DATE:	**26 May 2021**
DESIGNER:	**Patrick Redmond**
PROJECT No:	**20064**
PROJECT NAME:	**Proposed Residential Development at Rookwood REV A**

Lighting on entrance road designed to comply with I.S. EN 13201-2:2015 P4, and P5 in the residential area, prior to dimming by 25%. Energy consumption assessed in accordance with I.S. EN 13201-5:2015.

A product specific S/P ratio has been applied to the calculation to factor visual efficacy under low level white light, in line with guidance offered by PLG 03 (ILP '12).

LMF 0.92 x LDF 0.9 x LSF 1 = MF 0.83 at 100,000 hours with 25 degree ambient. Photometry measured at minimum 15 degree ambient.

Luminaire A & C = 8W. Luminaire B & D = 11W.
Luminaire E = 6W. Luminaire F = 5W. Luminaire G = 2W.
Connected load, averaged for CLO.

Lighting Level ~ Dimmed By 25%

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Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Access Road TIC	936.23	1004.74	76.99	34.75	1.48	1.45
2	Private Zone 1 Not TIC	989.10	908.05	37.80	57.06	1.58	1.54
3	Private Zone 2 Not TIC	1074.73	949.24	50.85	97.52	1.50	1.48
4	Horizontal assessment 1	938.84	889.09	171.07	167.14	1.49	1.49
5	Vertical assessment	1035.33	999.36	14.74	7.00	0.98	0.50
6	Vertical assessment 2	964.86	995.54	14.75	7.00	0.98	0.50

Luminaires

Luminaire A Data

Supplier	Urbis Schreder
Type	AXIA 2 1 5165 Integrated lenses Rear louvers 8 OSLON SQUARE
Lamp(s)	8 OSLON SQUARE GIANT@350mA WW 730 230V
LampFlux(klm)/Colour	1 02 WW 3000K/70
File Name	AXIA 2 1 5165 8 OSLON SQUARE GIANT 35 0mA WW 730 10 3W 434262 Integrated lens
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	1690 7 164 7 3 2
Lamp S/P Ratio	1 35
No. in Project	2

Luminaire B Data

Supplier	Urbis Schreder
Type	AXIA 2 1 5233 Integrated lenses Front louvers 8 OSLON SQUARE
Lamp(s)	8 OSLON SQUARE GIANT@500mA WW 730 230V
LampFlux(klm)/Colour	1 16 WW 3000K/70
File Name	AXIA 2 1 5233 8 OSLON SQUARE GIANT 50 0mA WW 730 14 2W 434742 Integrated lens.
Maintenance Factor	0 83
Imax70,80,90(cd/klm)	386 3, 7 4, 1 6
Lamp S/P Ratio	1 35
No. in Project	2

Luminaire C Data

Supplier	Urbis Schreder
Type	AXIA 2 1 5165 Integrated lenses Rear louvers 4 OSLON SQUARE
Lamp(s)	4 OSLON SQUARE GIANT@680mA WW 730 230V
LampFlux(klm)/Colour	0 91 WW 3000K/70
File Name	AXIA 2 1 5165 4 OSLON SQUARE GIANT 68 0mA WW 730 10 3W 434262 Integrated lens
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	1690 7 164 7 3 2
Lamp S/P Ratio	1 35
No. in Project	2

Luminaire D Data

Supplier	Urbis Schreder
Type	AXIA 2 1 5187 Integrated lenses Front louvers 8 OSLON SQUARE
Lamp(s)	8 OSLON SQUARE GIANT@500mA WW 730 230V
LampFlux(klm)/Colour	0 97 WW 3000K/70
File Name	AXIA 2 1 5187 8 OSLON SQUARE GIANT 50 0mA WW 730 14 2W 434672 Integrated lens
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	951 3 78 6 2 4
Lamp S/P Ratio	1 35
No. in Project	1

Luminaires

Luminaire E Data

Supplier	Urbis Schreder
Type	AXIA 2 1 5241 Integrated lenses Rear louvers 4 OSLON SQUARE
Lamp(s)	4 OSLON SQUARE GIANT@500mA WW 730 230V
LampFlux(klm)/Colour	0.66 WW 3000K/70
File Name	AXIA 2 1 5241 4 OSLON SQUARE GIANT 500mA WW 730 7 8W 434782 Integrated lense
Maintenance Factor	0 83
Imax70,80,90(cd/klm)	913.2 62 3, 2 4
Lamp S/P Ratio	1 35
No. in Project	9

Luminaire F Data

Supplier	Urbis Schreder
Type	AXIA 2 1 5167 Integrated lenses Front-Rear 4 OSLON SQUARE GI
Lamp(s)	4 OSLON SQUARE GIANT@350mA WW 730 230V
LampFlux(klm)/Colour	0 26 WW 3000K/70
File Name	AXIA 2 1 5167 4 OSLON SQUARE GIANT 350mA WW 730 5 7W 434352 Integrated lense
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	1396 7 296 2, 3 6
Lamp S/P Ratio	1 35
No. in Project	1

Luminaire G Data

Supplier	Urbis Schreder
Type	PHAROS 5119 Cylindrical, PC, Smooth Asymmetrical 8 XP-G3@350
Lamp(s)	8 XP-G3@350mA WW 730 230V
LampFlux(klm)/Colour	0 15 WW 3000K/70
File Name	PHAROS 5119 8 XP-G3 350mA WW 730 11 W 448232 Cylindrical, PC Smooth AS 230V . .
Maintenance Factor	0 83
Imax70,80,90(cd/klm)	490 6, 612 7, 26.8
Lamp S/P Ratio	1 35
No. in Project	7

Luminaire H Data

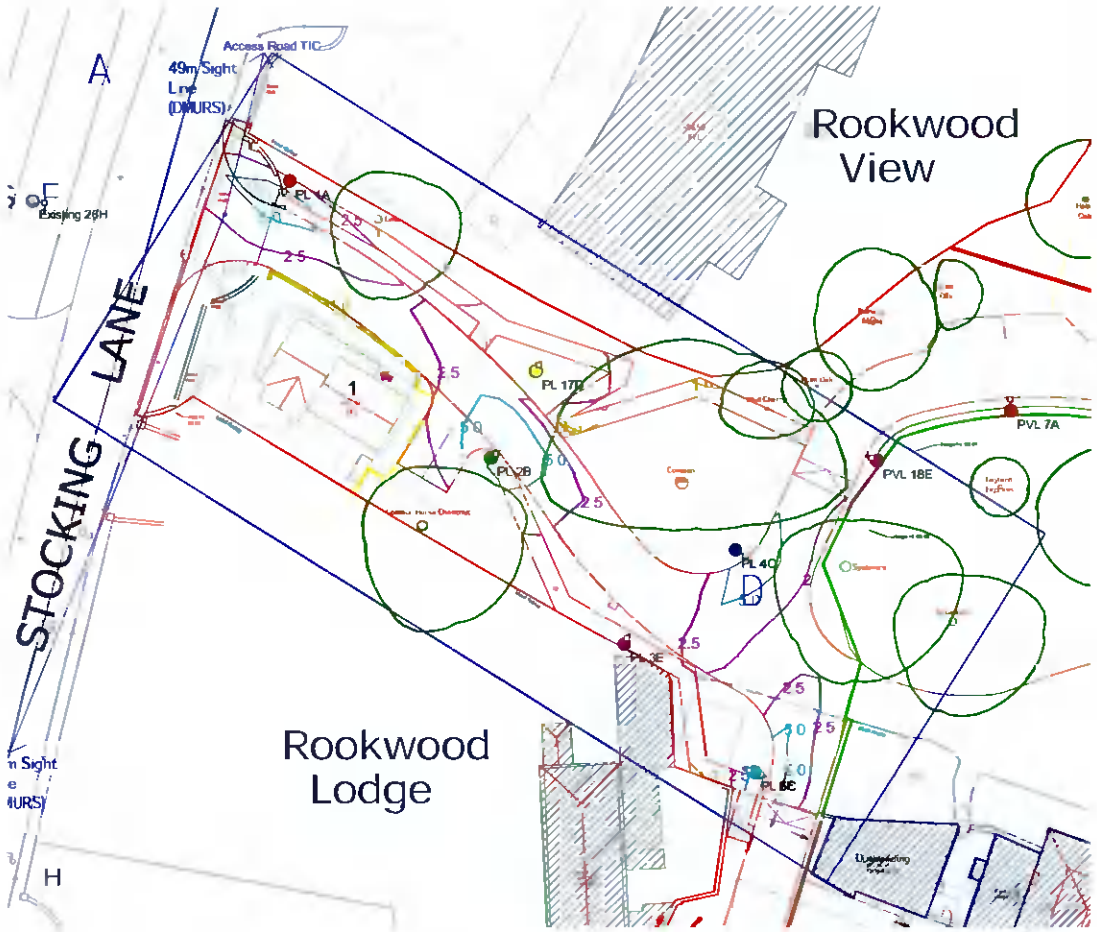
Supplier	_Historic Lanterns
Type	QB2B1055 4A + QB2M
Lamp(s)	55W SOX
Lamp Flux (klm)	8 10
File Name	r0004957 cib
Maintenance Factor	0 83
Imax70,80,90(cd/klm)	179 3 135 2, 67 6
Lamp S/P Ratio	0 00
No. in Project	2

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Dimmed to	Target X	Target Y	Target Z
PL 1	A	956.14	1023.35	6.00	242.00	5.00	0.00	1.00	75%			
PL 2	B	973.18	999.89	6.00	41.00	5.00	0.00	0.50	75%			
PL 3	E	984.41	984.14	6.00	63.00	5.00	0.00	0.50	75%			
PL 4	C	993.80	992.10	6.00	329.00	0.00	0.00	1.00	75%			
PL 5	C	995.49	973.22	6.00	339.00	0.00	0.00	0.50	75%			
PL 6	F	995.41	973.26	6.00	159.00	0.00	0.00	0.50	75%			
PVL 7	A	1017.01	1003.81	6.00	93.00	5.00	0.00	1.00	75%			
PVL 8	E	1001.22	939.63	6.00	203.00	5.00	0.00	0.50	75%			
PVL 9	E	990.35	921.99	6.00	293.00	5.00	0.00	0.50	75%			
PVL 10	E	1007.45	924.38	6.00	201.00	5.00	0.00	0.50	75%			
PVL 11	E	1036.03	1000.08	6.00	68.00	5.00	0.00	0.50	75%			
PVL 12	E	1047.34	990.96	6.00	43.00	5.00	0.00	0.50	75%			
PVL 13	E	1072.67	985.33	6.00	214.00	5.00	0.00	0.50	75%			
PVL 14	E	1055.20	978.70	6.00	26.00	5.00	0.00	0.50	75%			
PVL 15	G	1051.39	1016.22	1.00	274.00	0.00	0.00	0.00	75%			
PVL 16	G	1066.98	968.42	1.00	111.00	0.00	0.00	0.00	75%			
PL 17	D	976.98	1007.24	6.00	65.00	0.00	0.00	0.50	75%			
PVL 18	E	1005.76	999.61	6.00	155.00	5.00	0.00	0.50	75%			
PVL 19	B	996.50	952.52	6.00	203.00	5.00	0.00	0.50	75%			
PVL 20	G	1053.28	1005.73	1.00	233.00	0.00	0.00	0.00	75%			
PVL 21	G	1044.08	1013.59	1.00	162.00	0.00	0.00	0.00	75%			
PVL 22	G	1046.66	1010.11	1.00	231.00	0.00	0.00	0.00	75%			
PVL 23	G	1074.01	971.52	1.00	115.00	0.00	0.00	0.00	75%			
PVL 24	G	1059.10	969.72	1.00	22.00	0.00	0.00	0.00	75%			
Existing 25	H	932.06	996.65	6.00	348.00	5.00	0.00	1.00	100%			
Existing 26	H	934.42	1021.69	6.00	348.00	5.00	0.00	1.00	100%			

Horizontal Illuminance (lux)

Access Road TIC

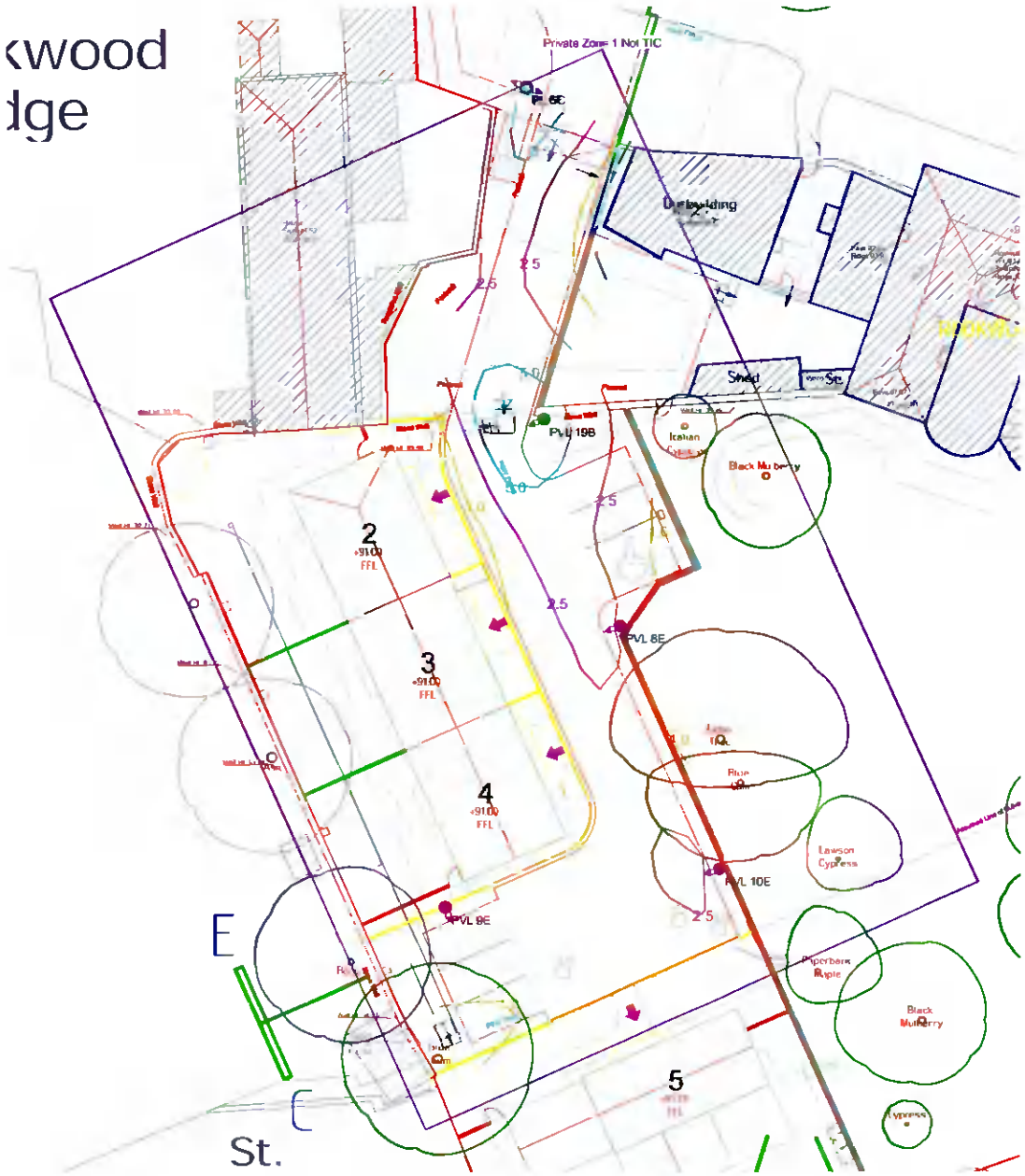


Results

Eav	2.92
Emin	0.95
Emax	7.56
Emin/Emax	0.13
Emin/Eav	0.32

Horizontal Illuminance (lux)

Private Zone 1 Not TIC



Results

Eav	2.51
Emin	0.82
Emax	7.19
Emin/Emax	0.11
Emin/Eav	0.33

Horizontal Illuminance (lux)

Private Zone 2 Not TIC

Results

Eav	2.12
Emin	0.75
Emax	6.38
Emin/Emax	0.12
Emin/Eav	0.35

Horizontal Illuminance (lux)

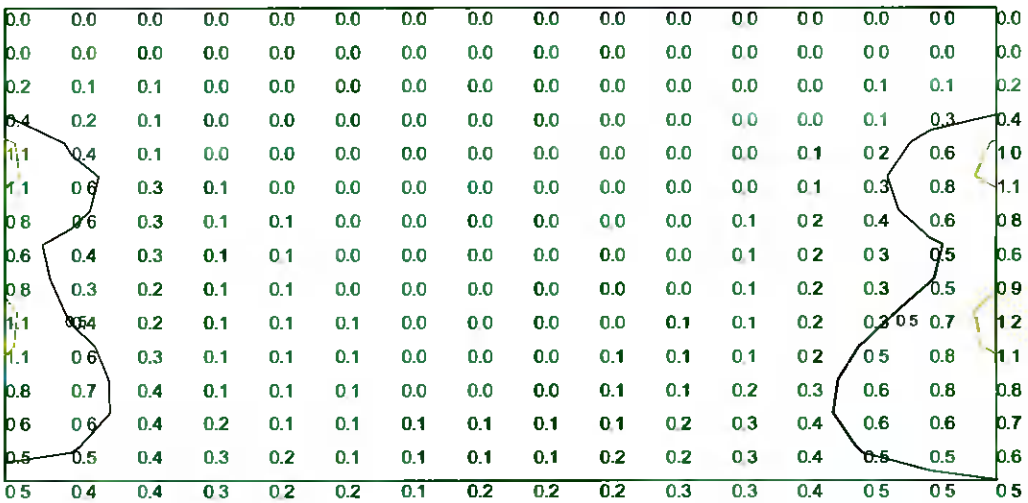
Horizontal assessment 1

Results

Eav	0.38
Emin	0.00
Emax	10.16
Emin/Emax	0.00
Emin/Eav	0.00

Illuminance (lux)

Vertical assessment



Results

Eav	0.22
Emin	0.00
Emax	1.15
Emin/Emax	0.00
Emin/Eav	0.00

Illuminance (lux)

Vertical assessment 2

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.3
0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.5	0.6	0.7	0.7	0.6	0.5
0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.6	0.7	0.7	0.8	0.9	0.9	0.9	0.9	0.8
0.2	0.3	0.3	0.4	0.6	0.7	0.8	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.3	0.4	0.5	0.7	0.9	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0

Results

Eav	0.23
Emin	0.02
Emax	1.13
Emin/Emax	0.01
Emin/Eav	0.07