DATE: **18 February 2019**

DESIGNER: **Pete Harris**

PROJECT No: **Design Check**

PROJECT NAME: **Milkstone Road, Rochdale**

Lighting of Exterior Car Parks

Exterior car parks are covered under the guidance of British Standards BS EN 12464 and BS 5489: 2013. Exterior car parks have three levels of lighting depending on usage, and range from Low, Medium and High. This lighting design is based on the anticipated vehicle, pedestrian, crime and type of use to determine the lighting category.

A summary of the lighting class selected for these car parks is shown below: –

High usage (Heavy Traffic) – Eav = 20 Lux, Uo 0.25
Where high use would be based on, parking areas of schools, churches, major shopping centres, major sports and multi-purpose building complexes

Outdoor Lighting Report

No account is taken for the blocking effect caused by buildings, trees etc. The calculation shown by this drawing assumes that the whole area being considered is in the same plane, i.e. there are no changes in gradient or elevation.

This lighting design proposal is a suggested lighting layout to present how TRT products could be used to meet the design criteria. No design risk assessment has been conducted for the lighting layout and TRT may not have undertaken a site survey. The lighting design has been based entirely on information supplied by others and therefore TRT cannot be held responsible for any risk associated with implementation of the design. This lighting design proposal should be considered only as guidance and not as a final design for the purposes of Construction Design and Management Regs 2015.

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Layout Report

General Data

Dimensions in Metres Angles in Degrees
Grid Origin -10.0m x 20.0m
Area 102.0m x 102.0m
Sample Spacing 1.50m x 1.50m

Luminaires



Luminaire A Data

Supplier	TRT Lighting
Type	Aspect Eco 2 24 LED 51W GA2 4000K
Lamp(s)	42 0051 0000 100
Lamp Flux (klm)	6.74
File Name	ASE2_24LED_51W_GA2_4K.IES
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	791.6, 209.9, 25.6
No. in Project	8

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	40.31	53.45	6.00	0.00	0.00	0.00	0.35			
2	A	40.61	73.14	6.00	0.00	0.00	0.00	0.35			
3	A	41.49	95.14	6.00	270.00	0.00	0.00	0.35			
4	A	20.90	74.10	6.00	90.00	0.00	0.00	0.35			
5	A	59.12	53.06	6.00	180.00	0.00	0.00	0.35			
6	A	59.48	72.94	6.00	180.00	0.00	0.00	0.35			
7	A	57.34	95.40	6.00	270.00	0.00	0.00	0.35			
8	A	40.04	73.63	6.00	90.00	0.00	0.00	0.35			

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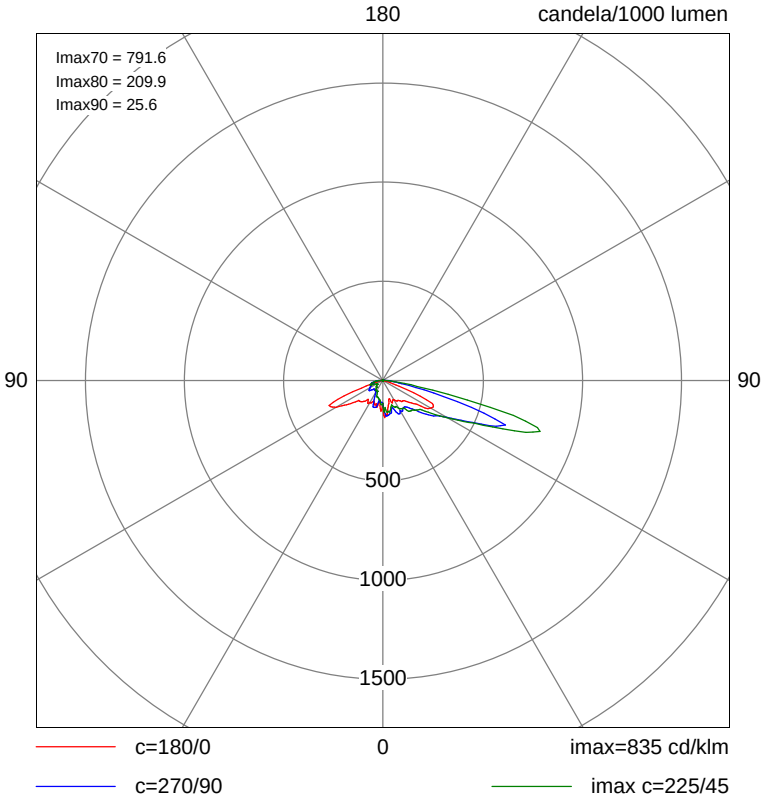
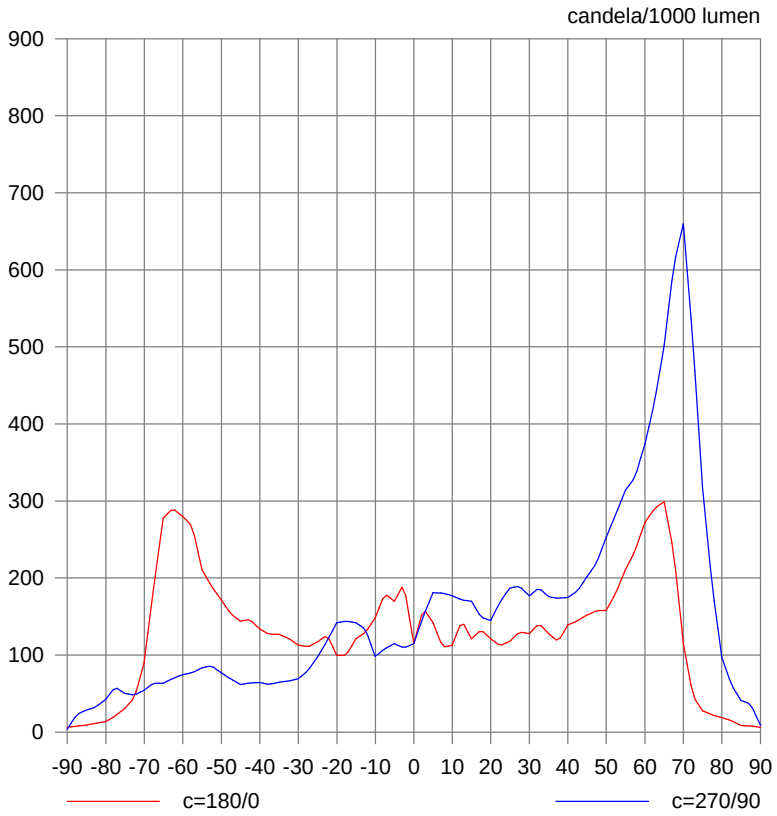
Polar Diagram

Luminaire A Aspect Eco 2 24 LED 51W GA2 4000K



Cartesian Diagram

Luminaire A Aspect Eco 2 24 LED 51W GA2 4000K



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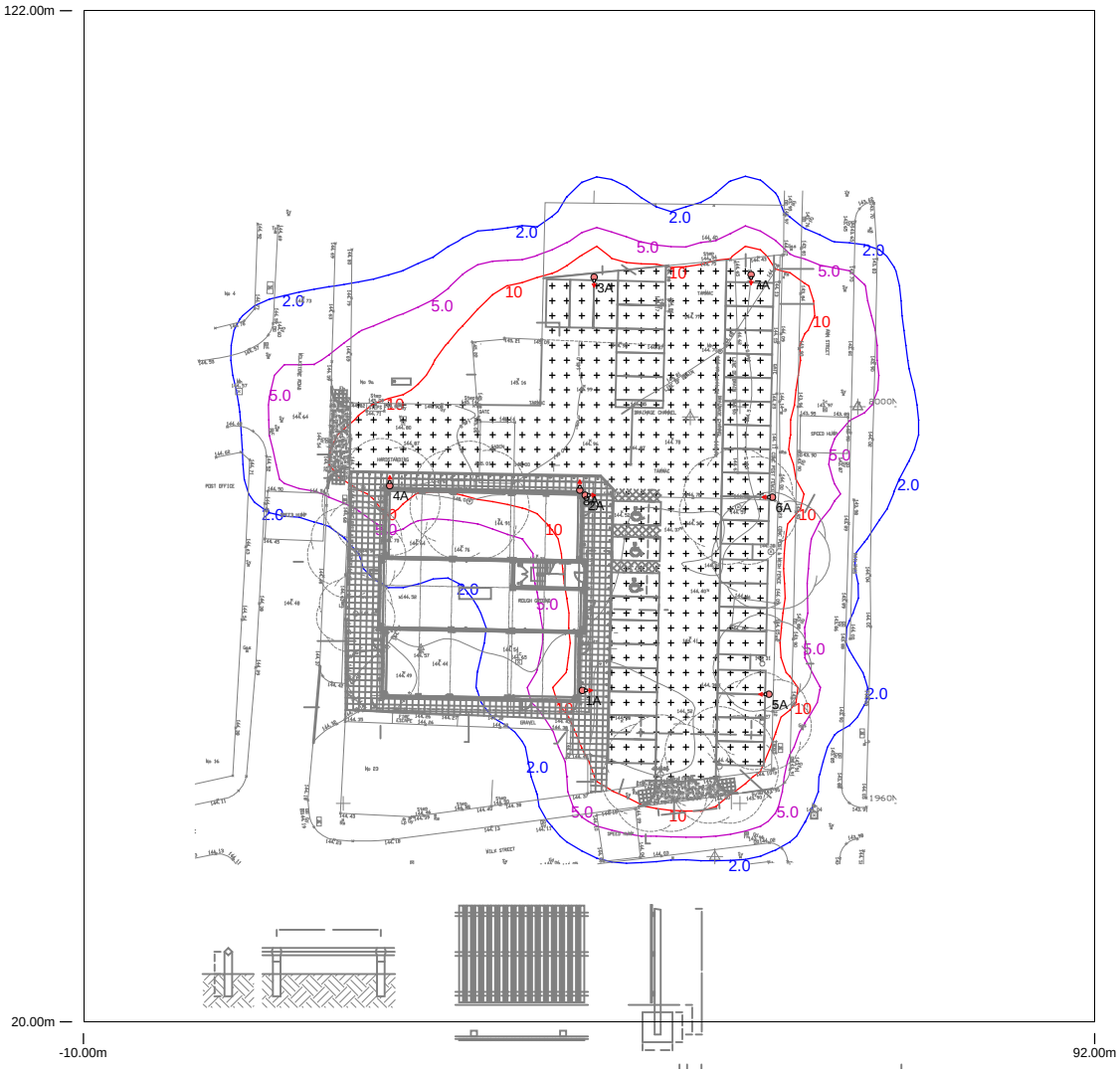
Horizontal Illuminance (lux)

Grid 1



Results

Eav	20.77
Emin	8.92
Emax	38.29
Emin/Emax	0.23
Emin/Eav	0.43

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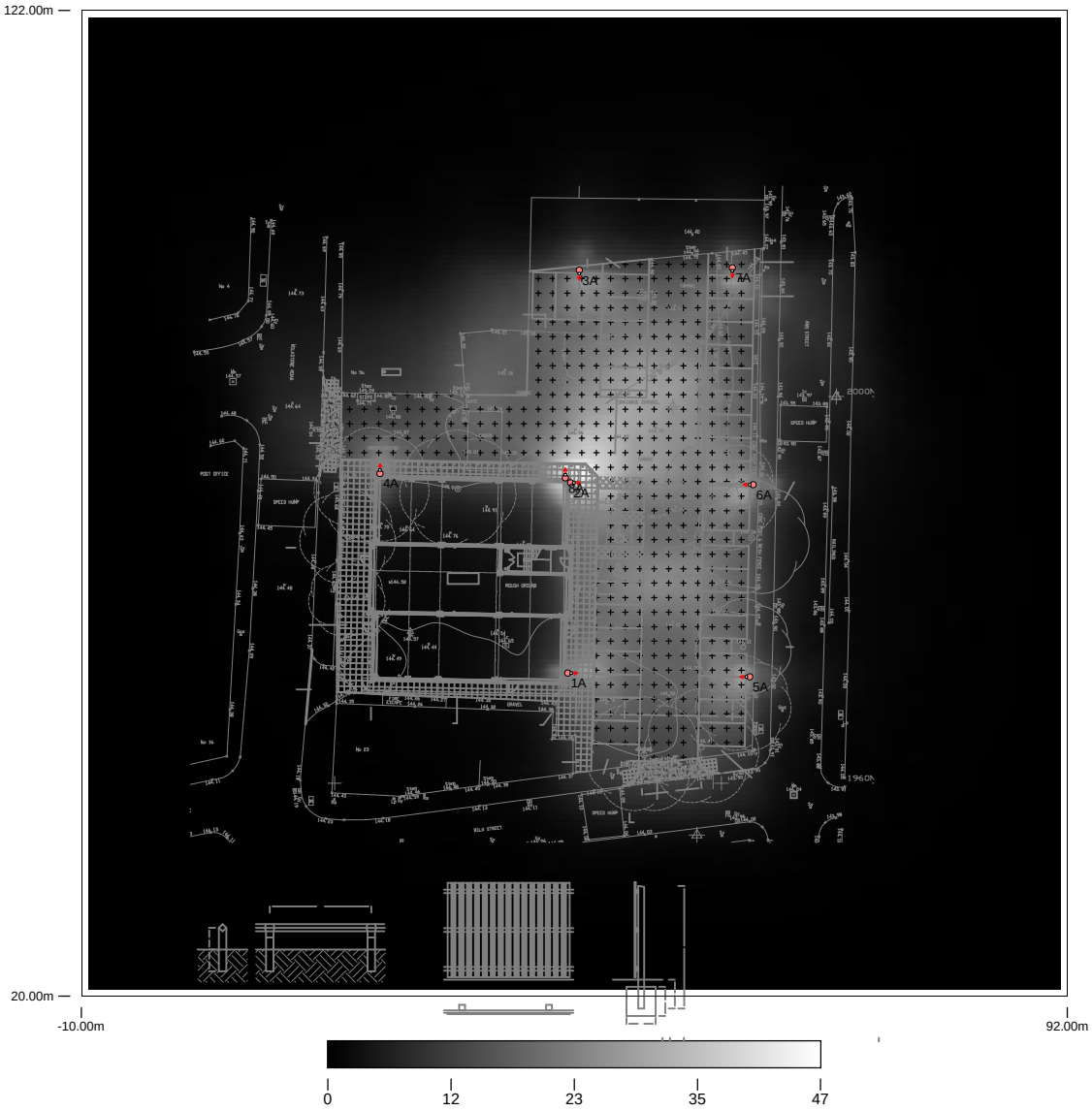

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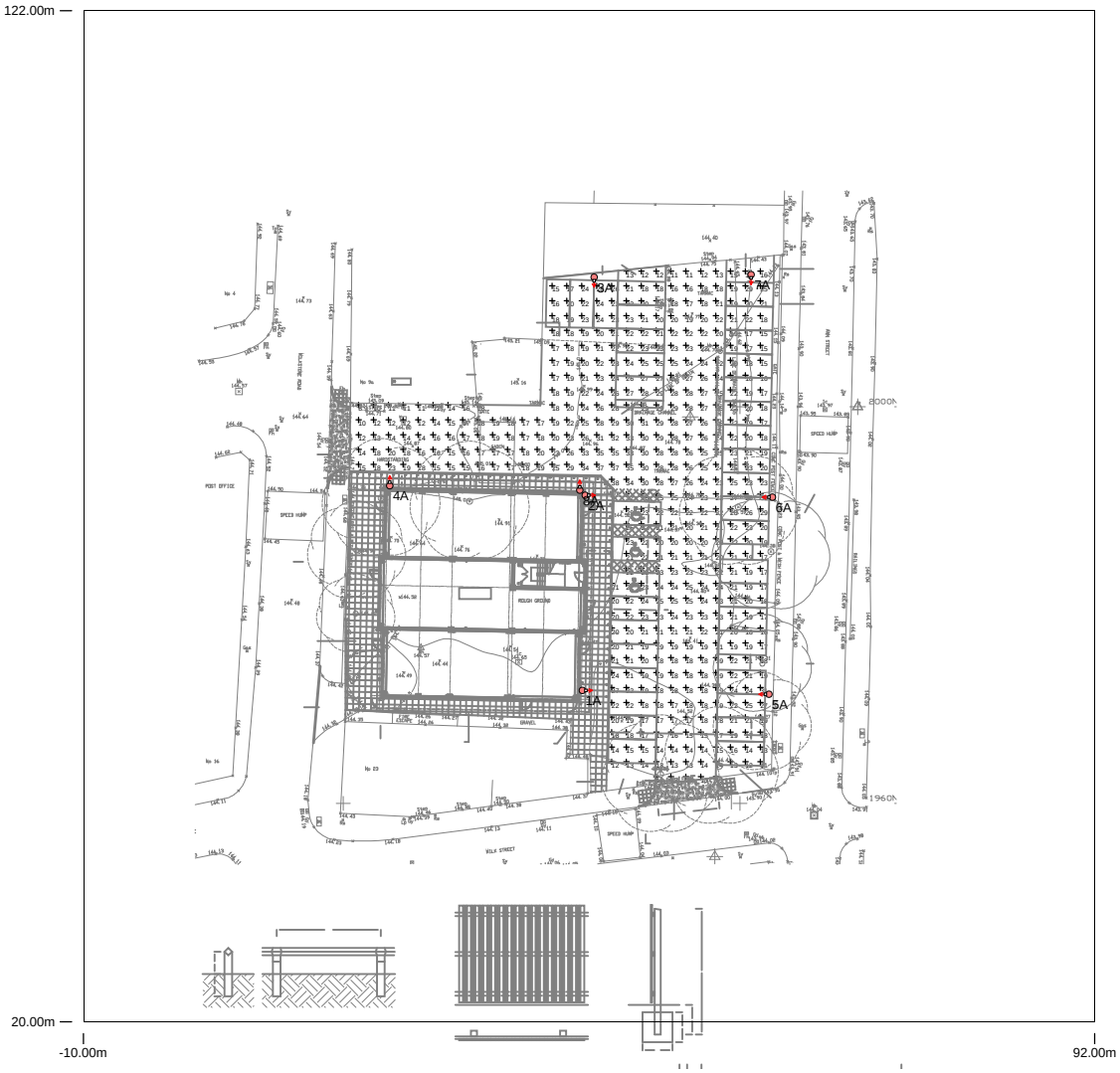

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