

General lighting and display lighting	Luminous efficacy [lm/W]			
Zone name	Luminaire	Lamp	Display lamp	General lighting [W]
Standard value	60	60	22	
L9_ZC_CC_I_02	-	80	-	26
L9_ZC_CO_E_01	100	-	-	153
L9_ZC_WS_W_02	100	-	-	230
L9_ZC_WS_W_03	100	-	-	201
L9_ZC_MR_E_01	105	-	-	40
L9_ZC_MR_E_02	105	-	-	40
L9_ZC_MR_E_03	105	-	-	40
L9_ZC_MR_W_05	105	-	-	45
L9_ZC_MR_W_04	105	-	-	45
L9_ZC_MR_W_06	105	-	-	45
L5_ZC_Kitchen	-	105	-	67
L9_ZC_WS_W_04	100	-	-	165
L9_ZC_CO_E_06	100	-	-	94
L9_ZC_CC_I_03	-	80	-	44
L5_ZC_WS_E_01	100	-	-	430
L5_ZC_CO_E_03	100	-	-	80
L5_ZC_CO_E_01	100	-	-	77
L5_ZC_CO_E_02	100	-	-	75
L5_ZC_CO_E_04	100	-	-	77
L5_XB_ELEC_I_01	80	-	-	11
L9_ZC_CC_I_02	-	80	-	47
L9_ZC_WS_W_01	100	-	-	213
L9_ZC_Tea_W_01	-	90	-	81
L9_XC_WC_I_01	-	100	-	30
L9_ZC_Comms_W_01	90	-	-	32
L9_ZC_Locker	100	-	-	11
L5_ZC_TS_E_TRep_2	95	-	-	307
L5_ZC_TS_E_TRep_1	95	-	-	338
L9_ZC_CC_I_04	-	80	-	41
L9_ZC_CC_I_04	-	80	-	23
L9_ZC_CC_I_04	-	80	-	41
L9_ZC_QR_1	105	-	-	40
L9_ZC_QR_2	105	-	-	40
L9_ZC_QR_3	105	-	-	40
L9_ZC_CO_E_16	100	-	-	255

Criterion 3: The spaces in the building should have appropriate passive control measures to limit solar gains

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
L9_ZC_CO_E_02	NO (-78%)	NO
L9_ZC_CO_E_03	NO (-35.7%)	NO
L9_ZC_CO_E_04	NO (-36.1%)	NO
L9_ZC_CO_E_05	NO (-36.1%)	NO
L9_ZC_CO_E_07	NO (-36.2%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
L9_ZC_CO_E_08	NO (-36.2%)	NO
L9_ZC_CO_E_09	NO (-36.2%)	NO
L9_ZC_CO_E_10	NO (-36.2%)	NO
L9_ZC_CO_E_11	NO (-36.2%)	NO
L9_ZC_CO_E_12	NO (-36.2%)	NO
L9_ZC_CO_E_13	NO (-36.2%)	NO
L9_ZC_CO_E_14	NO (-36%)	NO
L9_ZC_CO_E_15	NO (-35.9%)	NO
L9_ZC_CO_E_01	NO (-78.5%)	NO
L9_ZC_WS_W_02	NO (-2.2%)	NO
L9_ZC_WS_W_03	NO (-4.6%)	NO
L9_ZC_MR_E_01	N/A	N/A
L9_ZC_MR_E_02	N/A	N/A
L9_ZC_MR_E_03	N/A	N/A
L9_ZC_MR_W_05	N/A	N/A
L9_ZC_MR_W_04	N/A	N/A
L9_ZC_MR_W_06	N/A	N/A
L5_ZC_Kitchen	N/A	N/A
L9_ZC_WS_W_04	NO (-3.5%)	NO
L9_ZC_CO_E_06	NO (-36.2%)	NO
L5_ZC_WS_E_01	NO (-78.1%)	NO
L5_ZC_CO_E_03	NO (-78.1%)	NO
L5_ZC_CO_E_01	NO (-91.2%)	NO
L5_ZC_CO_E_02	N/A	N/A
L5_ZC_CO_E_04	N/A	N/A
L9_ZC_WS_W_01	NO (-11%)	NO
L9_ZC_Tea_W_01	NO (-16.4%)	NO
L9_ZC_Comms_W_01	N/A	N/A
L9_ZC_Locker	N/A	N/A
L5_ZC_TS_E_TRep_2	NO (-84.3%)	NO
L5_ZC_TS_E_TRep_1	NO (-77.2%)	NO
L9_ZC_QR_1	N/A	N/A
L9_ZC_QR_2	N/A	N/A
L9_ZC_QR_3	N/A	N/A
L9_ZC_CO_E_16	NO (-69.9%)	NO

Criterion 4: The performance of the building, as built, should be consistent with the calculated BER

Separate submission

Criterion 5: The necessary provisions for enabling energy-efficient operation of the building should be in place

Separate submission

EPBD (Recast): Consideration of alternative energy systems

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

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters			Building Use	
	Actual	Notional	% Area	Building Type
Area [m²]	810.8	810.8	1	A1/A2 Retail/Financial and Professional services
External area [m²]	1087.6	1112.8		A3/A4/A5 Restaurants and Cafes/Drinking Est./Takeaways
Weather	LON	LON		B1 Offices and Workshop businesses
Infiltration [m³/hm²@ 50Pa]	10	3		B2 to B7 General Industrial and Special Industrial Groups
Average conductance [W/K]	752.39	477.6		B8 Storage or Distribution
Average U-value [W/m²K]	0.69	0.43		C1 Hotels
Alpha value* [%]	9.28	10		C2 Residential Institutions: Hospitals and Care Homes
				C2 Residential Institutions: Residential schools
				C2 Residential Institutions: Universities and colleges
				C2A Secure Residential Institutions
* Percentage of the building's average heat transfer coefficient which is due to thermal bridging			99	Residential spaces
				D1 Non-residential Institutions: Community/Day Centre
				D1 Non-residential Institutions: Libraries, Museums, and Galleries
				D1 Non-residential Institutions: Education
				D1 Non-residential Institutions: Primary Health Care Building
				D1 Non-residential Institutions: Crown and County Courts
				D2 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	36.9	12.58
Cooling	5.08	5.68
Auxiliary	28.57	15.4
Lighting	7.7	16.69
Hot water	103.39	2.08
Equipment*	45.54	45.54
TOTAL **	181.65	52.43

* 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

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m²]	173.07	116.52
Primary energy* [kWh/m²]	294.94	130.95
Total emissions [kg/m²]	51.2	22.3

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

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] Fan coil systems, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	69	35.1	22.7	2.8	13.4	0.85	3.53	0.91	4.5
	Notional	15.1	77.1	4.8	5.6	10.7	0.86	3.79	----	----
[ST] Single-duct VAV, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	120.4	17	43.2	1.5	39.6	0.77	3.1	0.91	4.4
	Notional	46	62.2	14.8	4.6	15.8	0.86	3.79	----	----
[ST] Single-duct VAV, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	137.5	53	49.3	4.7	34.5	0.77	3.12	0.91	4.43
	Notional	48.4	97.9	15.6	7.2	15.3	0.86	3.79	----	----
[ST] Constant volume system (fixed fresh air rate), [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	15.6	3.5	4.2	0.4	8	1.03	2.46	0.91	4.6
	Notional	12.4	6.5	4	0.5	6	0.86	3.79	----	----
[ST] Fan coil systems, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	167.7	101.2	55.1	8.1	22.9	0.85	3.45	0.91	4.4
	Notional	62.1	99.6	20	7.3	21	0.86	3.79	----	----
[ST] Split or multi-split system, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	0	0	0	0	0	0.85	2.13	0.91	3
	Notional	0	0	0	0	0	0.86	3.79	----	----
[ST] Single-duct VAV, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	0	87.5	0	7.8	18.4	0.77	3.1	0.91	4.4
	Notional	0	166.7	0	12.2	24.4	0.86	3.79	----	----
[ST] Fan coil systems, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
	Actual	70.1	183.6	23	14.8	16.5	0.85	3.45	0.91	4.4
	Notional	11.6	166.5	3.7	12.2	14.8	0.86	3.79	----	----
[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