

DATE: 12 June 2026
DESIGNER: Ken Duckers
PROJECT No: HLS-1018
PROJECT NAME: Vortex Optical Site Lighting



Lighting calculations:
Area by floodlight.
Maintenance factor of 0.86 applied.
Note: Whilst the $E_{min} > 5\text{lux}$, uniformity of lighting for calculations is low due to the North East boundary lighting level being low as shown by the 0.5 lux contour.

Outdoor Lighting Report

PREPARED BY: Highway Lighting Solutions Ltd
Tel: 0151 327 2424

e-mail: support@highwaylightingsolutions.co.uk
Website: www.highwaylightingsolutions.co.uk

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	Grid 1	-320.20	-9.29	91.08	77.72	1.49	1.49
2	Grid 2	-301.92	-2.77	64.36	53.52	1.50	1.49

Luminaires

Luminaire A Data



Supplier	Urbis Schreder
Type	NEOS GEN2 1 5393 Flat glass 20 LEDs LED @350mA Driver@350mA W
Lamp(s)	20 LEDs@350mA WW 727 230V 01-11-814
LampFlux(klm)/Colour	2.67 WW 2700K/70
File Name	NEOS GEN2 1 5393 20 LEDs Drv 350mA W W 727 22.5W 610852 Flat glass 230V TF.Idt
Maintenance Factor	0.86
Imax70,80,90(cd/klm)	413.8, 69.7, 0.0
No. in Project	3

Luminaire B Data



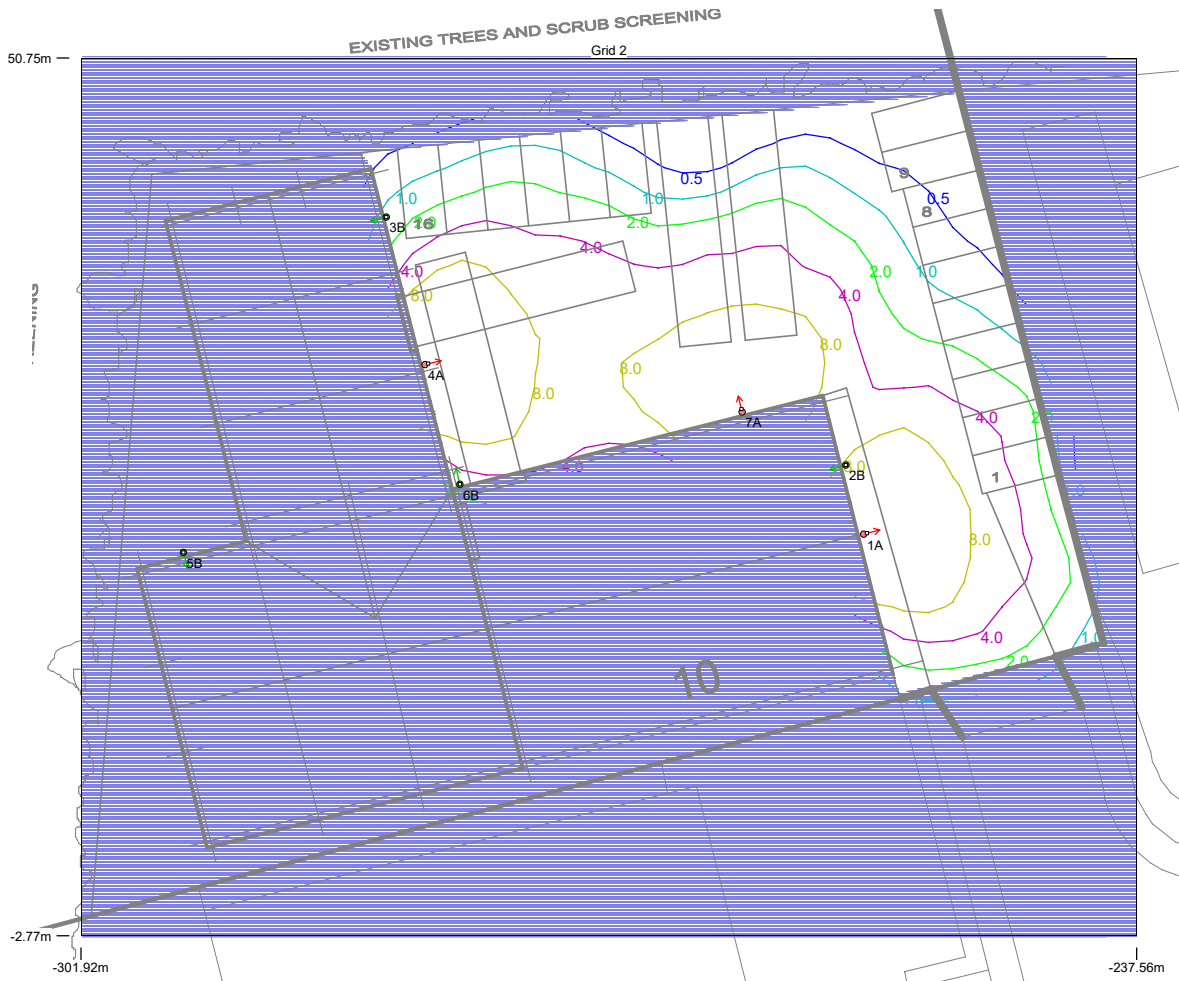
Supplier	Gemma Lighting
Type	Portchester 15W Hood
Lamp(s)	PH15-A3W-00B
LampFlux(klm)/Colour	1.10 3000K/Ra80
File Name	Portchester 15W - Hood - 3K.Idt
Maintenance Factor	0.86
Imax70,80,90(cd/klm)	186.2, 122.9, 0.0
No. in Project	4

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Dimmed to	Target X	Target Y	Target Z
1	A	-254.22	21.73	3.50	14.00	9.00	0.00	0.20	100%			
2	B	-255.31	25.94	1.70	197.00	0.00	0.00	0.00	0%			
3	B	-283.31	41.06	1.70	195.00	0.00	0.00	0.00	0%			
4	A	-280.95	32.07	3.50	13.00	10.00	0.00	0.20	100%			
5	B	-295.68	20.62	1.70	285.00	0.00	0.00	0.00	100%			
6	B	-278.84	24.78	1.70	103.00	0.00	0.00	0.00	0%			
7	A	-261.62	29.17	3.50	104.00	10.00	0.00	0.20	100%			

Horizontal Illuminance (lux)

Grid 2



Results

Eav	5.88
Emin	0.14
Emax	31.56
Emin/Emax	0.00
Emin/Eav	0.02

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Lighting calculations:
Security illumination in vicinity of doors when activated
Maintenance factor of 0.86 applied.

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Luminaire A Data



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No. in Project	3

Luminaire B Data



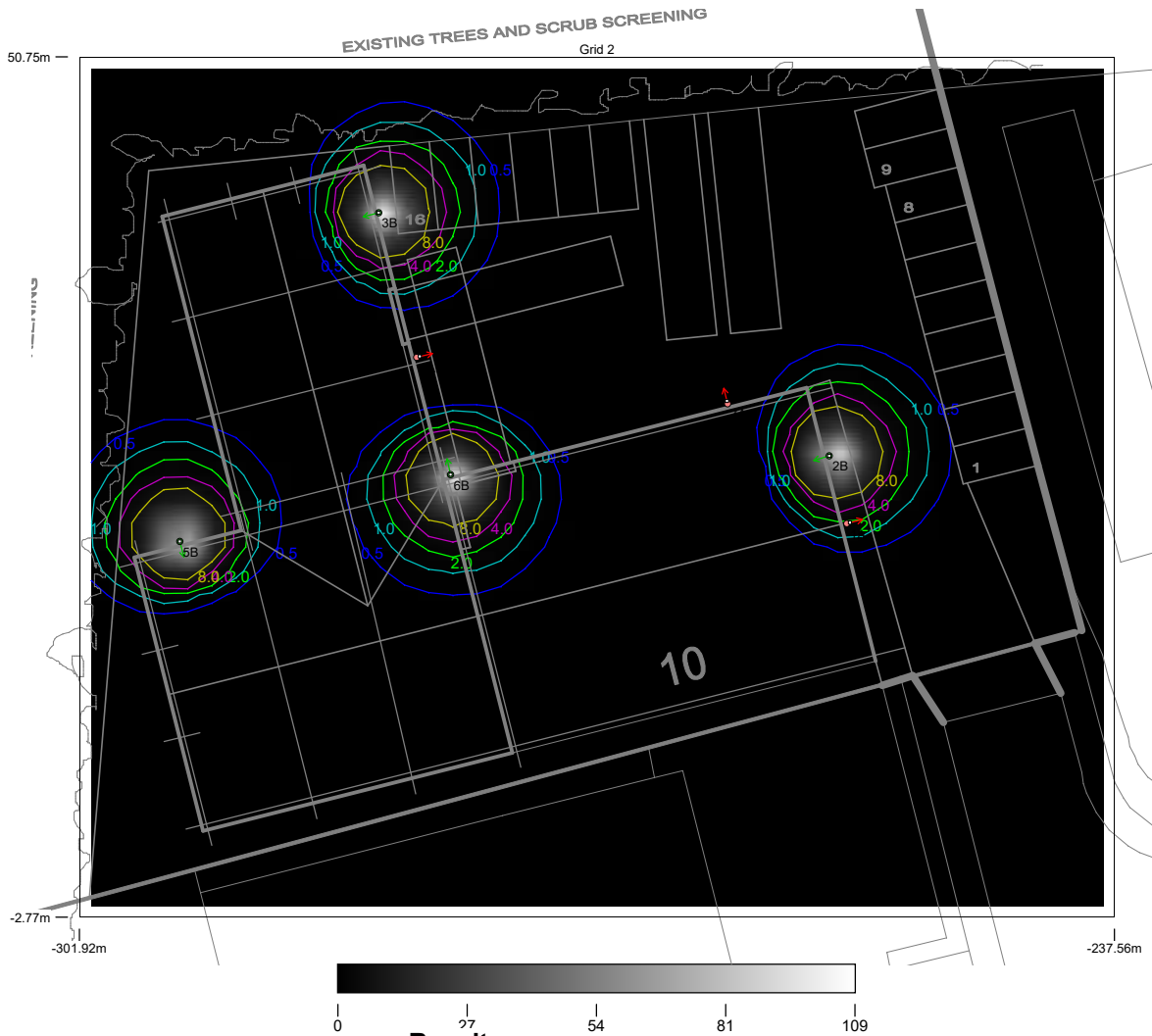
Supplier	Gemma Lighting
Type	Portchester 15W Hood
Lamp(s)	PH15-A3W-00B
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4	A	-280.95	32.07	3.50	13.00	10.00	0.00	0.20	0%			
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6	B	-278.84	24.78	1.70	103.00	0.00	0.00	0.00	100%			
7	A	-261.62	29.17	3.50	104.00	10.00	0.00	0.20	0%			

Horizontal Illuminance (lux)

Grid 2



Results

Eav	1.84
Emin	0.01
E _{max}	108.55
E _{min} /E _{max}	0.00
E _{min} /E _{av}	0.01

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Combined lighting calculations:
area by floodlight and security bulkheads.
Maintenance factor of 0.86 applied.

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Luminaire B Data



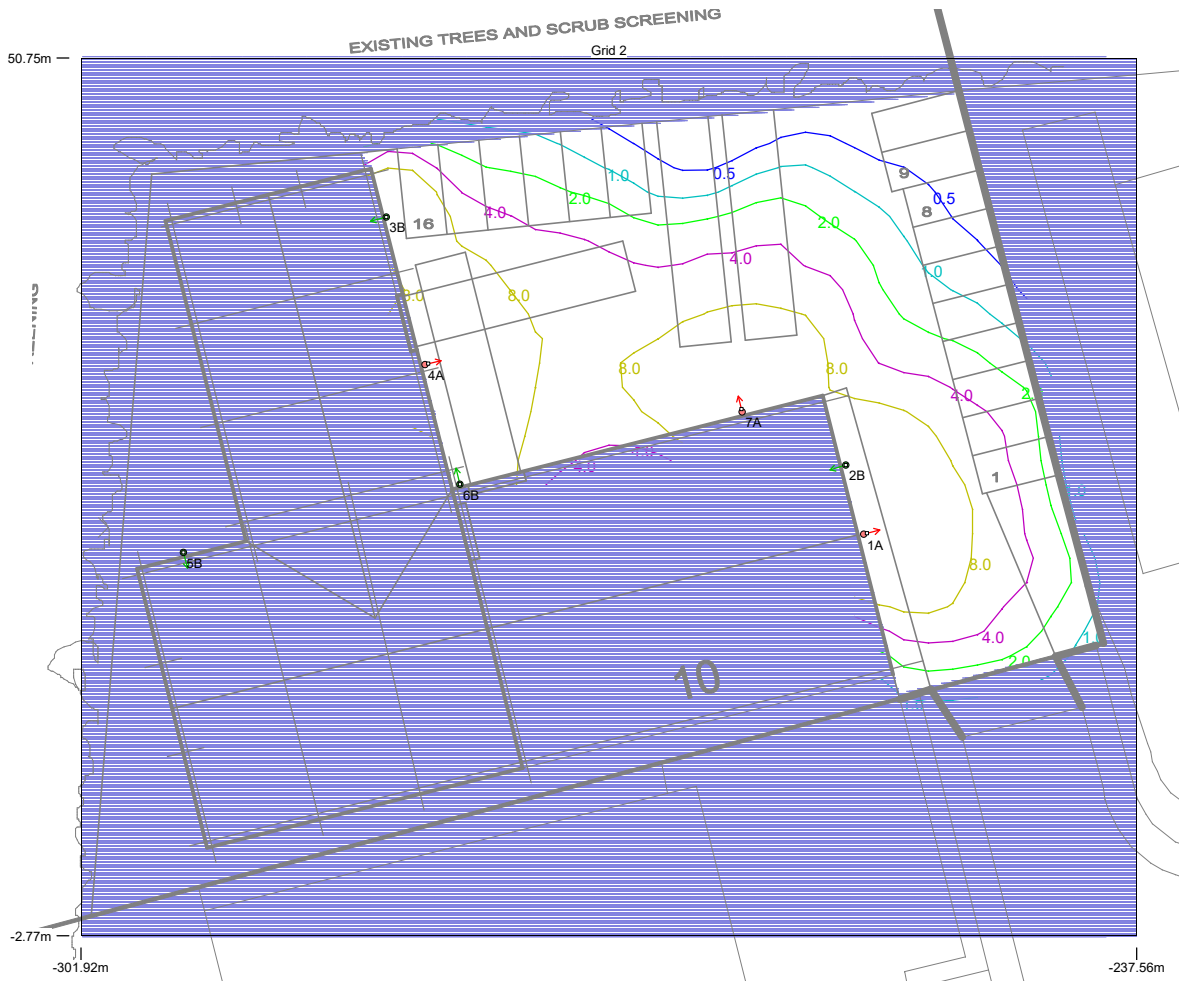
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Lamp(s)	PH15-A3W-00B
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4	A	-280.95	32.07	3.50	13.00	10.00	0.00	0.20			
5	B	-295.68	20.62	1.70	285.00	0.00	0.00	0.00			
6	B	-278.84	24.78	1.70	103.00	0.00	0.00	0.00			
7	A	-261.62	29.17	3.50	104.00	10.00	0.00	0.20			

Horizontal Illuminance (lux)

Grid 2



Results

Eav	7.72
Emin	0.15
E _{max}	110.20
Emin/E _{max}	0.00
Emin/Eav	0.02