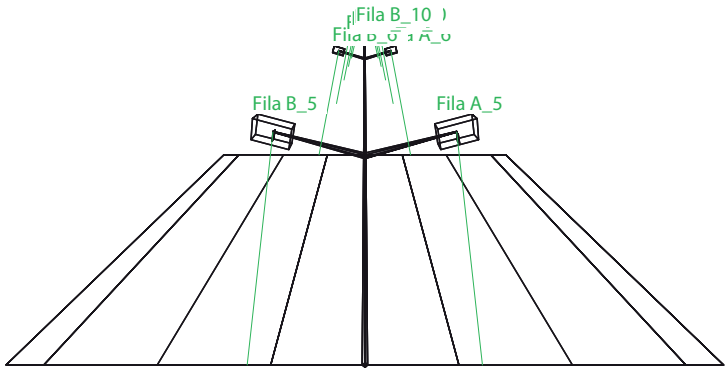
LIGHT DESIGN FOR GO-KART TRACK (PART 1)

Installation Notes: SOLUTION WITH LYRA 11 250W
Customer: Si Lysteknik A/S
Project Code: 08.0463-V3-A1
Date: 16/05/2008

Notes:



DESIGNER NAME: SBP S.p.a. Daleffe Roberto
Address: Via Provinciale 57 - 24050 Ghisalba BG
Tel.-Fax: Tel. 0363/940611 Fax. 0363/940691

Remarks:

THE LIGHTING VALUES SHOWN IN THIS STUDY REFER TO THE LAMP NOMINAL LIGHT FLUX AT NET NOMINAL TENSION, ASSUMING THAT:
-THE AREA FOR WHICH THE STUDY WAS MADE IS FREE FROM ANY OBSTRUCTING ELEMENT TO A HOMOGENEOUS LIGHT DISTRIBUTION
-THE DETAILS YOU GAVE US TO MAKE OUR STUDY ARE TRUE. DUE TO MANY VARIABLE FACTORS AND TO INSTALLATION DEVIATIONS SUCH AS AMBIENT TEMPERATURE AND FITTING REFLECTIONS, POS

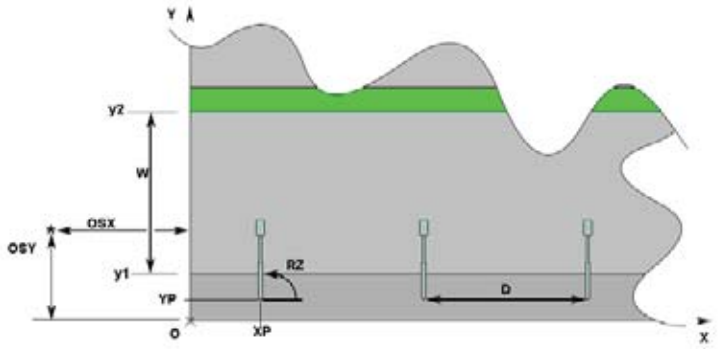
1.1 Area Information

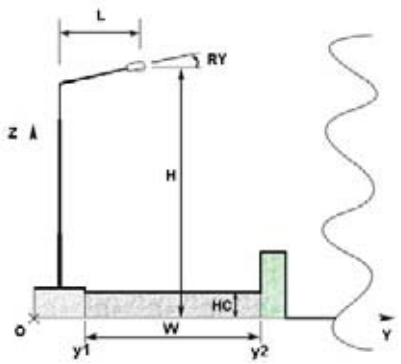
Road Data

Zone	Zone Type	Lane	Direction	Width [m] (W)	y1 [m]	y2 [m]	Calc. Pts.Y (ILLUM.)	Calc. Pts.Y (LUMIN.)	h Zone [m] (HC)	color	R Table	Refl. Coeff. q0 Factor
Marc_A	Bikeway/Pedestrian	Marc_A_C1	--->	1.00	0.00	1.00	1	1	0.00	RGB=219,54,36		55.00
Carregg_A	Carriageable			6.00	1.00	7.00	3		0.00	RGB=126,126,126	C2	7.01
		Carregg_A_C1	--->	3.00	1.00	4.00		3				
		Carregg_A_C2	--->	3.00	4.00	7.00		3				
Mediana	Secondary	Mediana_C1	--->	5.00	7.00	12.00	1	1	0.00	RGB=0,255,0		30.00
Carregg_B	Carriageable			6.00	12.00	18.00	3		0.00	RGB=126,126,126	C2	7.01
		Carregg_B_C1	<---	3.00	12.00	15.00		3				
		Carregg_B_C2	<---	3.00	15.00	18.00		3				
Marc_B	Bikeway/Pedestrian	Marc_B_C1	<---	1.00	18.00	19.00	1	1	0.00	RGB=219,54,36		55.00

Installation Data (Luminaires File)

Filename	1° Pole x [m] (XP)	1° Pole y [m] (YP)	Lum. Height [m] (H)	No. Poles	Interd. [m] (D)	Bracket [m] (L)	Lum.Incl. [°] (RY)	Bracket Rot. [°] (RZ)	Lateral Incl. [°] (RX)	Maint.Coeff. [%]	Code Luminaire	Flux [lm]	Refer.
Fila A	0.00	9.50	6.00	---	17.00	1.50	15	270	0	80.00	05149490	27000	A
Fila B	0.00	9.50	6.00	---	17.00	1.50	15	90	0	80.00	05149490	27000	A





1.2 Uniformity Installation Parameters

Summary Results

Zone	Observer	Lane	Sr	Ti	Ul	LAv	Uo
Carregg_A			Tot=0.71 R=0.44 L=0.88	Ti=3.12	0.70	3.66	0.47
	1) (x=-60.00 y=2.50)m	Carregg_A_C1			0.70 *	3.82	0.47 *
	2) (x=-60.00 y=5.50)m	Carregg_A_C2			0.72	3.66 *	0.48
	3) (x=-60.00 y=2.50)m					3.82	0.47
	(x=4.63 y=2.50)m			Ti=3.12 *			
Lv=0.17							
Carregg_B			Tot=0.71 R=0.88 L=0.44	Ti=3.12	0.70	3.66	0.47
	1) (x=77.00 y=13.50)m	Carregg_B_C1			0.72	3.66 *	0.48

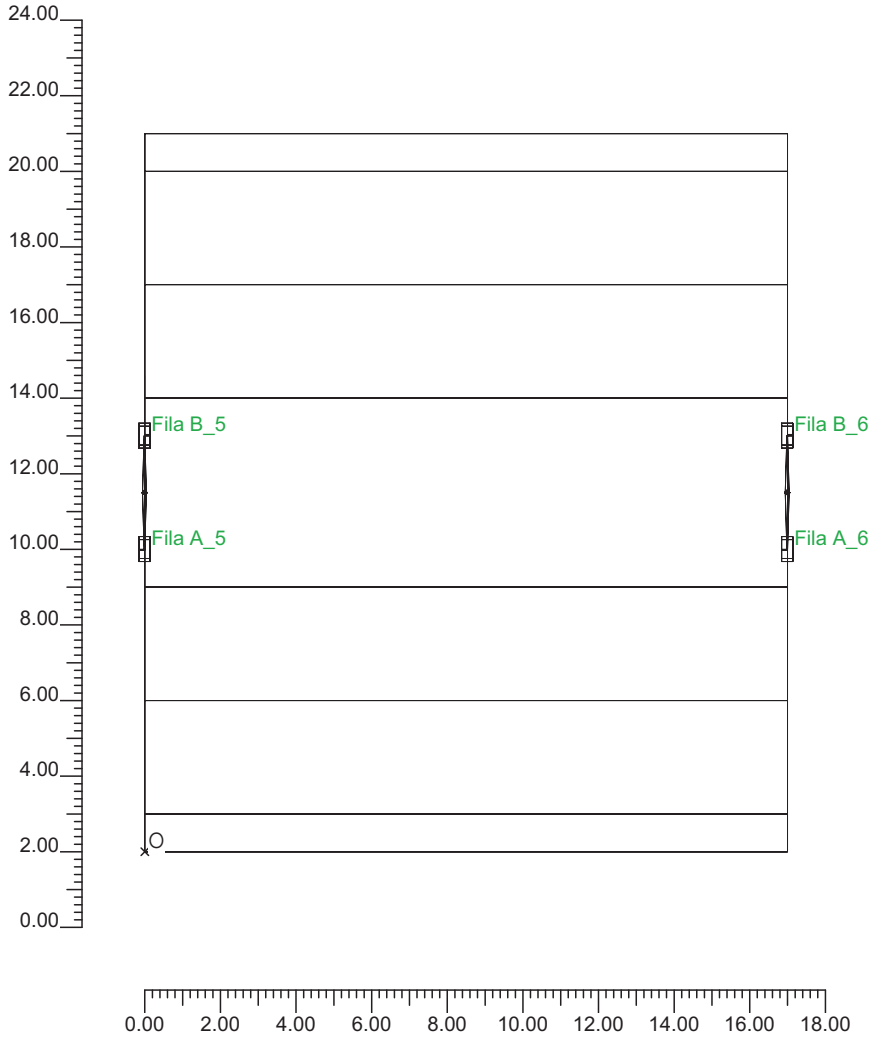
Zone	Observer	Lane	Sr	Ti	Ul	LAv	Uo
Carregg_B	2) (x=77.00 y=16.50)m	Carregg_B_C2	Tot=0.71 R=0.88 L=0.44	Ti=3.12	0.70 *	3.82	0.47 *
	3) (x=77.00 y=16.50)m					3.82	0.47
	(x=-4.63 y=16.50)m			Ti=3.12 *			
Lv=0.17							

Light Pollution

Average Ratio - Rn -
1.49 %

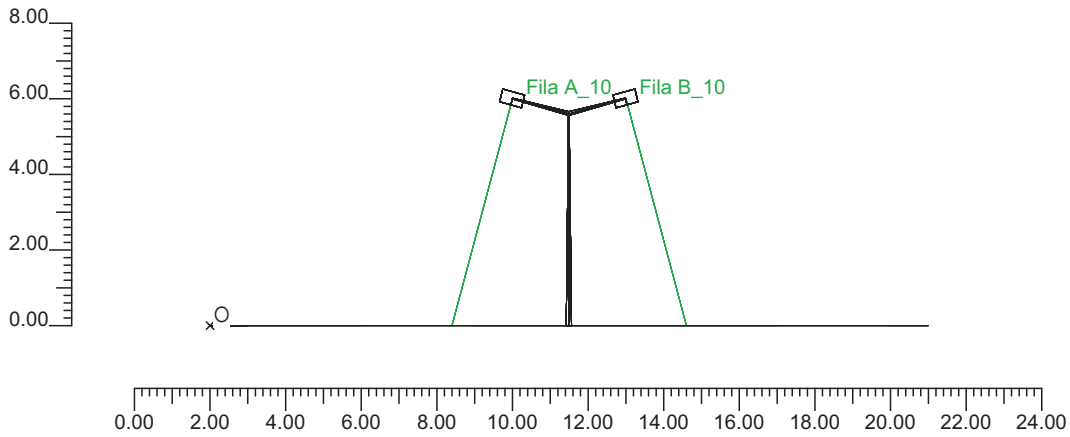
2.1 2D Plane View

Scale 1/200



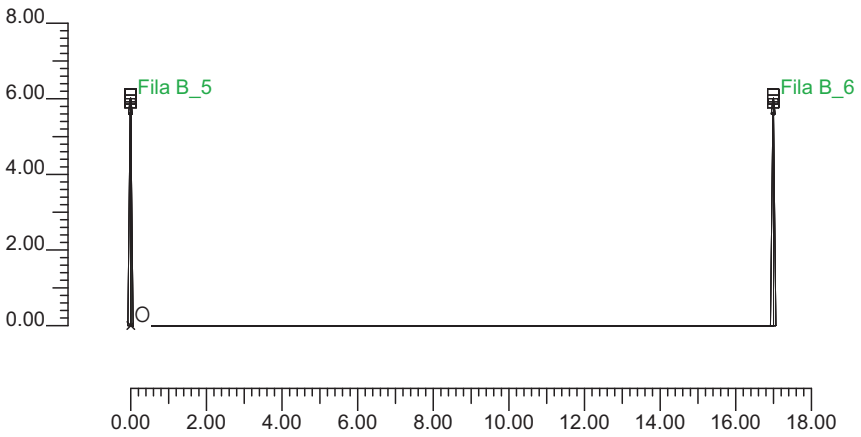
2.2 Lateral View

Scale 1/200



2.3 Front View

Scale 1/200



3.1 Luminaire/Measurements Info

Ref.	Line	Luminaire Name	Luminaire Code	Luminaires N.	Ref.Lamps	Lamps N.
A	SBP - Lyra 11	LYRA 11/252 [90] CR	05149490	-	LMP-A	1

3.2 Lamps Info

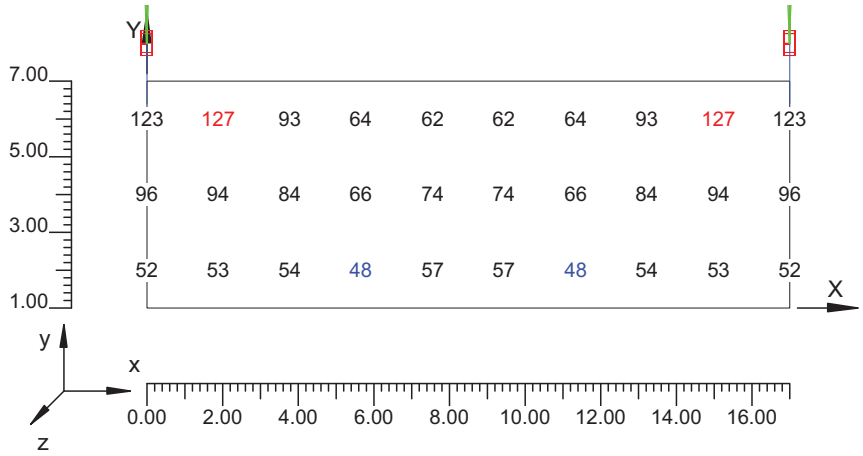
Ref.Lamps	Type	Code	Flux [lm]	Wattage [W]	Color [K]	N.
LMP-A	ST 250	NAV-T 250	27000	250	2000	-

4.1 Illuminance Values on:CARRIAGEWAY

O (x:0.00 y:1.00 z:0.00)	Results	Average	Minimum	Maximum	Min/Ave	Min/Max	Ave/Max
DX:1.89 DY:2.00	Horizontal Illuminance (E)	77 lux	48 lux	127 lux	0.63	0.38	0.60

Calculation Type: Only Dir. + Furnit.

Scale 1/200

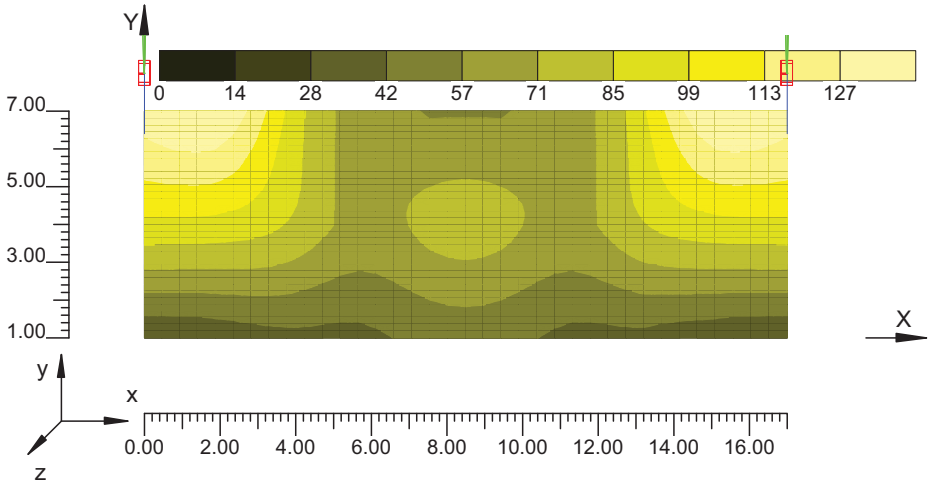


4.2 Illuminance Spot Diagram on:CARRIAGEWAY_1

O (x:0.00 y:1.00 z:0.00)	Results	Average	Minimum	Maximum	Min/Ave	Min/Max	Ave/Max
DX:1.89 DY:2.00	Horizontal Illuminance (E)	77 lux	48 lux	127 lux	0.63	0.38	0.60

Calculation Type: Only Dir. + Furnit.

Scale 1/200

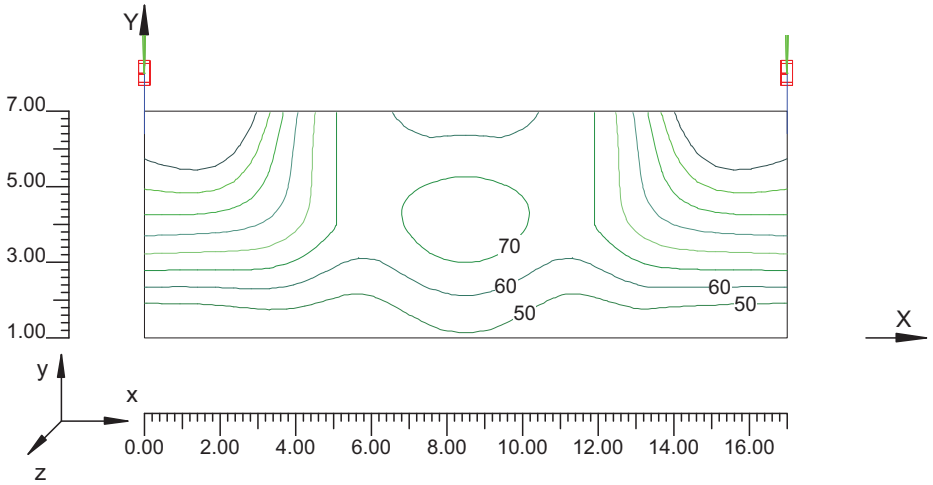


4.3 Isolux Curves on:CARRIAGEWAY_1_1

O (x:0.00 y:1.00 z:0.00)	Results	Average	Minimum	Maximum	Min/Ave	Min/Max	Ave/Max
DX:1.89 DY:2.00	Horizontal Illuminance (E)	77 lux	48 lux	127 lux	0.63	0.38	0.60

Calculation Type: Only Dir. + Furnit.

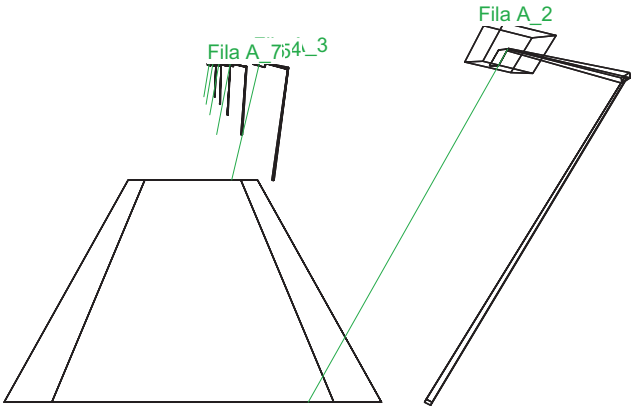
Scale 1/200



LIGHT DESIGN FOR GO-KART TRACK (PART 2)

Installation Notes: SOLUTION WITH LYRA 11 250W
Customer: Si Lysteknik A/S
Project Code: 08.0463-V3-A2
Date: 16/05/2008

Notes:



DESIGNER NAME: SBP S.p.a. Daleffe Roberto
Address: Via Provinciale 57 - 24050 Ghisalba BG
Tel.-Fax: Tel. 0363/940611 Fax. 0363/940691

Remarks:

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-THE AREA FOR WHICH THE STUDY WAS MADE IS FREE FROM ANY OBSTRUCTING ELEMENT TO A HOMOGENEOUS LIGHT DISTRIBUTION
-THE DETAILS YOU GAVE US TO MAKE OUR STUDY ARE TRUE. DUE TO MANY VARIABLE FACTORS AND TO INSTALLATION DEVIATIONS SUCH AS AMBIENT TEMPERATURE AND FITTING REFLECTIONS, POS

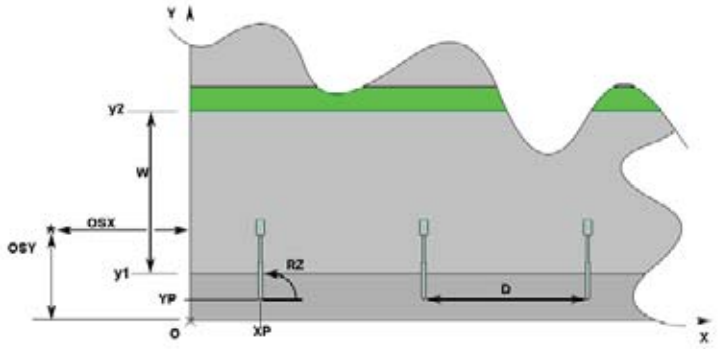
1.1 Area Information

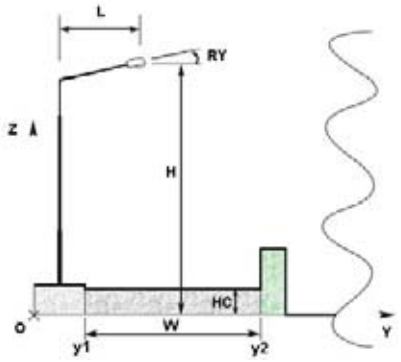
Road Data

Zone	Zone Type	Lane	Direction	Width [m] (W)	y1 [m]	y2 [m]	Calc. Pts.Y (ILLUM.)	Calc. Pts.Y (LUMIN.)	h Zone [m] (HC)	color	R Table	Refl. Coeff. q0 Factor
Marc_A	Bikeway/Pedestrian	Marc_A_C1	--->	1.00	0.00	1.00	1	1	0.00	RGB=219,54,36		55.00
Carregg_A	Carriageable	Carregg_A_C1	--->	6.00	1.00	7.00	3	3	0.00	RGB=126,126,126	C2	7.01
Marc_B	Bikeway/Pedestrian	Marc_B_C1	--->	1.00	7.00	8.00	1	1	0.00	RGB=219,54,36		55.00

Installation Data (Luminaires File)

Filename	1° Pole x [m] (XP)	1° Pole y [m] (YP)	Lum. Height [m] (H)	No. Poles	Interd. [m] (D)	Bracket [m] (L)	Lum.Incl. [°] (RY)	Bracket Rot. [°] (RZ)	Lateral Incl. [°] (RX)	Maint.Coeff. [%]	Code Luminaire	Flux [lm]	Refer.
Fila A	0.00	-1.00	6.00	---	17.00	1.50	10	90	0	80.00	05149490	27000	A





1.2 Uniformity Installation Parameters

Summary Results

Zone	Observer	Lane	Sr	Ti	Ul	LAv	Uo
Carregg_A			Tot=0.51 R=0.58 L=0.41	Ti=2.63	0.67	3.96	0.51
	1) (x=-60.00 y=4.00)m	Carregg_A_C1			0.67 *	3.96 *	0.51 *
	2) (x=-60.00 y=2.50)m					3.87	0.51
	(x=-12.38 y=2.50)m			Ti=2.63 *			
Lv=0.14							

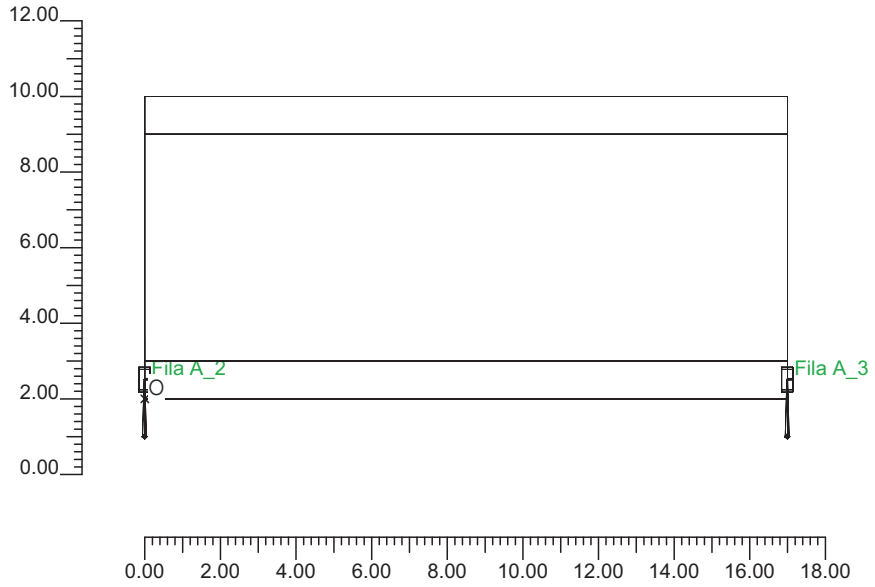
GO-KART TRACK (PART 2) 08.0463-V3-A2 16/05/2008
SBP S.p.a. Daleffe Roberto Via Provinciale 57 - 24050 Ghisalba BG Tel. 0363/940611 Fax. 0363/940691

Light Pollution

Average Ratio - Rn -
1.39 %

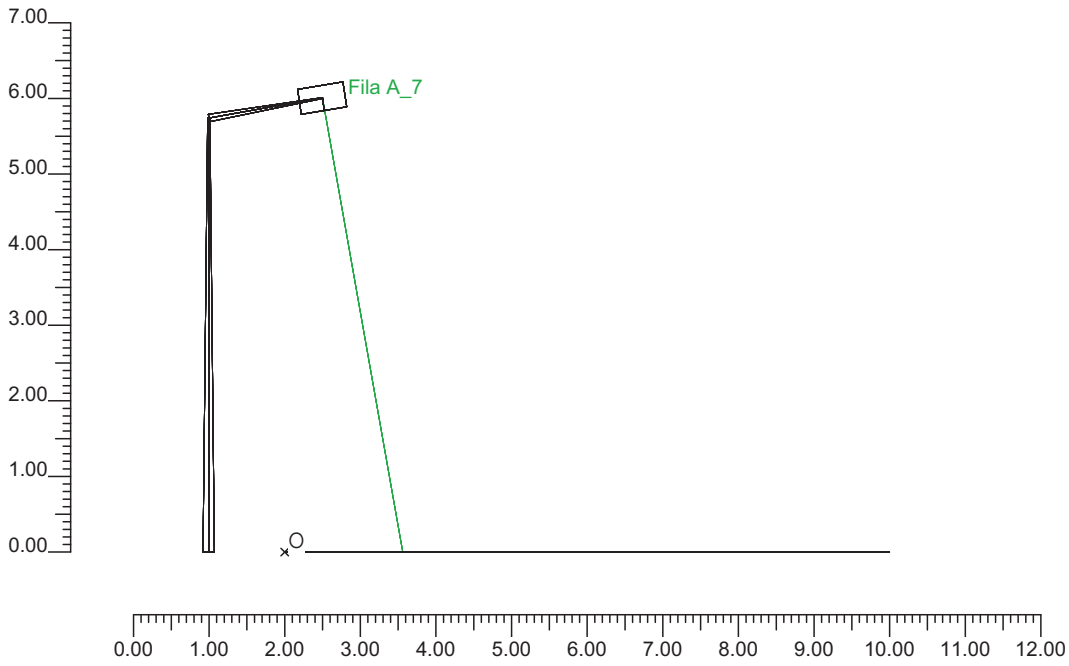
2.1 2D Plane View

Scale 1/200



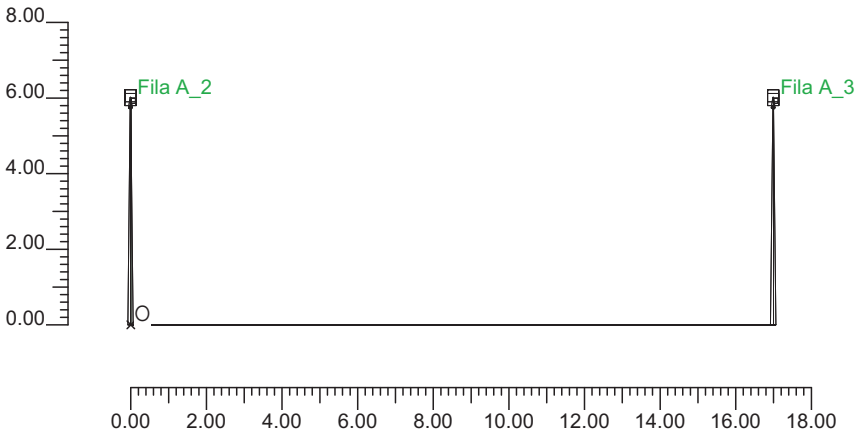
2.2 Lateral View

Scale 1/100



2.3 Front View

Scale 1/200



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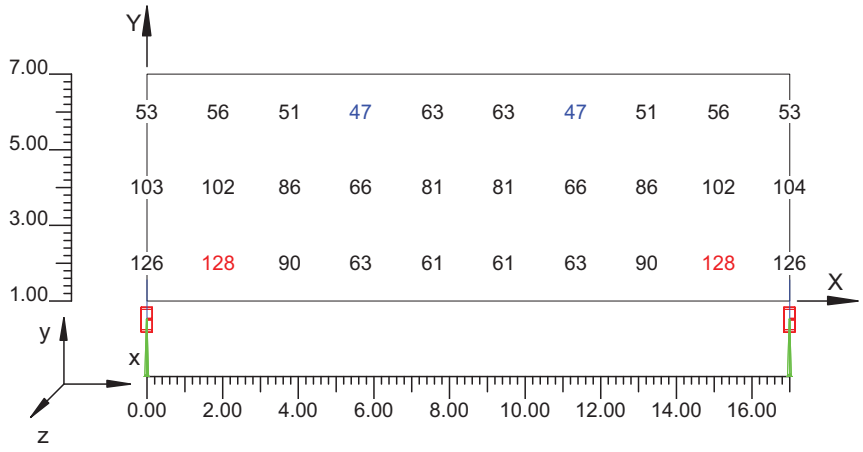
Scale 1/200



4.2 Illuminance Spot Diagram on:CARRIAGEWAY_1

O (x:0.00 y:1.00 z:0.00)	Results	Average	Minimum	Maximum	Min/Ave	Min/Max	Ave/Max
DX:1.89 DY:2.00	Horizontal Illuminance (E)	78 lux	47 lux	128 lux	0.60	0.37	0.61

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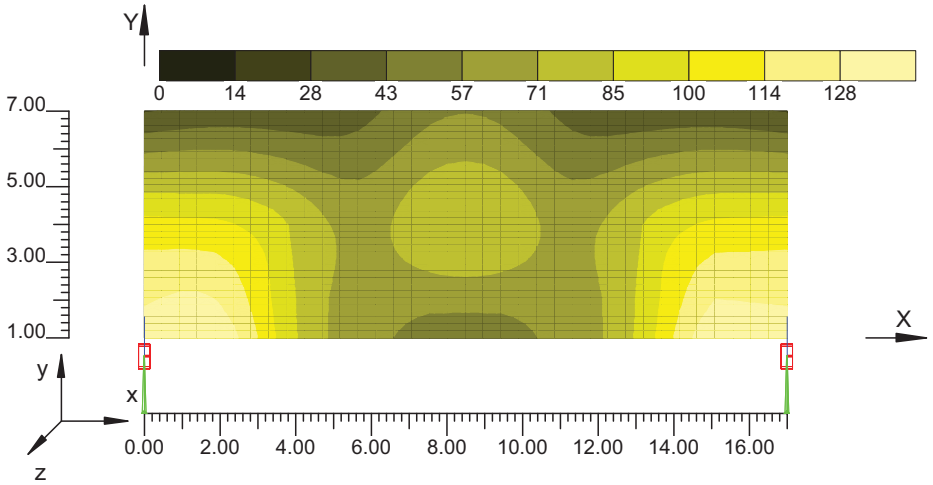
Scale 1/200



4.3 Isolux Curves on:CARRIAGEWAY_2

O (x:0.00 y:1.00 z:0.00)	Results	Average	Minimum	Maximum	Min/Ave	Min/Max	Ave/Max
DX:1.89 DY:2.00	Horizontal Illuminance (E)	78 lux	47 lux	128 lux	0.60	0.37	0.61

Calculation Type: Only Dir. + Furnit.

Scale 1/200