

DATE: 25 November 2020
DESIGNER: Pete Harris
PROJECT No: Residential - Design Check (R0)
PROJECT NAME: Land Adj to Pant-y-Ddafad, Pontrobert



Lighting Residential Roads

The main purpose of lighting for subsidiary roads, namely access roads, residential roads and associated pedestrian areas, footpaths and cycle tracks and areas associated with those roads is to enable pedestrians and cyclists to orientate themselves and detect vehicular and other hazards, and to discourage crime against people and property. The lighting on such roads can provide some guidance for motorists, but is unlikely to be sufficient for revealing objects on the road without the use of headlights.

P5 - Eav = 3.00 Lux, Emin 0.60 Lux

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

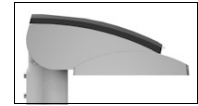
Dimensions in Metres Angles in Degrees
 Grid Origin -10.3m x 68.6m
 Area 218.9m x 169.0m
 Sample Spacing 1.50m x 1.50m

Luminaires



Luminaire A Data

Supplier	TRT Lighting
Type	ASM4 LED 10W GR2 3000K EXP
Lamp(s)	42 0010 0000 100
Lamp Flux (klm)	1.07
File Name	ASM4_LED_10W_GR2_3K_EXP.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	883.1, 155.2, 0.0
No. in Project	5



Luminaire B Data

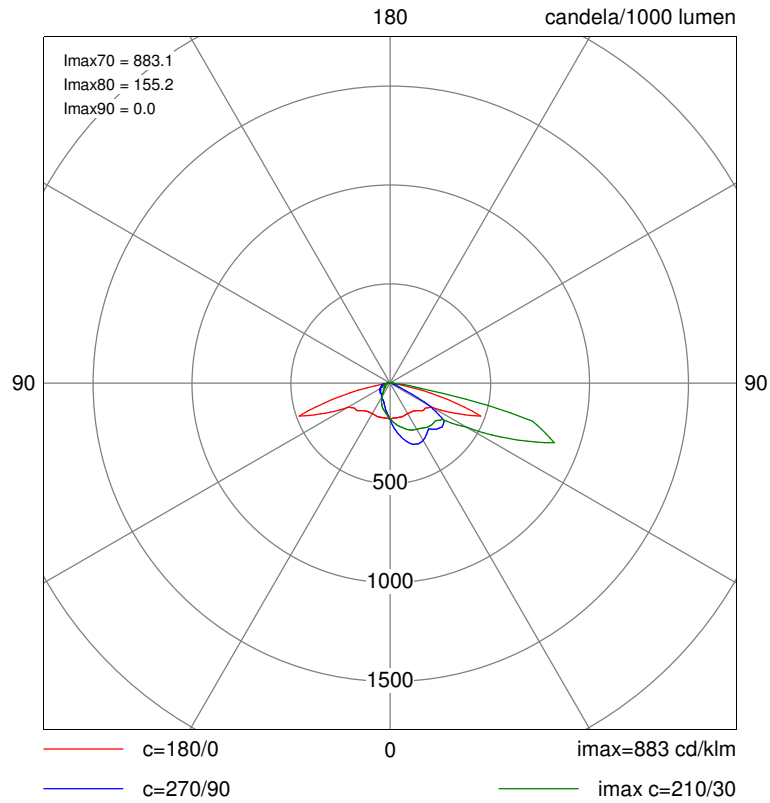
Supplier	TRT Lighting
Type	ASM4 LED 23W GR2 3000K EXP
Lamp(s)	42 0023 0000 100
Lamp Flux (klm)	2.90
File Name	ASM4_LED_23W_GR2_3K_EXP.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	887.2, 155.9, 0.0
No. in Project	5

Layout

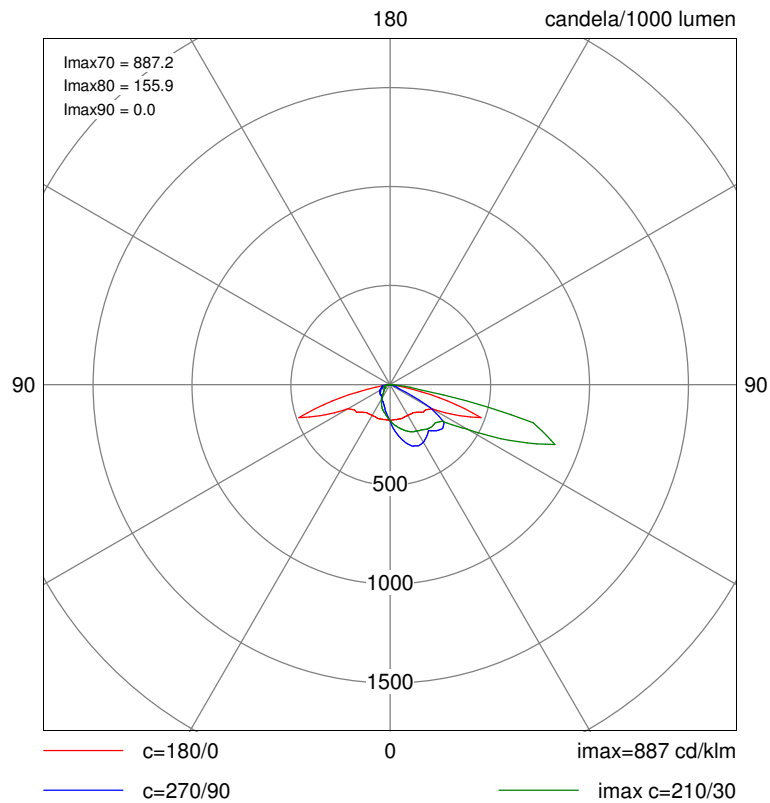
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	167.21	144.74	6.00	69.00	0.00	0.00	0.20			
2	A	145.35	151.66	6.00	70.00	0.00	0.00	0.20			
3	A	126.45	166.12	6.00	250.00	0.00	0.00	0.20			
4	A	114.66	152.83	6.00	156.00	0.00	0.00	0.20			
5	A	96.51	166.88	6.00	75.00	0.00	0.00	0.20			
6	B	186.59	139.29	6.00	152.00	0.00	0.00	0.20			
7	B	199.95	166.00	6.00	152.00	0.00	0.00	0.20			
8	B	156.49	124.28	6.00	302.00	0.00	0.00	0.20			
9	B	127.17	110.50	6.00	294.00	0.00	0.00	0.20			
10	B	97.70	96.83	6.00	294.00	0.00	0.00	0.20			

Polar Diagrams

Luminaire A ASM4 LED 10W GR2 3000K EXP

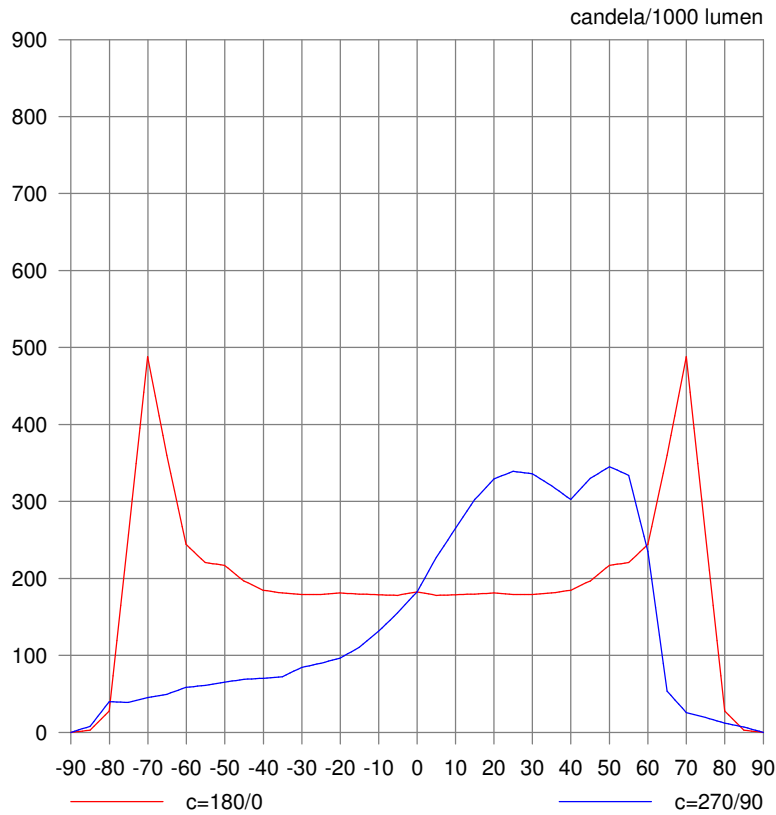


Luminaire B ASM4 LED 23W GR2 3000K EXP

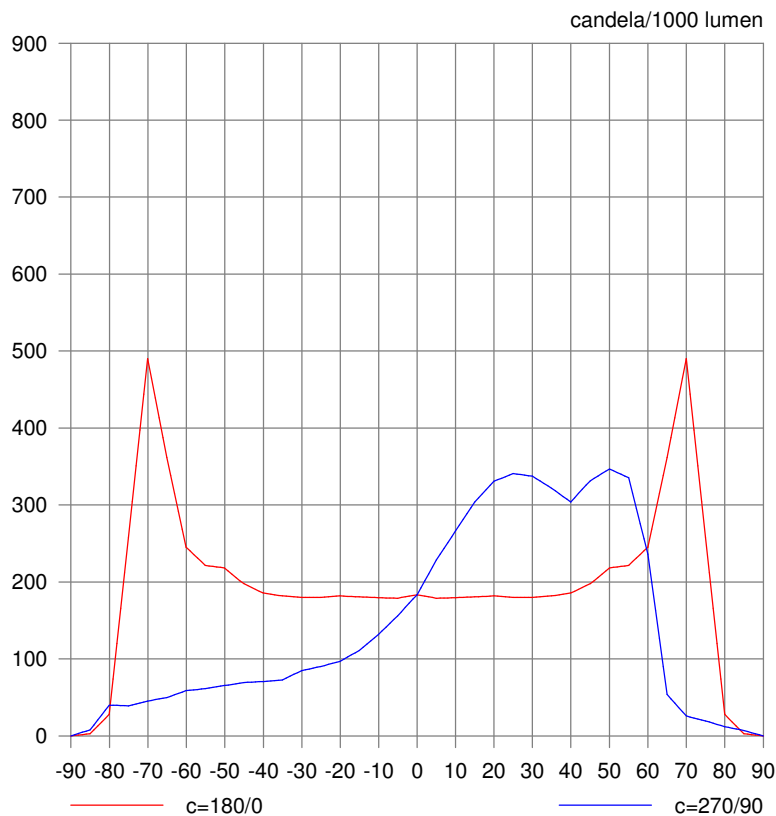


Cartesian Diagrams

Luminaire A ASM4 LED 10W GR2 3000K EXP

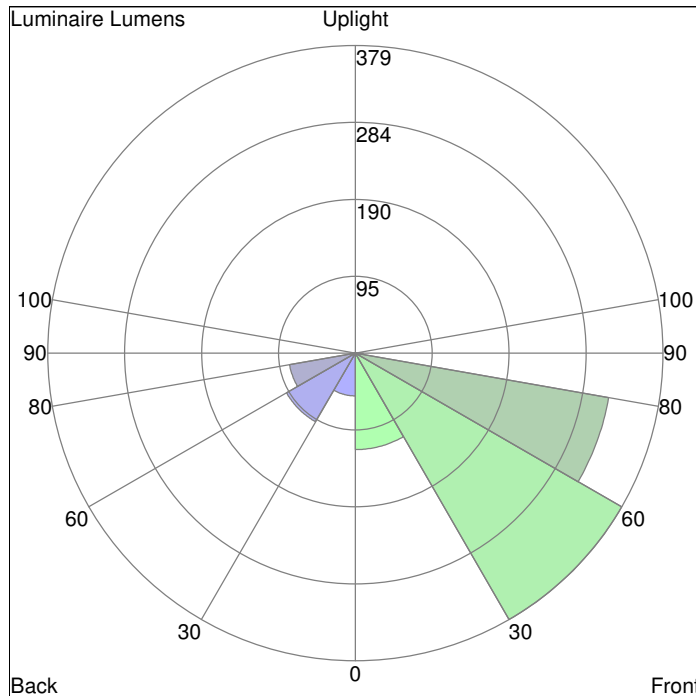


Luminaire B ASM4 LED 23W GR2 3000K EXP



Luminaire Classification System (LCS) Graphs

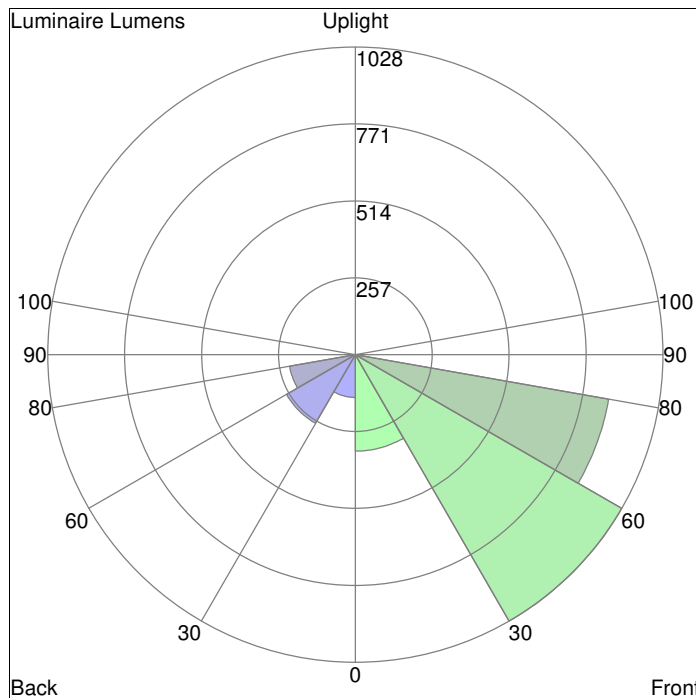
Luminaire A ASM4 LED 10W GR2 3000K EXP



LCS	Lumens	%Lamp	%Lum
FL	119.0	11.1	11.2
FM	379.2	35.3	35.7
FH	317.0	29.5	29.8
FVH	9.5	0.9	0.9
BL	52.9	4.9	5.0
BM	97.8	9.1	9.2
BH	82.1	7.6	7.7
BVH	5.7	0.5	0.5
UL	0.0	0.0	0.0
UH	0.0	0.0	0.0
Total	1063.3	98.9	100.0

BUG rating=B0-U1-G0

Luminaire B ASM4 LED 23W GR2 3000K EXP



LCS	Lumens	%Lamp	%Lum
FL	322.6	11.1	11.2
FM	1027.6	35.4	35.7
FH	859.3	29.6	29.8
FVH	25.8	0.9	0.9
BL	143.3	4.9	5.0
BM	265.1	9.1	9.2
BH	222.6	7.7	7.7
BVH	15.6	0.5	0.5
UL	0.0	0.0	0.0
UH	0.1	0.0	0.0
Total	2881.8	99.4	100.0

BUG rating=B1-U1-G1

Horizontal Illuminance (lux)

Grid 1

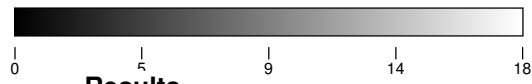
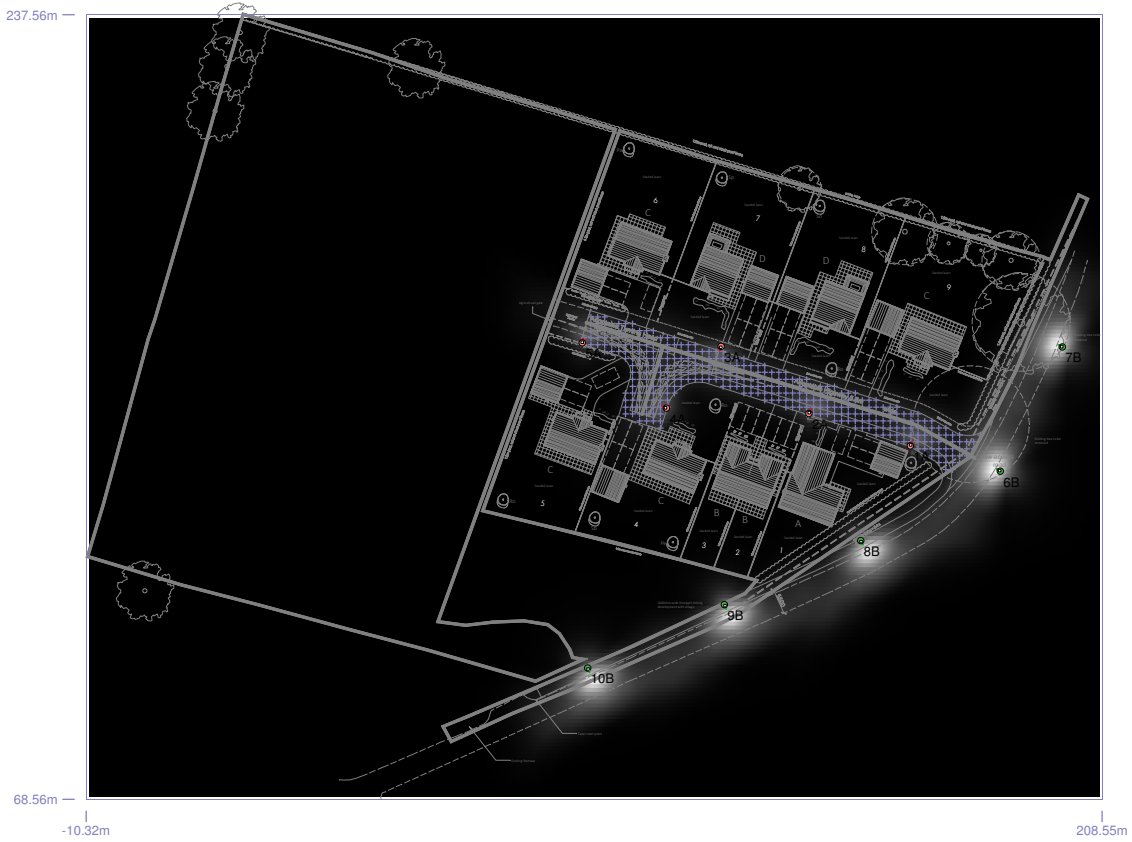


Results

Eav	3.01
Emin	1.25
E _{max}	6.98
E _{min} /E _{max}	0.18
E _{min} /E _{av}	0.41

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