

Appendix 2 – Exterior lighting calculation summary

Exterior Lighting Calculation Summary Table

Calculation Summary								
	Area Type	Target Average Lux Level	Average	Minimum	Maximum	Target Uniformity	Uniformity	Comments
Label	From Table 2.2	(lx)	(lx)	(lx)	(lx)	u0	u0	
Bldg 10 and 11 Passage	Walkway	5	13	4.97	23	0.25	0.37	
Bldg 5 and 6 Passage	Walkway	5	31	9.21	112	0.25	0.292	
Bldg 6 and 9 Walkway	Walkway	5	13	4.81	20	0.25	0.374	
Bldg 6 and 7 Ramp 1	Walkway	5	5.55	2.93	8.13	0.25	0.528	
Bldg 6 and 7 Ramp 2	Walkway	5	8.04	4.58	11	0.25	0.57	
Bldg 6 and 7 Stairs 1	Walkway	5	5.31	3.99	6.99	0.25	0.751	
Bldg 6 and 7 Stairs 2	Walkway	5	13	4.71	20	0.25	0.359	
Block 6 by Square	Walkway	5	21	6.14	59	0.25	0.298	
Block 7 and 8 Passage	Walkway	5	77	34	108	0.25	0.436	
Brancaster Road	Traffic Area (Road)	10	23	12	33	0.4	0.53	
Charles Street	Traffic Area (Road)	10	16	7	27	0.4	0.437	
Medlock Place	Walkway	5	12	5.18	18	0.25	0.438	
Medlock Place Stairs 1	Walkway	5	17	8.11	27	0.25	0.473	
Medlock Walk	Walkway	5	5.29	1.47	14	0.25	0.278	
MSCP Path	Walkway	5	16	3.89	29	0.25	0.251	Modications have been accounted for (increase in fittings from 1-2 on walkway - see appedix 1 for proposed locations)
MSCP Steps	Walkway	5	29	15	41	0.25	0.534	
Oxford Road	Traffic Area (Road)	10	14	7.71	19	0.4	0.557	
Ribbon 1	Walkway	5	26	9.94	70	0.25	0.389	
Ribbon 2 Pt 1	Walkway	5	12	3.41	282	0.25	0.275	
Ribbon 2 Pt 2	Walkway	5	22	8.17	46	0.25	0.373	
The Walks Pt 1	Walkway	5	8.84	2.22	40	0.25	0.251	
The Walks Pt 2	Walkway	5	12	4.12	480	0.25	0.336	
The Walks Pt 3	Walkway	5	15	4.16	29	0.25	0.273	
The Walks Pt 4	Walkway	5	8.44	2.15	26	0.25	0.255	

	Non Compliant
	Marginally Compliant
	Compliant

Appendix 3 – Vertical illuminance calculation summary

Circle Square External Lighting Vertical Illuminance Summary Table 1

Calculation Summary - Retail Level								
Building	Elevation	Height	Maximum illuminance (pre curfew)	Maximum illuminance (post curfew)	Calculated illuminance (Point 1)	Calculated illuminance (Point 2)	Calculated illuminance (Point 3)	Calculated illuminance (Point 4)
2	A	Ground Floor Retail Level	25lx	5lx	2.39 lx	0.02 lx	3.63 lx	N/A
2	B	Ground Floor Retail Level	25lx	5lx	9.63 lx	3.37 lx	4.08 lx	N/A
2	C	Ground Floor Retail Level	25lx	5lx	13.00 lx	16.00 lx	5.14 lx	N/A
2	D	Ground Floor Retail Level	25lx	5lx	1.01 lx	1.04 lx	2.77 lx	N/A
3	A	Ground Floor Retail Level	25lx	5lx	5.18 lx	9.33 lx	34.00 lx	N/A
3	B	Ground Floor Retail Level	25lx	5lx	2.16 lx	2.20 lx	1.10 lx	N/A
3	C	Ground Floor Retail Level	25lx	5lx	9.07 lx	0.02 lx	1.14 lx	N/A
3	D	Ground Floor Retail Level	25lx	5lx	N/A	N/A	N/A	N/A
4	A	Ground Floor Retail Level	25lx	5lx	2.47 lx	2.34 lx	2.49 lx	N/A
4	B	Ground Floor Retail Level	25lx	5lx	6.21 lx	12.00 lx	12.00 lx	N/A
4	C	Ground Floor Retail Level	25lx	5lx	3.14 lx	24.00 lx	8.19 lx	N/A
4	D	Ground Floor Retail Level	25lx	5lx	1.02 lx	1.23 lx	1.24 lx	N/A
5	C	Ground Floor Retail Level	25lx	5lx	5.05 lx	3.96 lx	2.09 lx	N/A
6	C	Ground Floor Retail Level	25lx	5lx	6.68 lx	13.00 lx	14.00 lx	N/A
7	D	Ground Floor Retail Level	25lx	5lx	1.84 lx	1.44 lx	1.10 lx	N/A
8	D	Ground Floor Retail Level	25lx	5lx	1.43 lx	0.97 lx	0.84 lx	N/A
Manchester Tech Centre	-	Ground Floor Level	25lx	5lx	4.97 lx	1.38 lx	2.12 lx	N/A

	Compliant
	Marginally compliant
	Non-Compliant - compliant level to be achieved by dimming if required to retail elevations

Notes

1. Vertical plane calculation included at 3 points along the elevation.

Circle Square External Lighting Vertical Illuminance Summary Table 2

Calculation Summary - Residential Level								
Building	Elevation	Height	Maximum illuminance (pre curfew)	Maximum illuminance (post curfew)	Calculated illuminance (Point 1)	Calculated illuminance (Point 2)	Calculated illuminance (Point 3)	Calculated illuminance (Point 4)
2	A	Residential Level 01	25lx	5lx	0.27 lx	0.01 lx	0.59 lx	N/A
2	B	Residential Level 01	25lx	5lx	0.49 lx	0.29 lx	0.16 lx	N/A
2	C	Residential Level 01	25lx	5lx	0.00 lx	0.00 lx	0.01 lx	N/A
2	D	Residential Level 01	25lx	5lx	0.02 lx	0.00 lx	0.00 lx	N/A
4	A	Residential Level 01	25lx	5lx	0.20 lx	0.13 lx	0.05 lx	N/A
4	B	Residential Level 01	25lx	5lx	1.11 lx	2.43 lx	2.35 lx	N/A
4	C	Residential Level 01	25lx	5lx	0.21 lx	0.38 lx	0.30 lx	N/A
4	D	Residential Level 01	25lx	5lx	0.01 lx	0.00 lx	0.01 lx	N/A
5	C	Residential Level 01	25lx	5lx	0.89 lx	0.51 lx	0.66 lx	N/A
6	C	Residential Level 01	25lx	5lx	1.48 lx	0.41 lx	0.66 lx	N/A
7	D	Residential Level 01	25lx	5lx	0.00 lx	0.00 lx	0.01 lx	N/A
8	D	Residential Level 01	25lx	5lx	0.00 lx	0.00 lx	0.00 lx	N/A
Manchester Tech Centre	-	Level 01	25lx	5lx	2.00 lx	1.10 lx	1.68 lx	N/A

	Compliant
	Marginally compliant
	Non-Compliant - compliant level to be achieved by dimming if required to retail elevations

Notes

1. Vertical plane calculation included at 3 points along the elevation.

Appendix 4 – Vertical illuminance elevations drawing