

DATE: 20 July 2021
DESIGNER: Patrick Redmond
PROJECT No: 21058
PROJECT NAME: Proposed Residential Development at Boherboy



Product selected based on a balance of visual comfort and low energy consumption whilst achieving compliance with I.S. EN 13201-2:2015 P3 on a typical section of the Spine Road. 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 at 25 degree ambient. Photometry measured at minimum 15 degree ambient.

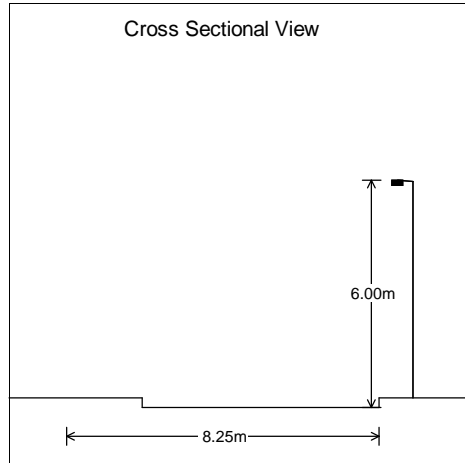
Of the comparable products assessed, the ASD luminaire offers excellent U0, comfortable TI, and high energy efficacy. Product specification may vary with detailed design.

Product Selection

PREPARED BY: Patrick Redmond Hdip BUS, EngTech AMILP, AMSLL, Tech IEI
Redmond Analytical Management Services Ltd.
M~ 086 2356356
O~ 053 9383696
patrick@redmondams.ie
Rosewood House, Mount Seaton, Camolin,
Enniscorthy, Co. Wexford. Y21 K8P3
www.redmondams.ie
Document control: TD 01 Version: 1.0

Roadway Report Summary

Layout



Road Data

Calculation Grid	BS5489 2013 Illuminance
Width (m)	8.25
No. of Lanes	2
Road Surface	C2
Q0	0.07
Left Footpath(m)	2.00
Right Footpath(m)	0.00

Main Lighting

Column Data

Configuration	Single Sided Right
Spacing (m)	35.00
Height (m)	6.00
Tilt (deg)	5.00
Setback (m)	0.90
Outreach (m)	0.40
Overhang (m)	-0.50

Luminaire Data

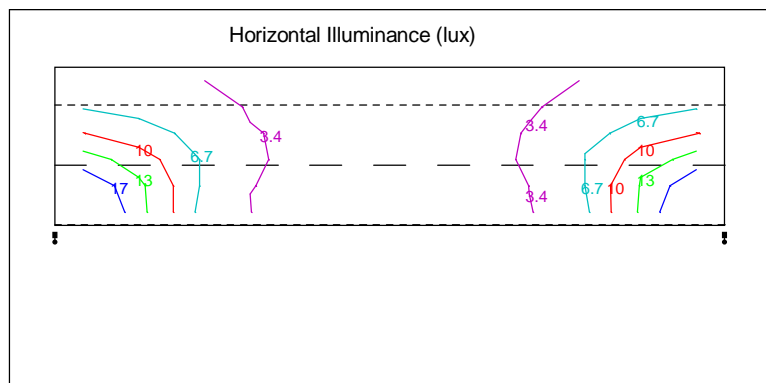
Supplier	ASD Lighting
Type	HWD-#4LED2035-S4 Osram Rev 1
Lamp(s)	LED
LampFlux(klm)/Colour	3.22 4000/72
File Name	HWD-#4LED2035-S4-CLO 15 deg (21w).ldt
Maintenance Factor	0.83
Lum. Int. Class	G2
Lamp S/P Ratio	1.47

Results

Main

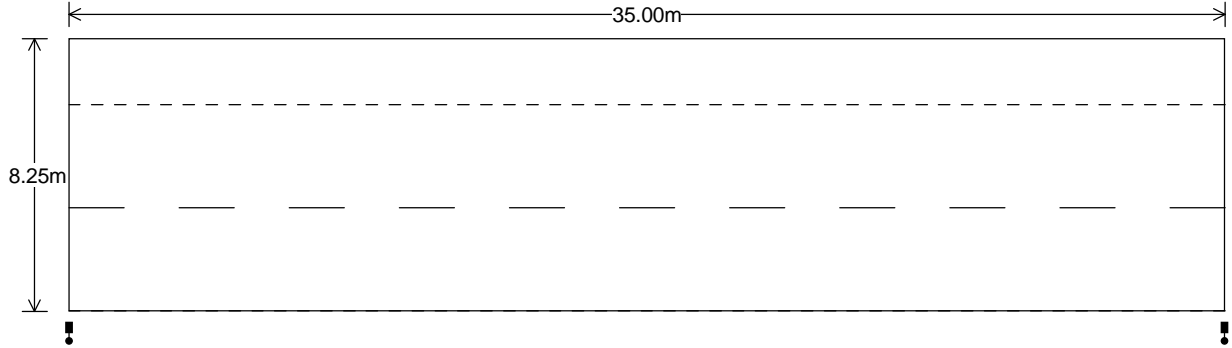
Complies with P3*
With S/P ratio = 1.47

Eav	5.97
Emin	1.74
Emax	21.55
Emin/Emax	0.08
Emin/Eav	0.29
TI(%)	16.08



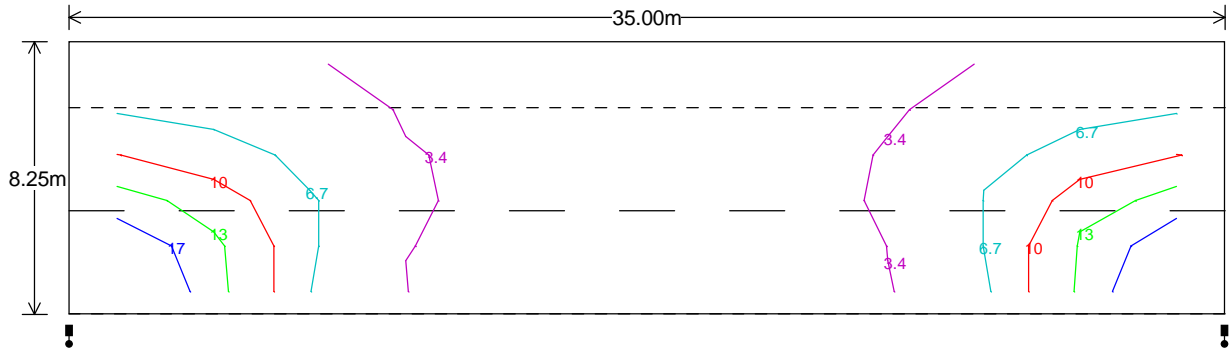
*The lighting class has been modified using the lamp S/P ratio in accordance with PLG03 With Eav from 5.96 to 8.95 and Emin 1.19

Energy performance indicators



Power Main Luminaire(W)	21.00
Parasitic Power(W)	0.00
Area(m ²)	289
Hours per Year	4100
Power Density(mW/lx/m ²)	12.19
AECI(kWh/m ²)	0.30

Horizontal Illuminance (lux)



Main Results

Eav	5.97
Emin	1.74
Emax	21.55
Emin/Emax	0.08
Emin/Eav	0.29
TI(%)	16.08

Comparison Table

Class: P3 Calculation Grid: BS5489 2013 Illuminance Road Surface: C2 Q0: 0.07 No. of Lanes: 2 Total Width: 8.25
Configuration: Single Sided Right

No.	Luminaire	Lamp	S/P Ratio	Flux	MF	Spacing	Overhang	Height	Tilt	Eav	Emin	Emax	Emin/Ema	Emin/Eav	TI	Power Density	AECI
1	HWD-#4LED203	LED	1.47	3.22	0.83	35.00	-0.50	6.00	5.00	5.97	1.74	21.55	0.08	0.29	16.08	12.19	0.30
2	P852K-24-S2-NV	740SS NV	1.64	3.67	0.83	35.00	-0.50	6.00	5.00	5.94	1.81	19.43	0.09	0.30	18.02	15.15	0.37
3	BGP291 DM13	LED-HB 5	1.61	3.60	0.83	35.00	-0.50	6.00	5.00	5.90	1.48	16.08	0.09	0.25	22.25	12.32	0.30
4	ISARO PRO S - 2	LED_4000	1.53	3.95	0.83	35.00	-0.50	6.00	5.00	6.09	2.50	19.54	0.13	0.41	25.57	15.92	0.40
5	AXIA 3.2 5279 In	32 OSLO	1.53	3.15	0.83	35.00	-0.50	6.00	5.00	6.01	2.46	16.45	0.15	0.41	21.15	10.95	0.27