Bedroom-013		110	-	-
05-Hotel-Standard-Ensuite-013		110	-	-
05-Hotel-Standard-Bedroom-014		110	-	-
05-Hotel-Standard-Ensuite-014		110	-	-
05-Hotel-Standard-Bedroom-015		110	-	-
05-Hotel-Standard-Ensuite-015		110	-	-
05-Hotel-Standard-Bedroom-016		110	-	-
05-Hotel-Standard-Ensuite-016		110	-	-
05-Hotel-Standard-Bedroom-017		110	-	-
05-Hotel-Standard-Ensuite-017		110	-	-
05-Hotel-Standard-Bedroom-018		110	-	-
05-Hotel-Standard-Ensuite-018		110	-	-
05-Hotel-Family-Bedroom		110	-	-
05-Hotel-Family-Ensuite		110	-	-
05-Hotel-Circ-001		120	-	-
05-Hotel-Family-Bedroom		110	-	-
05-Hotel-Family-Ensuite		110	-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
05-Hotel-Standard-Ensuite-020		110	-	-
05-Hotel-Standard-Bedroom-019		110	-	-
05-Hotel-Standard-Ensuite-019		110	-	-
05-Hotel-Lift-Lobby		120	-	-
L01 - Hotel-Stair		120	-	-
05-Hotel-Store		140	-	-
05-Hotel-Accessible-Bathroom-002		110	-	-
05-Hotel-Accessible-Bathroom-001		110	-	-
05-Hotel-Circ-001		120	-	-
05-Hotel-Standard-Bedroom-020		110	-	-
05-Hotel-Standard-Bedroom-007		110	-	-
05-Hotel-Standard-ensuite-007		110	-	-
05-Hotel-Standard-Bedroom-006		110	-	-
05-Hotel-Standard-Bedroom-001		110	-	-
05-Hotel-Standard-Ensuite-001		110	-	-
05-Hotel-Standard-Bedroom-002		110	-	-
05-Hotel-Standard-Ensuite-002		110	-	-
05-Hotel-Standard-Bedroom-003		110	-	-
05-Hotel-Standard-Ensuite-003		110	-	-
05-Hotel-Standard-Bedroom-004		110	-	-
05-Hotel-Standard-Ensuite-004		110	-	-
05-Hotel-Standard-Bedroom-005		110	-	-
05-Hotel-Standard-Ensuite-005		110	-	-
05-Hotel-Standard-Ensuite-006		110	-	-
06-Hotel-Cupboard		140	-	-
06-Hotel-Cupboard		140	-	-
06-Hotel-Stair-002		120	-	-
06-Hotel-Accessible-Bedroom-002		110	-	-
06-Hotel-Accessible-Bedroom-001		110	-	-
06-Hotel-Standard-Bedroom-008		110	-	-
06-Hotel-Standard-Ensuite-008		110	-	-
06-Hotel-Standard-Bedroom-009		110	-	-
06-Hotel-Standard-Ensuite-009		110	-	-
06-Hotel-Standard-Bedroom-010		110	-	-
06-Hotel-Standard-Ensuite-010		110	-	-
06-Hotel-Standard-Bedroom-011		110	-	-
06-Hotel-Standard-Ensuite-011		110	-	-
06-Hotel-Standard-Bedroom-012		110	-	-
06-Hotel-Standard-Ensuite-012		110	-	-
06-Hotel-Standard-Bedroom-013		110	-	-
06-Hotel-Standard-Ensuite-013		110	-	-
06-Hotel-Standard-Bedroom-014		110	-	-
06-Hotel-Standard-Ensuite-014		110	-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
06-Hotel-Standard-Bedroom-015		110	-	-
06-Hotel-Standard-Ensuite-015		110	-	-
06-Hotel-Standard-Bedroom-016		110	-	-
06-Hotel-Standard-Ensuite-016		110	-	-
06-Hotel-Standard-Bedroom-017		110	-	-
06-Hotel-Standard-Ensuite-017		110	-	-
06-Hotel-Standard-Bedroom-018		110	-	-
06-Hotel-Standard-Ensuite-018		110	-	-
06-Hotel-Family-Bedroom		110	-	-
06-Hotel-Family-Ensuite		110	-	-
06-Hotel-Circ-001		120	-	-
06-Hotel-Family-Bedroom		110	-	-
06-Hotel-Family-Ensuite		110	-	-
06-Hotel-Standard-Ensuite-020		110	-	-
06-Hotel-Standard-Bedroom-019		110	-	-
06-Hotel-Standard-Ensuite-019		110	-	-
06-Hotel-Lift-Lobby		120	-	-
L01 - Hotel-Stair		120	-	-
06-Hotel-Store		140	-	-
06-Hotel-Accessible-Bathroom-002		110	-	-
06-Hotel-Accessible-Bathroom-001		110	-	-
06-Hotel-Circ-001		120	-	-
06-Hotel-Standard-Bedroom-020		110	-	-
06-Hotel-Standard-Bedroom-007		110	-	-
06-Hotel-Standard-ensuite-007		110	-	-
06-Hotel-Standard-Bedroom-006		110	-	-
06-Hotel-Standard-Bedroom-001		110	-	-
06-Hotel-Standard-Ensuite-001		110	-	-
06-Hotel-Standard-Bedroom-002		110	-	-
06-Hotel-Standard-Ensuite-002		110	-	-
06-Hotel-Standard-Bedroom-003		110	-	-
06-Hotel-Standard-Ensuite-003		110	-	-
06-Hotel-Standard-Bedroom-004		110	-	-
06-Hotel-Standard-Ensuite-004		110	-	-
06-Hotel-Standard-Bedroom-005		110	-	-
06-Hotel-Standard-Ensuite-005		110	-	-
06-Hotel-Standard-Ensuite-006		110	-	-
07-Hotel-Cupboard		140	-	-
07-Hotel-Cupboard		140	-	-
07-Hotel-Stair-002		120	-	-
07-Hotel-Accessible-Bedroom-002		110	-	-
07-Hotel-Accessible-Bedroom-001		110	-	-
07-Hotel-Standard-Bedroom-008		110	-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
07-Hotel-Standard-Ensuite-008		110	-	-
07-Hotel-Standard-Bedroom-009		110	-	-
07-Hotel-Standard-Ensuite-009		110	-	-
07-Hotel-Standard-Bedroom-010		110	-	-
07-Hotel-Standard-Ensuite-010		110	-	-
07-Hotel-Standard-Bedroom-011		110	-	-
07-Hotel-Standard-Ensuite-011		110	-	-
07-Hotel-Standard-Bedroom-012		110	-	-
07-Hotel-Standard-Ensuite-012		110	-	-
07-Hotel-Standard-Bedroom-013		110	-	-
07-Hotel-Standard-Ensuite-013		110	-	-
07-Hotel-Standard-Bedroom-014		110	-	-
07-Hotel-Standard-Ensuite-014		110	-	-
07-Hotel-Standard-Bedroom-015		110	-	-
07-Hotel-Standard-Ensuite-015		110	-	-
07-Hotel-Standard-Bedroom-016		110	-	-
07-Hotel-Standard-Ensuite-016		110	-	-
07-Hotel-Standard-Bedroom-017		110	-	-
07-Hotel-Standard-Ensuite-017		110	-	-
07-Hotel-Standard-Bedroom-018		110	-	-
07-Hotel-Standard-Ensuite-018		110	-	-
07-Hotel-Family-Bedroom		110	-	-
07-Hotel-Family-Ensuite		110	-	-
07-Hotel-Circ-001		120	-	-
07-Hotel-Family-Bedroom		110	-	-
07-Hotel-Family-Ensuite		110	-	-
07-Hotel-Standard-Ensuite-020		110	-	-
07-Hotel-Standard-Bedroom-019		110	-	-
07-Hotel-Standard-Ensuite-019		110	-	-
07-Hotel-Lift-Lobby		120	-	-
L01 - Hotel-Stair		120	-	-
07-Hotel-Store		140	-	-
07-Hotel-Accessible-Bathroom-002		110	-	-
07-Hotel-Accessible-Bathroom-001		110	-	-
07-Hotel-Circ-001		120	-	-
07-Hotel-Standard-Bedroom-020		110	-	-
07-Hotel-Standard-Bedroom-007		110	-	-
07-Hotel-Standard-ensuite-007		110	-	-
07-Hotel-Standard-Bedroom-006		110	-	-
07-Hotel-Standard-Bedroom-001		110	-	-
07-Hotel-Standard-Ensuite-001		110	-	-
07-Hotel-Standard-Bedroom-002		110	-	-
07-Hotel-Standard-Ensuite-002		110	-	-

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
07-Hotel-Standard-Bedroom-003		110	-	-
07-Hotel-Standard-Ensuite-003		110	-	-
07-Hotel-Standard-Bedroom-004		110	-	-
07-Hotel-Standard-Ensuite-004		110	-	-
07-Hotel-Standard-Bedroom-005		110	-	-
07-Hotel-Standard-Ensuite-005		110	-	-
07-Hotel-Standard-Ensuite-006		110	-	-
Space		120	-	-
L00 Circulation		120	-	-
L00 Substation		140	-	-
Main House Keeping		130	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
B0 - Staff Training	N/A	N/A
B0 - Staff Lockers / WCs	N/A	N/A
B0 - Staff Lockers / WCs	N/A	N/A
L00 Hotel Lobby	YES (+405.4%)	NO
L00 Retail	YES (+249%)	NO
L00 Retail Unit Belmont Road	YES (+172.3%)	NO
L00 Retail Unit	YES (+348.3%)	NO
LM Retail Mezzanine	YES (+122.3%)	NO
01-Hotel-Accessible-Bedroom-002	NO (-57.7%)	NO
01-Hotel-Accessible-Bedroom-001	NO (-70%)	NO
01-Hotel-Standard-Bedroom-008	NO (-13%)	NO
01-Hotel-Standard-Ensuite-008	N/A	N/A
01-Hotel-Standard-Bedroom-009	NO (-13.1%)	NO
01-Hotel-Standard-Ensuite-009	N/A	N/A
01-Hotel-Standard-Bedroom-010	NO (-12.7%)	NO
01-Hotel-Standard-Ensuite-010	N/A	N/A
01-Hotel-Standard-Bedroom-011	NO (-12.3%)	NO
01-Hotel-Standard-Ensuite-011	N/A	N/A
01-Hotel-Standard-Bedroom-012	NO (-14.6%)	NO
01-Hotel-Standard-Ensuite-012	N/A	N/A
01-Hotel-Standard-Bedroom-013	NO (-13.1%)	NO
01-Hotel-Standard-Ensuite-013	N/A	N/A
01-Hotel-Standard-Bedroom-014	NO (-10.8%)	NO
01-Hotel-Standard-Ensuite-014	N/A	N/A
01-Hotel-Standard-Bedroom-015	NO (-13.9%)	NO
01-Hotel-Standard-Ensuite-015	N/A	N/A
01-Hotel-Standard-Bedroom-016	NO (-12.5%)	NO
01-Hotel-Standard-Ensuite-016	N/A	N/A
01-Hotel-Standard-Bedroom-017	NO (-13.2%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
01-Hotel-Standard-Ensuite-017	N/A	N/A
01-Hotel-Standard-Bedroom-018	NO (-11.6%)	NO
01-Hotel-Standard-Ensuite-018	N/A	N/A
01-Hotel-Family-Bedroom	NO (-21.2%)	NO
01-Hotel-Family-Ensuite	N/A	N/A
01-Hotel-Family-Bedroom	NO (-54.8%)	NO
01-Hotel-Family-Ensuite	N/A	N/A
01-Hotel-Standard-Ensuite-020	N/A	N/A
01-Hotel-Standard-Bedroom-019	NO (-29.6%)	NO
01-Hotel-Standard-Ensuite-019	N/A	N/A
01-Hotel-Accessible-Bathroom-002	N/A	N/A
01-Hotel-Accessible-Bathroom-001	N/A	N/A
01-Hotel-Standard-Bedroom-020	NO (-59.5%)	NO
01-Hotel-Standard-Bedroom-007	NO (-40.3%)	NO
01-Hotel-Standard-ensuite-007	N/A	N/A
01-Hotel-Standard-Bedroom-006	NO (-38%)	NO
01-Hotel-Standard-Bedroom-001	NO (-15%)	NO
01-Hotel-Standard-Ensuite-001	N/A	N/A
01-Hotel-Standard-Bedroom-002	NO (-38.3%)	NO
01-Hotel-Standard-Ensuite-002	N/A	N/A
01-Hotel-Standard-Bedroom-003	NO (-38.6%)	NO
01-Hotel-Standard-Ensuite-003	N/A	N/A
01-Hotel-Standard-Bedroom-004	NO (-38.4%)	NO
01-Hotel-Standard-Ensuite-004	N/A	N/A
01-Hotel-Standard-Bedroom-005	NO (-37.8%)	NO
01-Hotel-Standard-Ensuite-005	N/A	N/A
01-Hotel-Standard-Ensuite-006	N/A	N/A
L08 Public Toilets	N/A	N/A
L08 Social Hub Seating	NO (-13.3%)	NO
L08 Kitchen	N/A	N/A
L08 General Office Area	NO (-61.2%)	NO
02-Hotel-Accessible-Bedroom-002	NO (-57.7%)	NO
02-Hotel-Accessible-Bedroom-001	NO (-70%)	NO
02-Hotel-Standard-Bedroom-008	NO (-13%)	NO
02-Hotel-Standard-Ensuite-008	N/A	N/A
02-Hotel-Standard-Bedroom-009	NO (-13.1%)	NO
02-Hotel-Standard-Ensuite-009	N/A	N/A
02-Hotel-Standard-Bedroom-010	NO (-12.7%)	NO
02-Hotel-Standard-Ensuite-010	N/A	N/A
02-Hotel-Standard-Bedroom-011	NO (-12.3%)	NO
02-Hotel-Standard-Ensuite-011	N/A	N/A
02-Hotel-Standard-Bedroom-012	NO (-14.6%)	NO
02-Hotel-Standard-Ensuite-012	N/A	N/A
02-Hotel-Standard-Bedroom-013	NO (-13.1%)	NO
02-Hotel-Standard-Ensuite-013	N/A	N/A
02-Hotel-Standard-Bedroom-014	NO (-10.8%)	NO
02-Hotel-Standard-Ensuite-014	N/A	N/A
02-Hotel-Standard-Bedroom-015	NO (-13.9%)	NO
02-Hotel-Standard-Ensuite-015	N/A	N/A

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
02-Hotel-Standard-Bedroom-016	NO (-12.5%)	NO
02-Hotel-Standard-Ensuite-016	N/A	N/A
02-Hotel-Standard-Bedroom-017	NO (-13.2%)	NO
02-Hotel-Standard-Ensuite-017	N/A	N/A
02-Hotel-Standard-Bedroom-018	NO (-11.6%)	NO
02-Hotel-Standard-Ensuite-018	N/A	N/A
02-Hotel-Family-Bedroom	NO (-21.2%)	NO
02-Hotel-Family-Ensuite	N/A	N/A
02-Hotel-Family-Bedroom	NO (-47.8%)	NO
02-Hotel-Family-Ensuite	N/A	N/A
02-Hotel-Standard-Ensuite-020	N/A	N/A
02-Hotel-Standard-Bedroom-019	NO (-29.6%)	NO
02-Hotel-Standard-Ensuite-019	N/A	N/A
02-Hotel-Accessible-Bathroom-002	N/A	N/A
02-Hotel-Accessible-Bathroom-001	N/A	N/A
02-Hotel-Standard-Bedroom-020	NO (-59.5%)	NO
02-Hotel-Standard-Bedroom-007	NO (-40.3%)	NO
02-Hotel-Standard-ensuite-007	N/A	N/A
02-Hotel-Standard-Bedroom-006	NO (-38%)	NO
02-Hotel-Standard-Bedroom-001	NO (-15%)	NO
02-Hotel-Standard-Ensuite-001	N/A	N/A
02-Hotel-Standard-Bedroom-002	NO (-38.3%)	NO
02-Hotel-Standard-Ensuite-002	N/A	N/A
02-Hotel-Standard-Bedroom-003	NO (-38.6%)	NO
02-Hotel-Standard-Ensuite-003	N/A	N/A
02-Hotel-Standard-Bedroom-004	NO (-38.4%)	NO
02-Hotel-Standard-Ensuite-004	N/A	N/A
02-Hotel-Standard-Bedroom-005	NO (-37.8%)	NO
02-Hotel-Standard-Ensuite-005	N/A	N/A
02-Hotel-Standard-Ensuite-006	N/A	N/A
03-Hotel-Accessible-Bedroom-002	NO (-57.7%)	NO
03-Hotel-Accessible-Bedroom-001	NO (-70%)	NO
03-Hotel-Standard-Bedroom-008	NO (-13%)	NO
03-Hotel-Standard-Ensuite-008	N/A	N/A
03-Hotel-Standard-Bedroom-009	NO (-13.1%)	NO
03-Hotel-Standard-Ensuite-009	N/A	N/A
03-Hotel-Standard-Bedroom-010	NO (-12.7%)	NO
03-Hotel-Standard-Ensuite-010	N/A	N/A
03-Hotel-Standard-Bedroom-011	NO (-12.3%)	NO
03-Hotel-Standard-Ensuite-011	N/A	N/A
03-Hotel-Standard-Bedroom-012	NO (-14.6%)	NO
03-Hotel-Standard-Ensuite-012	N/A	N/A
03-Hotel-Standard-Bedroom-013	NO (-13.1%)	NO
03-Hotel-Standard-Ensuite-013	N/A	N/A
03-Hotel-Standard-Bedroom-014	NO (-10.8%)	NO
03-Hotel-Standard-Ensuite-014	N/A	N/A
03-Hotel-Standard-Bedroom-015	NO (-13.9%)	NO
03-Hotel-Standard-Ensuite-015	N/A	N/A
03-Hotel-Standard-Bedroom-016	NO (-12.5%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
03-Hotel-Standard-Ensuite-016	N/A	N/A
03-Hotel-Standard-Bedroom-017	NO (-13.2%)	NO
03-Hotel-Standard-Ensuite-017	N/A	N/A
03-Hotel-Standard-Bedroom-018	NO (-11.6%)	NO
03-Hotel-Standard-Ensuite-018	N/A	N/A
03-Hotel-Family-Bedroom	NO (-21.2%)	NO
03-Hotel-Family-Ensuite	N/A	N/A
03-Hotel-Family-Bedroom	NO (-47.8%)	NO
03-Hotel-Family-Ensuite	N/A	N/A
03-Hotel-Standard-Ensuite-020	N/A	N/A
03-Hotel-Standard-Bedroom-019	NO (-29.6%)	NO
03-Hotel-Standard-Ensuite-019	N/A	N/A
03-Hotel-Accessible-Bathroom-002	N/A	N/A
03-Hotel-Accessible-Bathroom-001	N/A	N/A
03-Hotel-Standard-Bedroom-020	NO (-59.5%)	NO
03-Hotel-Standard-Bedroom-007	NO (-40.3%)	NO
03-Hotel-Standard-ensuite-007	N/A	N/A
03-Hotel-Standard-Bedroom-006	NO (-38%)	NO
03-Hotel-Standard-Bedroom-001	NO (-15%)	NO
03-Hotel-Standard-Ensuite-001	N/A	N/A
03-Hotel-Standard-Bedroom-002	NO (-38.3%)	NO
03-Hotel-Standard-Ensuite-002	N/A	N/A
03-Hotel-Standard-Bedroom-003	NO (-38.6%)	NO
03-Hotel-Standard-Ensuite-003	N/A	N/A
03-Hotel-Standard-Bedroom-004	NO (-38.4%)	NO
03-Hotel-Standard-Ensuite-004	N/A	N/A
03-Hotel-Standard-Bedroom-005	NO (-37.8%)	NO
03-Hotel-Standard-Ensuite-005	N/A	N/A
03-Hotel-Standard-Ensuite-006	N/A	N/A
04-Hotel-Accessible-Bedroom-002	NO (-57.7%)	NO
04-Hotel-Accessible-Bedroom-001	NO (-70%)	NO
04-Hotel-Standard-Bedroom-008	NO (-13%)	NO
04-Hotel-Standard-Ensuite-008	N/A	N/A
04-Hotel-Standard-Bedroom-009	NO (-13.1%)	NO
04-Hotel-Standard-Ensuite-009	N/A	N/A
04-Hotel-Standard-Bedroom-010	NO (-12.7%)	NO
04-Hotel-Standard-Ensuite-010	N/A	N/A
04-Hotel-Standard-Bedroom-011	NO (-12.3%)	NO
04-Hotel-Standard-Ensuite-011	N/A	N/A
04-Hotel-Standard-Bedroom-012	NO (-14.6%)	NO
04-Hotel-Standard-Ensuite-012	N/A	N/A
04-Hotel-Standard-Bedroom-013	NO (-13.1%)	NO
04-Hotel-Standard-Ensuite-013	N/A	N/A
04-Hotel-Standard-Bedroom-014	NO (-10.8%)	NO
04-Hotel-Standard-Ensuite-014	N/A	N/A
04-Hotel-Standard-Bedroom-015	NO (-13.9%)	NO
04-Hotel-Standard-Ensuite-015	N/A	N/A
04-Hotel-Standard-Bedroom-016	NO (-12.5%)	NO
04-Hotel-Standard-Ensuite-016	N/A	N/A

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
04-Hotel-Standard-Bedroom-017	NO (-13.2%)	NO
04-Hotel-Standard-Ensuite-017	N/A	N/A
04-Hotel-Standard-Bedroom-018	NO (-11.6%)	NO
04-Hotel-Standard-Ensuite-018	N/A	N/A
04-Hotel-Family-Bedroom	NO (-21.2%)	NO
04-Hotel-Family-Ensuite	N/A	N/A
04-Hotel-Family-Bedroom	NO (-47.8%)	NO
04-Hotel-Family-Ensuite	N/A	N/A
04-Hotel-Standard-Ensuite-020	N/A	N/A
04-Hotel-Standard-Bedroom-019	NO (-29.6%)	NO
04-Hotel-Standard-Ensuite-019	N/A	N/A
04-Hotel-Accessible-Bathroom-002	N/A	N/A
04-Hotel-Accessible-Bathroom-001	N/A	N/A
04-Hotel-Standard-Bedroom-020	NO (-59.5%)	NO
04-Hotel-Standard-Bedroom-007	NO (-40.3%)	NO
04-Hotel-Standard-ensuite-007	N/A	N/A
04-Hotel-Standard-Bedroom-006	NO (-38%)	NO
04-Hotel-Standard-Bedroom-001	NO (-15%)	NO
04-Hotel-Standard-Ensuite-001	N/A	N/A
04-Hotel-Standard-Bedroom-002	NO (-38.3%)	NO
04-Hotel-Standard-Ensuite-002	N/A	N/A
04-Hotel-Standard-Bedroom-003	NO (-38.6%)	NO
04-Hotel-Standard-Ensuite-003	N/A	N/A
04-Hotel-Standard-Bedroom-004	NO (-38.4%)	NO
04-Hotel-Standard-Ensuite-004	N/A	N/A
04-Hotel-Standard-Bedroom-005	NO (-37.8%)	NO
04-Hotel-Standard-Ensuite-005	N/A	N/A
04-Hotel-Standard-Ensuite-006	N/A	N/A
05-Hotel-Accessible-Bedroom-002	NO (-57.7%)	NO
05-Hotel-Accessible-Bedroom-001	NO (-70%)	NO
05-Hotel-Standard-Bedroom-008	NO (-13%)	NO
05-Hotel-Standard-Ensuite-008	N/A	N/A
05-Hotel-Standard-Bedroom-009	NO (-13.1%)	NO
05-Hotel-Standard-Ensuite-009	N/A	N/A
05-Hotel-Standard-Bedroom-010	NO (-12.7%)	NO
05-Hotel-Standard-Ensuite-010	N/A	N/A
05-Hotel-Standard-Bedroom-011	NO (-12.3%)	NO
05-Hotel-Standard-Ensuite-011	N/A	N/A
05-Hotel-Standard-Bedroom-012	NO (-14.6%)	NO
05-Hotel-Standard-Ensuite-012	N/A	N/A
05-Hotel-Standard-Bedroom-013	NO (-13.1%)	NO
05-Hotel-Standard-Ensuite-013	N/A	N/A
05-Hotel-Standard-Bedroom-014	NO (-10.8%)	NO
05-Hotel-Standard-Ensuite-014	N/A	N/A
05-Hotel-Standard-Bedroom-015	NO (-13.9%)	NO
05-Hotel-Standard-Ensuite-015	N/A	N/A
05-Hotel-Standard-Bedroom-016	NO (-12.5%)	NO
05-Hotel-Standard-Ensuite-016	N/A	N/A
05-Hotel-Standard-Bedroom-017	NO (-13.2%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
05-Hotel-Standard-Ensuite-017	N/A	N/A
05-Hotel-Standard-Bedroom-018	NO (-11.6%)	NO
05-Hotel-Standard-Ensuite-018	N/A	N/A
05-Hotel-Family-Bedroom	NO (-21.2%)	NO
05-Hotel-Family-Ensuite	N/A	N/A
05-Hotel-Family-Bedroom	NO (-47.8%)	NO
05-Hotel-Family-Ensuite	N/A	N/A
05-Hotel-Standard-Ensuite-020	N/A	N/A
05-Hotel-Standard-Bedroom-019	NO (-29.6%)	NO
05-Hotel-Standard-Ensuite-019	N/A	N/A
05-Hotel-Accessible-Bathroom-002	N/A	N/A
05-Hotel-Accessible-Bathroom-001	N/A	N/A
05-Hotel-Standard-Bedroom-020	NO (-59.5%)	NO
05-Hotel-Standard-Bedroom-007	NO (-40.3%)	NO
05-Hotel-Standard-ensuite-007	N/A	N/A
05-Hotel-Standard-Bedroom-006	NO (-38%)	NO
05-Hotel-Standard-Bedroom-001	NO (-15%)	NO
05-Hotel-Standard-Ensuite-001	N/A	N/A
05-Hotel-Standard-Bedroom-002	NO (-38.3%)	NO
05-Hotel-Standard-Ensuite-002	N/A	N/A
05-Hotel-Standard-Bedroom-003	NO (-38.6%)	NO
05-Hotel-Standard-Ensuite-003	N/A	N/A
05-Hotel-Standard-Bedroom-004	NO (-38.4%)	NO
05-Hotel-Standard-Ensuite-004	N/A	N/A
05-Hotel-Standard-Bedroom-005	NO (-37.8%)	NO
05-Hotel-Standard-Ensuite-005	N/A	N/A
05-Hotel-Standard-Ensuite-006	N/A	N/A
06-Hotel-Accessible-Bedroom-002	NO (-57.7%)	NO
06-Hotel-Accessible-Bedroom-001	NO (-70%)	NO
06-Hotel-Standard-Bedroom-008	NO (-13%)	NO
06-Hotel-Standard-Ensuite-008	N/A	N/A
06-Hotel-Standard-Bedroom-009	NO (-13.1%)	NO
06-Hotel-Standard-Ensuite-009	N/A	N/A
06-Hotel-Standard-Bedroom-010	NO (-12.7%)	NO
06-Hotel-Standard-Ensuite-010	N/A	N/A
06-Hotel-Standard-Bedroom-011	NO (-12.3%)	NO
06-Hotel-Standard-Ensuite-011	N/A	N/A
06-Hotel-Standard-Bedroom-012	NO (-14.6%)	NO
06-Hotel-Standard-Ensuite-012	N/A	N/A
06-Hotel-Standard-Bedroom-013	NO (-13.1%)	NO
06-Hotel-Standard-Ensuite-013	N/A	N/A
06-Hotel-Standard-Bedroom-014	NO (-10.8%)	NO
06-Hotel-Standard-Ensuite-014	N/A	N/A
06-Hotel-Standard-Bedroom-015	NO (-13.9%)	NO
06-Hotel-Standard-Ensuite-015	N/A	N/A
06-Hotel-Standard-Bedroom-016	NO (-12.5%)	NO
06-Hotel-Standard-Ensuite-016	N/A	N/A
06-Hotel-Standard-Bedroom-017	NO (-13.2%)	NO
06-Hotel-Standard-Ensuite-017	N/A	N/A

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
06-Hotel-Standard-Bedroom-018	NO (-11.6%)	NO
06-Hotel-Standard-Ensuite-018	N/A	N/A
06-Hotel-Family-Bedroom	NO (-21.2%)	NO
06-Hotel-Family-Ensuite	N/A	N/A
06-Hotel-Family-Bedroom	NO (-47.8%)	NO
06-Hotel-Family-Ensuite	N/A	N/A
06-Hotel-Standard-Ensuite-020	N/A	N/A
06-Hotel-Standard-Bedroom-019	NO (-29.6%)	NO
06-Hotel-Standard-Ensuite-019	N/A	N/A
06-Hotel-Accessible-Bathroom-002	N/A	N/A
06-Hotel-Accessible-Bathroom-001	N/A	N/A
06-Hotel-Standard-Bedroom-020	NO (-59.5%)	NO
06-Hotel-Standard-Bedroom-007	NO (-40.3%)	NO
06-Hotel-Standard-ensuite-007	N/A	N/A
06-Hotel-Standard-Bedroom-006	NO (-38%)	NO
06-Hotel-Standard-Bedroom-001	NO (-15%)	NO
06-Hotel-Standard-Ensuite-001	N/A	N/A
06-Hotel-Standard-Bedroom-002	NO (-38.3%)	NO
06-Hotel-Standard-Ensuite-002	N/A	N/A
06-Hotel-Standard-Bedroom-003	NO (-38.6%)	NO
06-Hotel-Standard-Ensuite-003	N/A	N/A
06-Hotel-Standard-Bedroom-004	NO (-38.4%)	NO
06-Hotel-Standard-Ensuite-004	N/A	N/A
06-Hotel-Standard-Bedroom-005	NO (-37.8%)	NO
06-Hotel-Standard-Ensuite-005	N/A	N/A
06-Hotel-Standard-Ensuite-006	N/A	N/A
07-Hotel-Accessible-Bedroom-002	NO (-57.7%)	NO
07-Hotel-Accessible-Bedroom-001	NO (-70%)	NO
07-Hotel-Standard-Bedroom-008	NO (-13%)	NO
07-Hotel-Standard-Ensuite-008	N/A	N/A
07-Hotel-Standard-Bedroom-009	NO (-13.1%)	NO
07-Hotel-Standard-Ensuite-009	N/A	N/A
07-Hotel-Standard-Bedroom-010	NO (-12.7%)	NO
07-Hotel-Standard-Ensuite-010	N/A	N/A
07-Hotel-Standard-Bedroom-011	NO (-12.3%)	NO
07-Hotel-Standard-Ensuite-011	N/A	N/A
07-Hotel-Standard-Bedroom-012	NO (-14.6%)	NO
07-Hotel-Standard-Ensuite-012	N/A	N/A
07-Hotel-Standard-Bedroom-013	NO (-13.1%)	NO
07-Hotel-Standard-Ensuite-013	N/A	N/A
07-Hotel-Standard-Bedroom-014	NO (-10.8%)	NO
07-Hotel-Standard-Ensuite-014	N/A	N/A
07-Hotel-Standard-Bedroom-015	NO (-13.9%)	NO
07-Hotel-Standard-Ensuite-015	N/A	N/A
07-Hotel-Standard-Bedroom-016	NO (-12.5%)	NO
07-Hotel-Standard-Ensuite-016	N/A	N/A
07-Hotel-Standard-Bedroom-017	NO (-13.2%)	NO
07-Hotel-Standard-Ensuite-017	N/A	N/A
07-Hotel-Standard-Bedroom-018	NO (-11.6%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
07-Hotel-Standard-Ensuite-018	N/A	N/A
07-Hotel-Family-Bedroom	NO (-21.2%)	NO
07-Hotel-Family-Ensuite	N/A	N/A
07-Hotel-Family-Bedroom	NO (-47.8%)	NO
07-Hotel-Family-Ensuite	N/A	N/A
07-Hotel-Standard-Ensuite-020	N/A	N/A
07-Hotel-Standard-Bedroom-019	NO (-29.6%)	NO
07-Hotel-Standard-Ensuite-019	N/A	N/A
07-Hotel-Accessible-Bathroom-002	N/A	N/A
07-Hotel-Accessible-Bathroom-001	N/A	N/A
07-Hotel-Standard-Bedroom-020	NO (-59.5%)	NO
07-Hotel-Standard-Bedroom-007	NO (-40.3%)	NO
07-Hotel-Standard-ensuite-007	N/A	N/A
07-Hotel-Standard-Bedroom-006	NO (-38%)	NO
07-Hotel-Standard-Bedroom-001	NO (-15%)	NO
07-Hotel-Standard-Ensuite-001	N/A	N/A
07-Hotel-Standard-Bedroom-002	NO (-38.3%)	NO
07-Hotel-Standard-Ensuite-002	N/A	N/A
07-Hotel-Standard-Bedroom-003	NO (-38.6%)	NO
07-Hotel-Standard-Ensuite-003	N/A	N/A
07-Hotel-Standard-Bedroom-004	NO (-38.4%)	NO
07-Hotel-Standard-Ensuite-004	N/A	N/A
07-Hotel-Standard-Bedroom-005	NO (-37.8%)	NO
07-Hotel-Standard-Ensuite-005	N/A	N/A
07-Hotel-Standard-Ensuite-006	N/A	N/A
Main House Keeping	N/A	N/A

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	YES
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	YES

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m ²]	7149.9	7149.9
External area [m ²]	6052.1	6052.1
Weather	LON	LON
Infiltration [m ³ /hm ² @ 50Pa]	3	3
Average conductance [W/K]	2886.97	2735.32
Average U-value [W/m ² K]	0.48	0.45
Alpha value* [%]	25.29	10

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
15	Retail/Financial and Professional Services Restaurants and Cafes/Drinking Establishments/Takeaways Offices and Workshop Businesses General Industrial and Special Industrial Groups Storage or Distribution
85	Hotels Residential Institutions: Hospitals and Care Homes Residential Institutions: Residential Schools Residential Institutions: Universities and Colleges Secure Residential Institutions Residential Spaces Non-residential Institutions: Community/Day Centre Non-residential Institutions: Libraries, Museums, and Galleries Non-residential Institutions: Education Non-residential Institutions: Primary Health Care Building Non-residential Institutions: Crown and County Courts General Assembly and Leisure, Night Clubs, and Theatres Others: Passenger Terminals Others: Emergency Services Others: Miscellaneous 24hr Activities Others: Car Parks 24 hrs Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	4.65	4.47
Cooling	4.12	2.99
Auxiliary	2.84	10.3
Lighting	9.6	11.16
Hot water	48.41	46.66
Equipment*	48.18	48.18
TOTAL **	69.62	75.57

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	0	0

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	139.03	94.56
Primary energy [kWh _{PE} /m ²]	102.78	111.59
Total emissions [kg/m ²]	9.44	10.25

HVAC Systems Performance										
System Type	Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] Variable refrigerant flow, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
Actual	35.6	72.4	3.8	3.1	3.3	2.63	6.4	2.64	9.16	
Notional	46.4	45	4.6	2.7	14.5	2.78	4.63	----	----	
[ST] Variable refrigerant flow, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
Actual	40.8	296.4	4.5	12.6	1	2.55	6.56	2.64	9.16	
Notional	19.7	132.9	2	8	9.5	2.78	4.63	----	----	
[ST] Central heating using water: radiators, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
Actual	90.4	0	10.1	0	3.3	2.48	0	2.64	0	
Notional	91.9	0	9.2	0	2	2.78	0	----	----	
[ST] No Heating or Cooling										
Actual	0	0	0	0	0	0	0	0	0	
Notional	0	0	0	0	0	0	0	----	----	

Key to terms

Heat dem [MJ/m2]	= Heating energy demand
Cool dem [MJ/m2]	= Cooling energy demand
Heat con [kWh/m2]	= Heating energy consumption
Cool con [kWh/m2]	= Cooling energy consumption
Aux con [kWh/m2]	= Auxiliary energy consumption
Heat SSEFF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type