

**DATE:** 14 April 2022  
**DESIGNER:** Patrick Redmond  
**PROJECT No:** 21068  
**PROJECT NAME:** Ratoath South SHD



Product selected based on a balance of visual comfort and low energy consumption whilst achieving compliance with I.S. EN 13201-2:2015 C4, with a neutral (4,000K) source, on the relief road. 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.

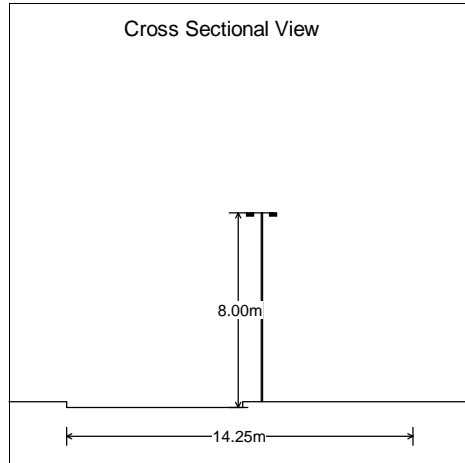
Of the comparable products assessed, the Philips luminaire offers excellent U0, comfortable TI, and high energy efficacy. Product specification may vary with detailed design.

## Luminaire Selection ~ Relief Road

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## Roadway Report Summary

### Layout



### Road Data

Calculation Grid	2015:EN13201 Illuminance
Width (m)	14.25
No. of Lanes	2
Road Surface	C2
Q0	0.07
Left Footpath(m)	0.00
Right Footpath(m)	7.00

### Main Lighting

#### Column Data

Configuration	Opposite
Spacing (m)	40.00
Height (m)	8.00
Tilt (deg)	0.00
Left Setback (m)	-8.00
Left Outreach (m)	0.50
Left Overhang (m)	8.50
Right Setback (m)	0.80
Right Outreach (m)	0.50
Right Overhang (m)	-0.30

#### Luminaire Data

Supplier	Philips
Type	BGP291 DM12
Lamp(s)	LED-HB 5.2S 740
Lamp Flux (klm)	5.00
File Name	LumiStreet Gen2 Micro_BGP291_DM12_500_0_20LED_5.2S_CLO_L90_740.ies
Maintenance Factor	0.83
Lum. Int. Class	G3

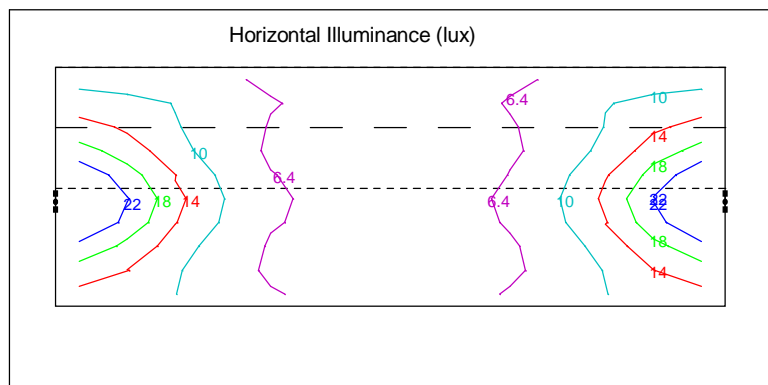


### Results

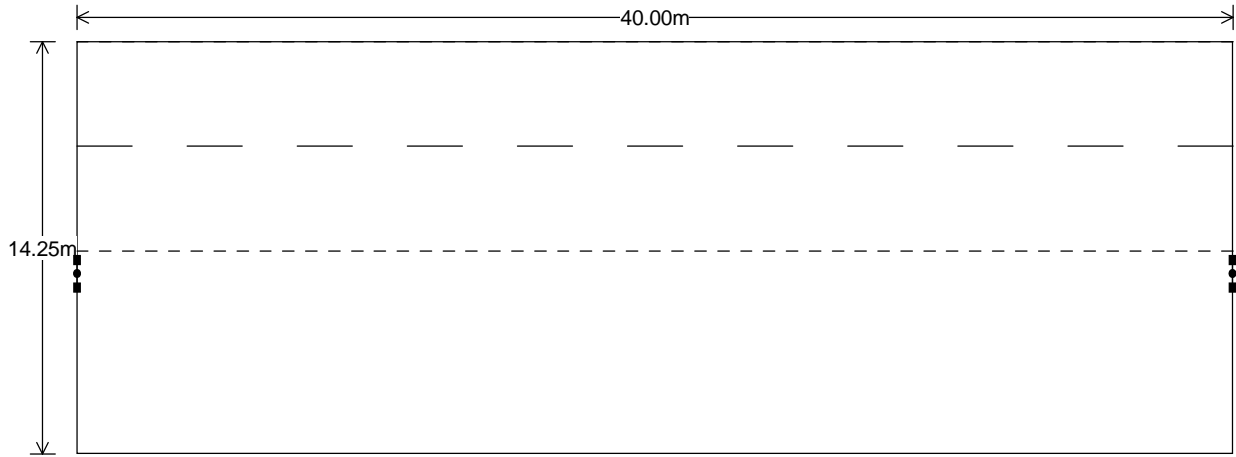
#### Main

Complies with C4

Eav	10.21
Emin	4.35
Emax	28.57
Emin/Emax	0.15
Emin/Eav	0.43
TI(%)	15.74

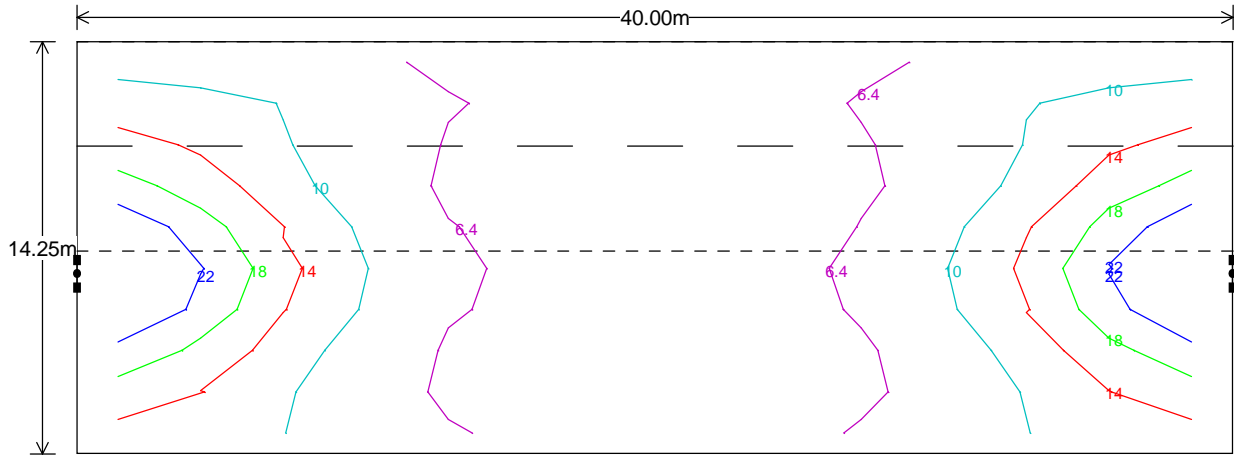


## Energy performance indicators



Power Main Luminaire(W)	29.00
Parasitic Power(W)	0.00
Area(m <sup>2</sup> )	570
Hours per Year	4100
Power Density(mW/lx/m <sup>2</sup> )	9.96
AECI(kWh/m <sup>2</sup> )	0.42

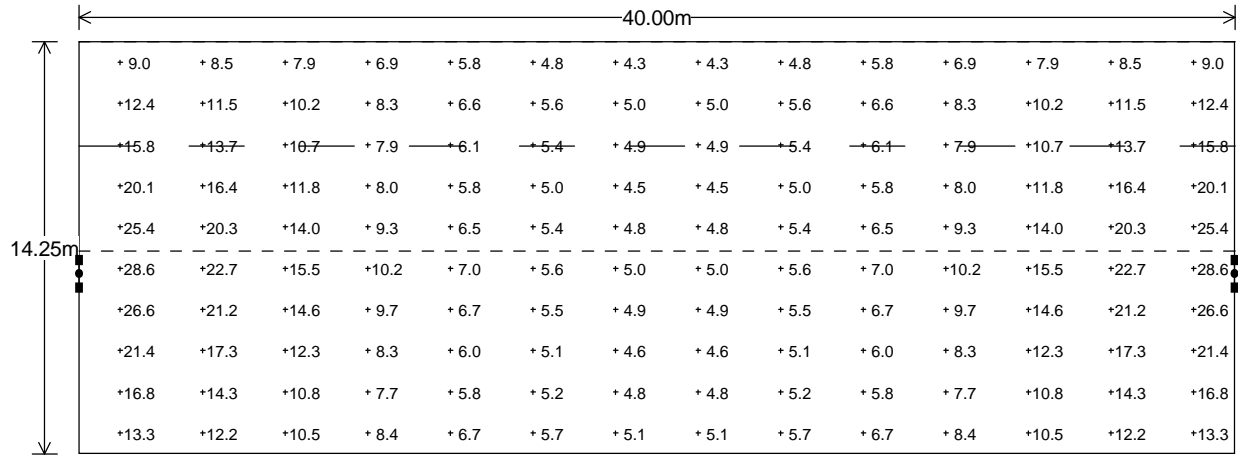
## Horizontal Illuminance (lux)



### Main Results

Eav	10.21
Emin	4.35
Emax	28.57
Emin/Emax	0.15
Emin/Eav	0.43
TI(%)	15.74

## Horizontal Illuminance (lux)



## Comparison Table

EN13201 Class: C4    Calculation Grid: 2015:EN13201 Illuminance    Road Surface: C2    Q0: 0.07    No. of Lanes: 2    Total Width: 14.25  
Configuration: Opposite

No.	Luminaire	Lamp	Flux	MF	Spacing	L Overhang	R Overhang	Height	Tilt	Eav	Emin	Emax	Emin/Emax	Emin/Ea	TI	Power Density	AECI
1	BGP291 DM12	LED-HB 5	5.00	0.83	40.00	8.50	-0.30	8.00	0.00	10.21	4.35	28.57	0.15	0.43	15.74	0.00	0.00
2	ISARO PRO L	LED_4000	9.97	0.83	40.00	8.50	-0.30	8.00	0.00	16.36	7.10	41.46	0.17	0.43	19.68	0.00	0.00
3	AXIA 3.2 5273 In	32 OSLO	4.44	0.83	40.00	8.50	-0.30	8.00	0.00	10.04	4.67	26.38	0.18	0.47	18.19	0.00	0.00