



The luminaire specified for this project is the Sylvania RAPTOR GEN 3 floodlight.

For technical information on this product, please select the weblink below or via the QR code above.

<https://au.schreder.com/en/products/raptor3-sports-floodlighting>

DESIGN NOTES: STANDARD SPORTS SCHEME

This Sports Lighting Assessment is based on the Light Technical Parameters and Guidelines from Australian Standard AS2560.2:2021, "Sports Lighting Part 2 Specific Applications".

The lighting design is to comply with the requirements of Section 2.6, Football (all codes) - Soccer, Amateur club competition and match play. The Light Technical Parameters (LTP) are as follows:

- * Average horizontal maintained illuminance: 100 Lux
- * Minimum horizontal uniformity U1 (Min/Ave): 0.50
- * Minimum horizontal uniformity U2 (Min/Max): 0.30
- * Maximum uniformity gradient per 5m: 2
- * Maximum glare rating (GR): 50

The dimensions for the Field of Play (FOP) are 100 x 68m

Calculation grids have been established in accordance with the requirements from AS2560.2:021.

The luminaire height above the field of play has been taken as (18m), acknowledging the height recommendations within Table 2.6.2 from AS2560.2:2021. This assessment does not take into consideration the topography of the site. An analysis of the site topography should be considered when determining the actual heights of each pole.

Poles have been located in accordance with the recommendations from AS2560.2:2021, based on a 4 pole side arrangement.

The glare rating has been calculated using observer positions located in accordance with the recommendations from AS2560.2:2021. We have used surface reflectances as specified in AS2560.1:2018, Table 2.3.

This assessment does not take into consideration the effect of topography or the obstructive effect from buildings, trees, fences etc.

Light Loss Factor (LLF):

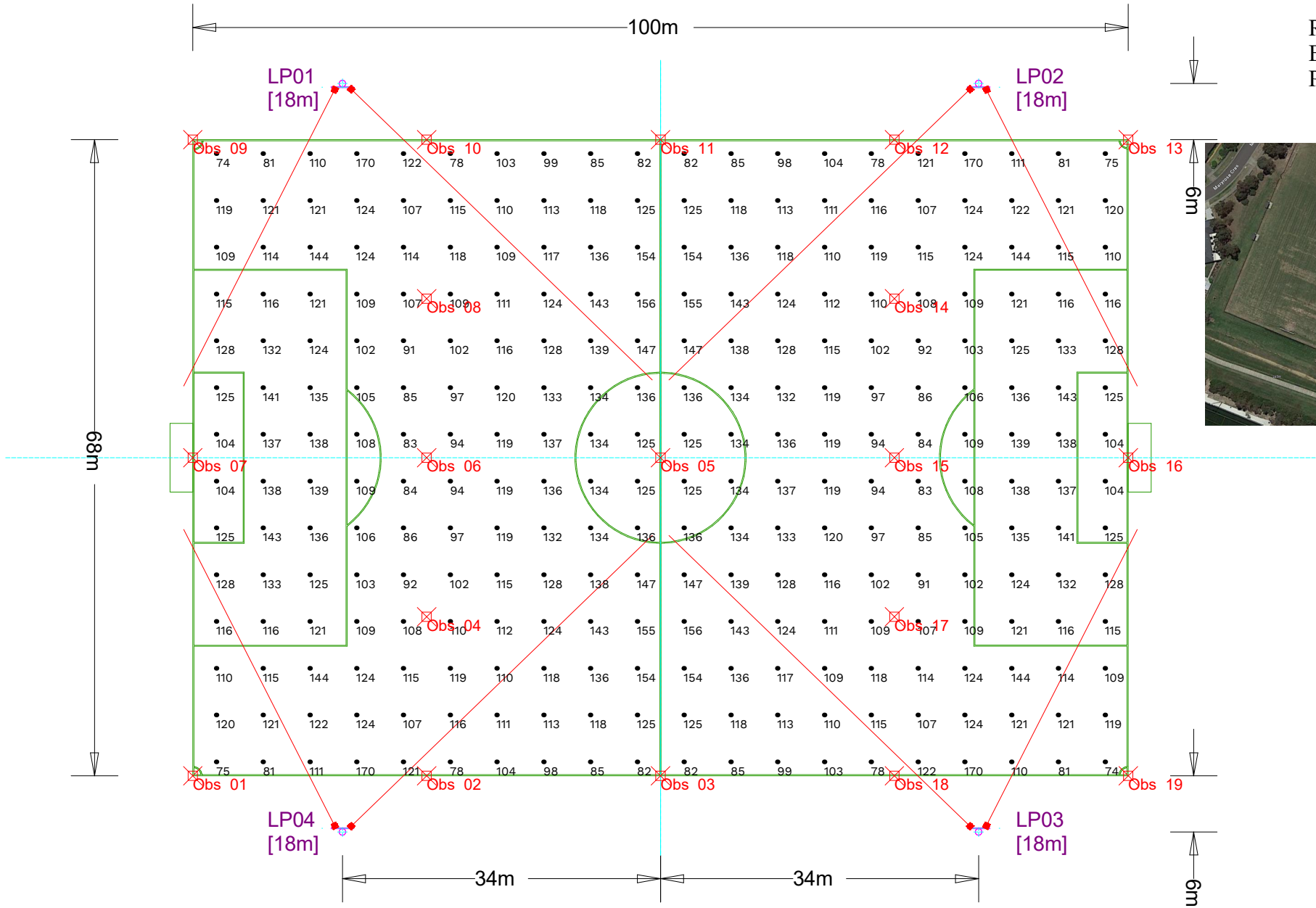
A Light Loss Factor (LLF), accounting for LED lumen and dirt depreciation, of 0.92 has been used for all RAPTOR GEN 3 luminaires. This is derived from a combination of the following:

- * Luminaire Dirt Depreciation (LDD) - 0.95, based on a 36-month cleaning cycle (per AS2560.1:2018 Table 4.1)
- * Lamp Lumen Depreciation (LLD) - 0.971 (L97.1) @ 20,000 burning hours.

Luminaire Arrangement:

Light poles labelled LP01 to LP04. (Refer diagram opposite)

- * Light pole LP01 - 2 x Raptor 1200W
- * Light pole LP02 - 2 x Raptor 1200W
- * Light pole LP03 - 2 x Raptor 1200W
- * Light pole LP04 - 2 x Raptor 1200W



REEMA RESERVE EAST PITCH 100LUX PRELIMINARY DESIGN



Luminaire Schedule					
Symbol	Qty	Description	Lum. Watts	Total Watts	LLF
	8	Sylvania - Raptor SR4H757A1LG3 1200W CRI70 5700K Asym Narrow	1193.78	9550.24	0.920

Calculation Summary: All Luminaires On										
Project: Playing Area										
Label	Description	Avg	Max	Min	U1	U2	UG	PtSpcLr	PtSpcTb	Grid Z
Eh_01	Horizontal plane illuminance on the PPA of the soccer field at 0m agl	117.67	170	74	0.63	0.44	1.61	5	5	0

Calculation Summary		
Project: GR		
Obs Label	Grid Reflect	Max
Obs 01	0.25	23
Obs 02	0.25	24
Obs 03	0.25	35
Obs 04	0.25	36
Obs 05	0.25	42
Obs 06	0.25	41
Obs 07	0.25	38
Obs 08	0.25	35
Obs 09	0.25	22
Obs 10	0.25	22
Obs 11	0.25	35
Obs 12	0.25	24
Obs 13	0.25	23
Obs 14	0.25	36
Obs 15	0.25	41
Obs 16	0.25	38
Obs 17	0.25	35
Obs 18	0.25	22
Obs 19	0.25	22

DISCLAIMER:

This lighting design is generic only and should be used as a guide only.

All site specific analysis of actual design outcomes can only be undertaken once the field of play dimensions, pole locations and luminaire mounting heights are confirmed in writing.

Assessment of AS/NZS4282:2019 Obtrusive Light control has not been undertaken. Sylvania-Schreder recommends a full assessment of AS/NZS4282:2019 be carried out, based on a site specific design, prior to any installation of product.

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This design calculation is based upon specified parameters supplied by the client, and other design inputs assumed by us, as detailed in this document. In practice, the accuracy of the values will differ due to environmental variations such as actual luminaire positioning, room surface reflectance, supply voltage, local luminaire ambient temperature, obstacles/furniture, etc. These results are also subject to normally accepted photometric tolerances, and calculation/program uncertainties. Schröder Australia provides this calculation without any representation or warranty of any kind. The Company shall be under no liability to the Customer for failure to attain such performance figures unless the performance of the Goods supplied is specifically guaranteed in writing, and any such written guarantee shall be subject to recognised manufacturing variations and tolerances applicable to the Goods.

REV	DATE	COMMENTS	DESIGNER
R0	11/03/2022	Original design	PJ
R1			
R2			
R3			
R4			
R5			

PROJECT	TITLE
Standard Lighting Design Scheme For Soccer (100m x 68m)	Club competition and match practice - RAPTOR GEN 3 A1 Optic 4x 18m pole side configuration
CONTACT Sylvania_Schreder sales@sylvania-schreder.com	DOCUMENT NO. Soccer_x1_RAPTOR GEN 3 1200W A1 Optic_Club Competition_4x 18m Pole Side.AGI

REVISION	SHEET	PAGE NO.
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