

**DATE:** 23 March 2022  
**DESIGNER:** Patrick Redmond  
**PROJECT No:** 22044  
**PROJECT NAME:** Development at Steeples Road



Product selected based on a balance of visual comfort and low energy consumption whilst achieving compliance with I.S. EN 13201-2:2015 P4, with a warm (3,000K) source, on a typical section of the development. Energy consumption assessed in accordance with I.S. EN 13201-5:2015.

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.

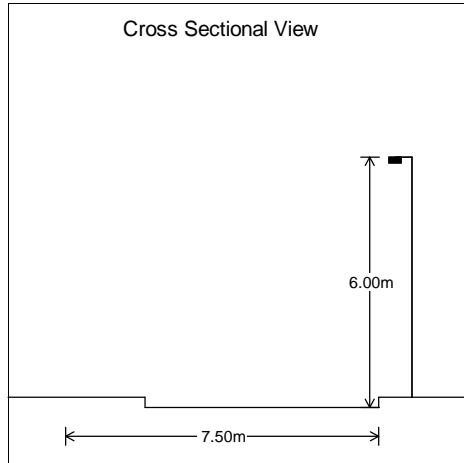
Of the comparable products assessed, the ASD luminaire offers excellent U0, comfortable TI, and high energy efficacy. Product specification may vary with detailed design.

## Luminaire Selection

**PREPARED BY:** Patrick Redmond MILP, MSL, IEng, Tech IEI  
Redmond Analytical Management Services Ltd.  
M~ 086 2356356  
O~ 053 9231112  
patrick@redmondams.ie  
8 Peare Campus, Moyne Park, Old Dublin Road,  
Enniscorthy, Co. Wexford. Y21 TD68  
www.redmondams.ie  
Document control: TD 01 Version: 1.0

## Roadway Report Summary

### Layout



### Road Data

Calculation Grid	2015:EN13201 Illuminance
Width (m)	7.50
No. of Lanes	2
Road Surface	C2
Q0	0.07
Left Footpath(m)	1.90
Right Footpath(m)	0.00

### Main Lighting

#### Column Data

Configuration	Single Sided Right
Spacing (m)	32.00
Height (m)	6.00
Tilt (deg)	0.00
Setback (m)	0.80
Outreach (m)	0.40
Overhang (m)	-0.40

#### Luminaire Data

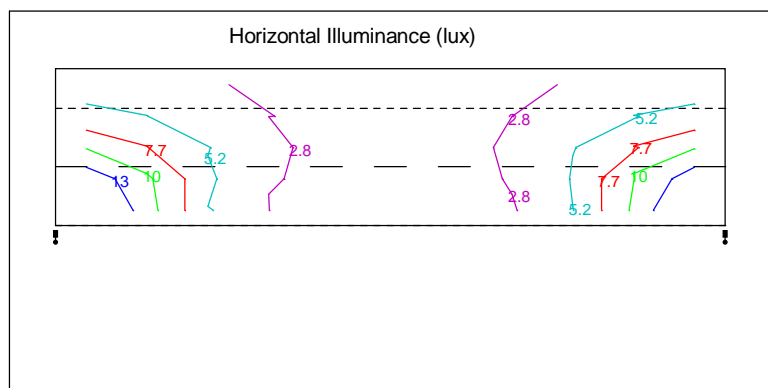
Supplier	ASD Lighting
Type	HWD2-#3K16 300-S4-CLO Gen 5
Lamp(s)	LED
LampFlux(klm)/Colour	2.22 3000/72
File Name	HWD2-#3K16 300-S4-CLO (15W).ldt
Maintenance Factor	0.83
Lum. Int. Class	G3

### Results

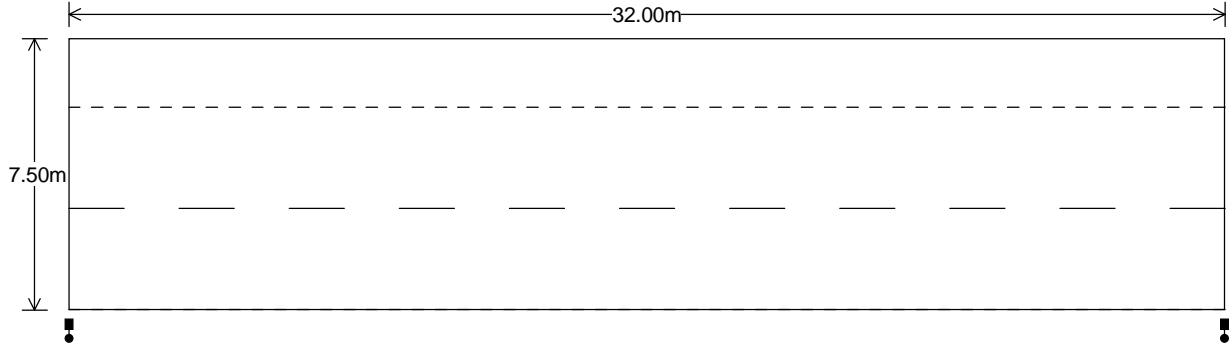
#### Main

Complies with P4

Eav	5.08
Emin	1.54
E <sub>max</sub>	16.24
E <sub>min</sub> /E <sub>max</sub>	0.09
E <sub>min</sub> /E <sub>av</sub>	0.30
TI(%)	12.67

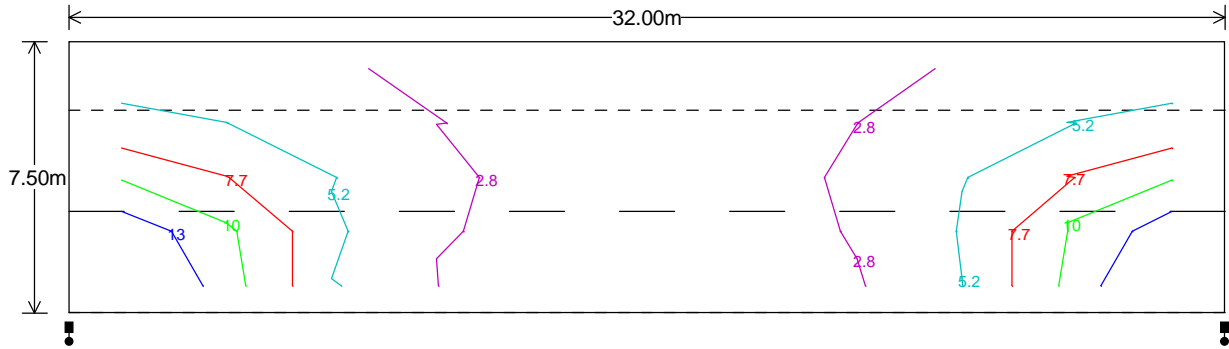


## Energy performance indicators



Power Main Luminaire(W)	15.40
Parasitic Power(W)	0.00
Area(m <sup>2</sup> )	240
Hours per Year	4100
Power Density(mW/lx/m <sup>2</sup> )	12.63
AECI(kWh/m <sup>2</sup> )	0.26

## Horizontal Illuminance (lux)



### Main Results

Eav	5.08
Emin	1.54
Emax	16.24
Emin/Emax	0.09
Emin/Eav	0.30
Tl(%)	12.67

## Comparison Table

EN13201 Class: P4    Calculation Grid: 2015:EN13201 Illuminance    Road Surface: C2    Q0: 0.07    No. of Lanes: 2    Total Width: 7.50  
Configuration: Single Sided Right

No.	Luminaire	Lamp	Flux	MF	Spacing	Overhang	Height	Tilt	Eav	Emin	Emax	Emin/Emax	Emin/Eav	TI	Power Density	AECI
1	HWD2-#3K16 300	LED	2.22	0.83	32.00	-0.40	6.00	0.00	5.08	1.54	16.24	0.09	0.30	12.67	12.63	0.26
2	P852K-12-R1-WV	730C WW	2.33	0.83	32.00	-0.40	6.00	0.00	5.00	1.47	15.39	0.10	0.29	15.17	0.00	0.00
3	BGP291 DM12	LED-HB 5.2	2.60	0.83	32.00	-0.40	6.00	0.00	5.13	1.21	13.55	0.09	0.24	21.14	0.00	0.00
4	ISARO PRO S - 1	LED_3000K	2.57	0.83	32.00	-0.40	6.00	0.00	5.11	1.17	14.00	0.08	0.23	10.69	0.00	0.00
5	AXIA 3.1 5294 Int	8 OSLO S	2.62	0.83	32.00	-0.40	6.00	0.00	5.12	1.94	13.56	0.14	0.38	16.29	0.00	0.00