

DATE: 11 February 2022

DESIGNER: N Poundall

Nathan Poundall Lighting Ltd



PROJECT No: Y20112

PROJECT NAME: Rockingham Phase 2, Birdwell, Barnsley

Lighting designed to BS5489-1:2020 lighting class P4.

Table A.5 - Environmental zone E2, traffic flow 'Normal', suggests P5 class. However, this is an access road for commercial /industrial space. HGV's expected, along with mix of other road users (pedestrians/cyclists). As a result, it is deemed appropriate to raise the class by one to P4.

Eav = 5.00 - 7.50 lux

Emin = 1.00 lux

Optimum spacing = 47.0m

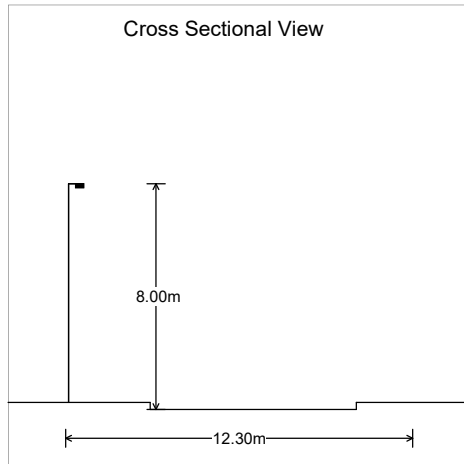
Design spacings at 45.0m to allow +2m tolerance for on site constraints during construction.

Roadway Lighting Report

PREPARED BY: Nathan Poundall
on behalf of RWO Associates

Roadway Report Summary

Layout



Road Data

Calculation Grid	BS5489:1 2020
Width (m)	12.30
No. of Lanes	2
Road Surface	C2
Q0	0.07
Left Footpath(m)	3.00
Right Footpath(m)	2.00

Main Lighting

Column Data

Configuration	Single Sided Left
Spacing (m)	47.00
Height (m)	8.00
Tilt (deg)	0.00
Setback (m)	2.90
Outreach (m)	0.40
Overhang (m)	-2.50

Luminaire Data

Supplier	Urbis Schreder
Type	AXIA 3.1 5294 Integrated lenses 16 OSLO N SQUARE GIANT@700mA
Lamp(s)	16 OSLO N SQUARE GIANT@700mA NW 740 230V
LampFlux(klm)/Colour	4.79 NW 4000K/70
File Name	AXIA 3.1 5294 16 OSLO N SQUARE GIANT 700mA NW 740 35.6W 435812 Integrated ...
Maintenance Factor	0.92
Lum. Int. Class	G3

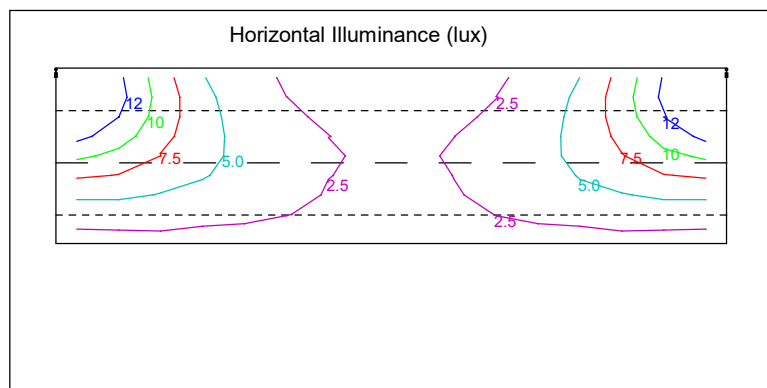


Results

Main

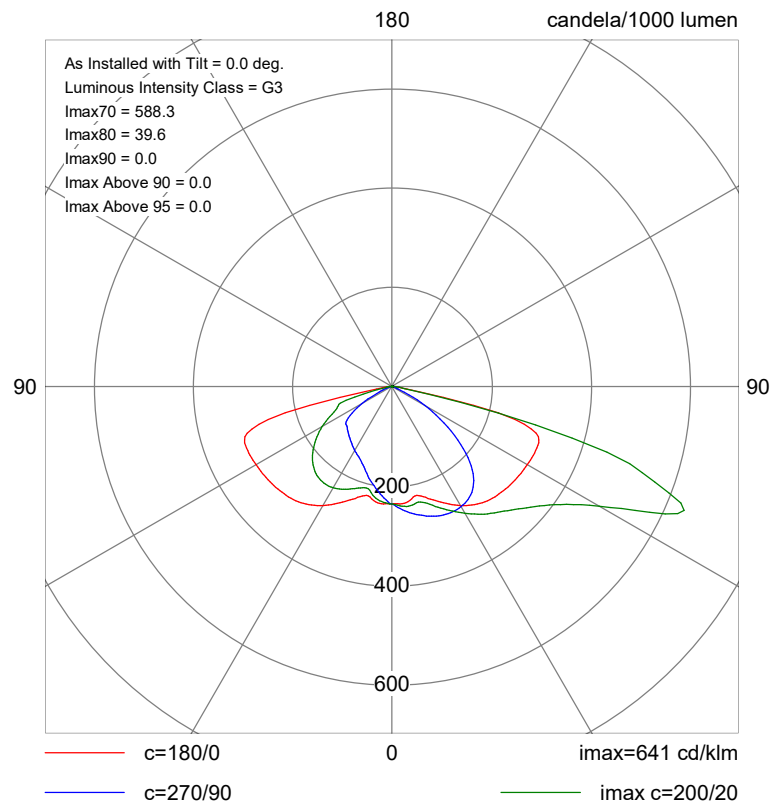
Complies with P4

Eav	5.01
Emin	1.24
Emax	16.18
Emin/Emax	0.08
Emin/Eav	0.25
TI(%)	16.03

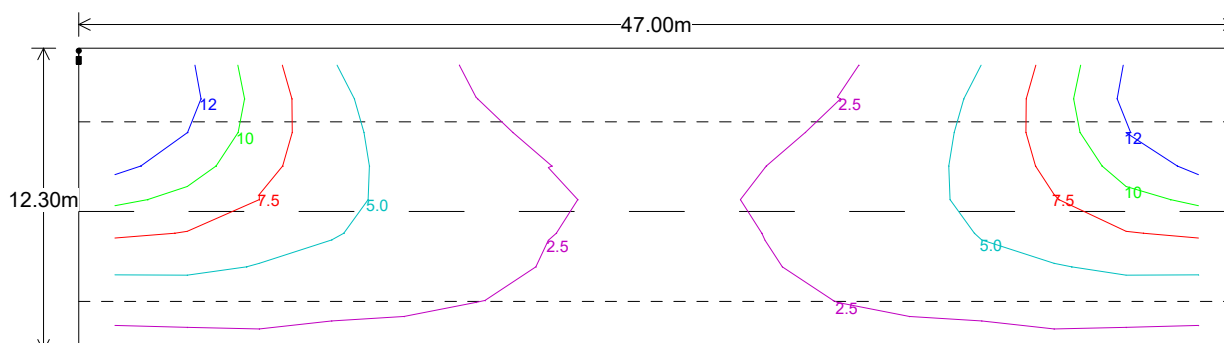


Polar Diagram

Main Luminaire AXIA 3.1 5294 Integrated lenses 16 OSLON SQUARE GIANT@700mA



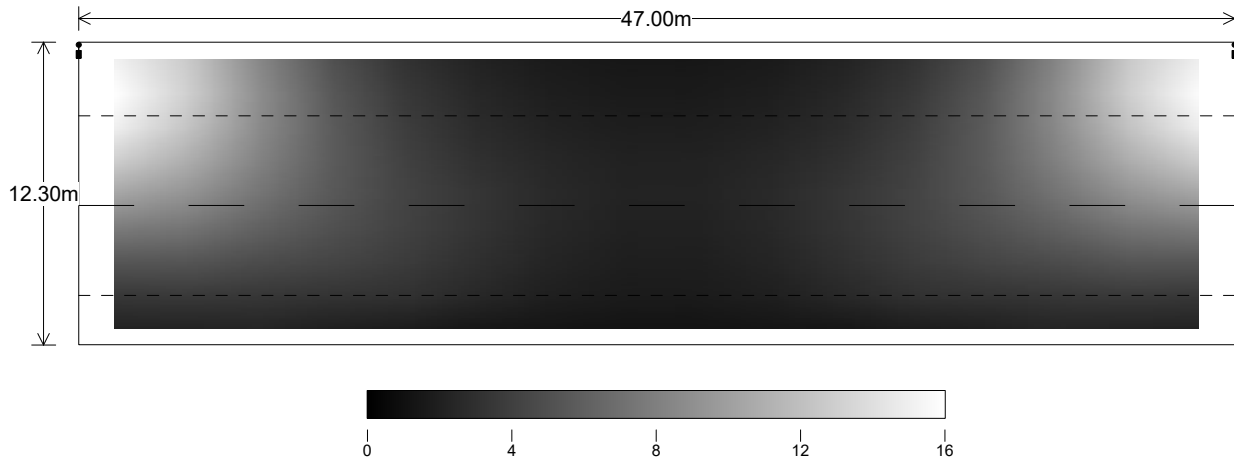
Horizontal Illuminance (lux)



Main Results

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E _{max}	16.18
E _{min} /E _{max}	0.08
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Horizontal Illuminance (lux)



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Horizontal Illuminance (lux)

47.00m																
12.30m	+15.3	+12.8	+8.5	+5.1	+3.2	+2.2	+1.7	+1.5	+1.5	+1.7	+2.2	+3.2	+5.1	+8.5	+12.8	+15.3
	+16.2	+13.2	+8.9	+5.6	+3.6	+2.5	+1.9	+1.7	+1.7	+1.9	+2.5	+3.6	+5.6	+8.9	+13.2	+16.2
	+15.2	+12.4	+8.8	+5.8	+3.9	+2.8	+2.2	+1.9	+1.9	+2.2	+2.8	+3.9	+5.8	+8.8	+12.4	+15.2
	+13.1	+11.1	+8.2	+5.8	+4.2	+3.1	+2.5	+2.2	+2.2	+2.5	+3.1	+4.2	+5.8	+8.2	+11.1	+13.1
	+10.5	+9.3	+7.4	+5.6	+4.3	+3.4	+2.7	+2.2	+2.2	+2.7	+3.4	+4.3	+5.6	+7.4	+9.3	+10.5
	+7.9	+7.4	+6.2	+5.2	+4.2	+3.3	+2.5	+2.1	+2.1	+2.5	+3.3	+4.2	+5.2	+6.2	+7.4	+7.9
	+5.5	+5.4	+4.9	+4.4	+3.8	+3.0	+2.3	+2.0	+2.0	+2.3	+3.0	+3.8	+4.4	+4.9	+5.4	+5.5
	+3.5	+3.7	+3.5	+3.3	+3.1	+2.6	+2.0	+1.7	+1.7	+2.0	+2.6	+3.1	+3.3	+3.5	+3.7	+3.5
	+2.2	+2.2	+2.3	+2.0	+1.8	+1.4	+1.4	+1.2	+1.2	+1.4	+1.4	+1.8	+2.0	+2.3	+2.2	+2.2

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