

**INSTALLAZIONE NUOVI PUNTI LUCE
DELLA PUBBLICA ILLUMINAZIONE ED
ESTENSIONE TRATTI DI RETE ESISTENTE
IN VARIE ZONE DEL TERRITORIO
COMUNALE.**



CALCOLO ILLUMINOTECNICO

Quarrata, Settembre 2021



L'Istruttore tecnico
Capecchi Luca

A handwritten signature in black ink, appearing to read "Luca Capecchi".

Il progettista
Ing. Andrea Casseri

A handwritten signature in black ink, appearing to read "Andrea Casseri".

Comune di Quarrata - Tratto di Via Bottai

Standard EN 13201 : 2015

Designer Studio Tecnico

Date 26/09/2021

Application Ulysse 3.5.2

Description Verifica Illuminotecnica Tratto di Via Bottai

Categoria M3 strada urbana di quartiere

Teceo 1 32led 900mA ottica 5248

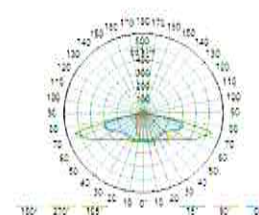
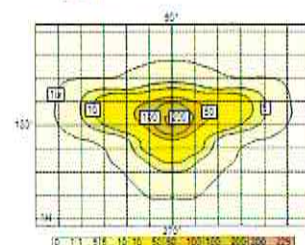
Table of contents

1.	Fixtures	3
1.1.	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702.....	3
2.	Photometric documents.....	4
2.1.	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702.....	4
3.	Results	5
3.1.	Grid summary	5
3.2.	Observer summary	5
3.3.	Values summary	5
4.	Power consumption	5
4.1.	Dynamic cross section	5
5.	Cross section.....	6
5.1.	2D View	6
6.	Dynamic cross section	7
6.1.	Matrix description	7
6.2.	Luminaire positions	7
6.3.	Luminaire groups	7
6.4.	Luminance - Multi-lanes (LU) - C2007.....	8
6.5.	Multi-lanes (TI 1) - TI - Grid.....	10
6.6.	Multi-lanes (TI 2) - TI - Grid.....	11
7.	Grids	12
7.1.	Multi-lanes (LU)	12
8.	Observer.....	13
8.1.	Multi-lanes (TI 1).....	13
8.2.	Multi-lanes (TI 2).....	13

1. Fixtures

1.1. TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702

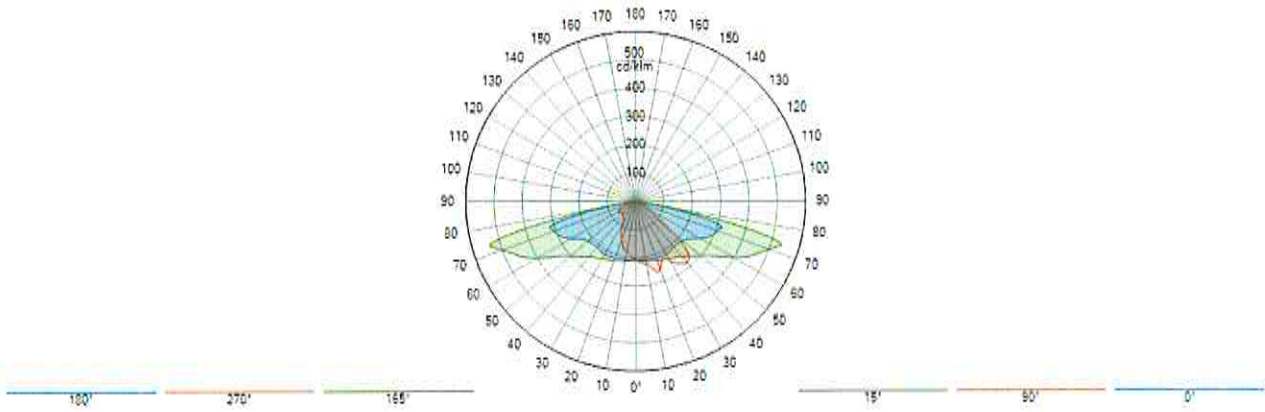
- Type TECEO GEN2 1
- Reflector 5248
- Source 32 LEDs 900mA WW730
- Protector Piano, Vetro extra chiaro, Liscio
- Source flux 12,319 klm
- G* 2
- Luminaire wattage 91,0 W
- MF 0,80
- Matrix 468702
- Luminaire flux 9,721 klm
- Efficacy 107 lm/W



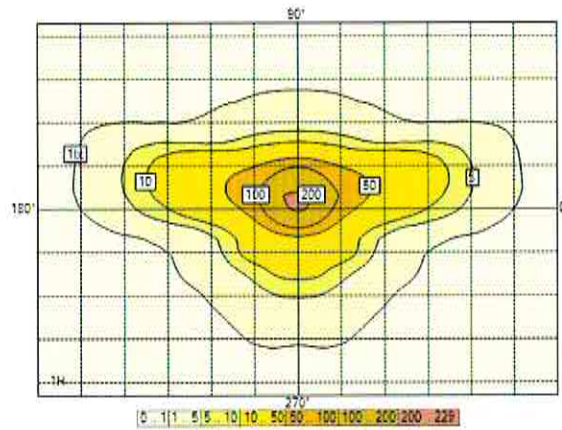
2. Photometric documents

2.1. TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702

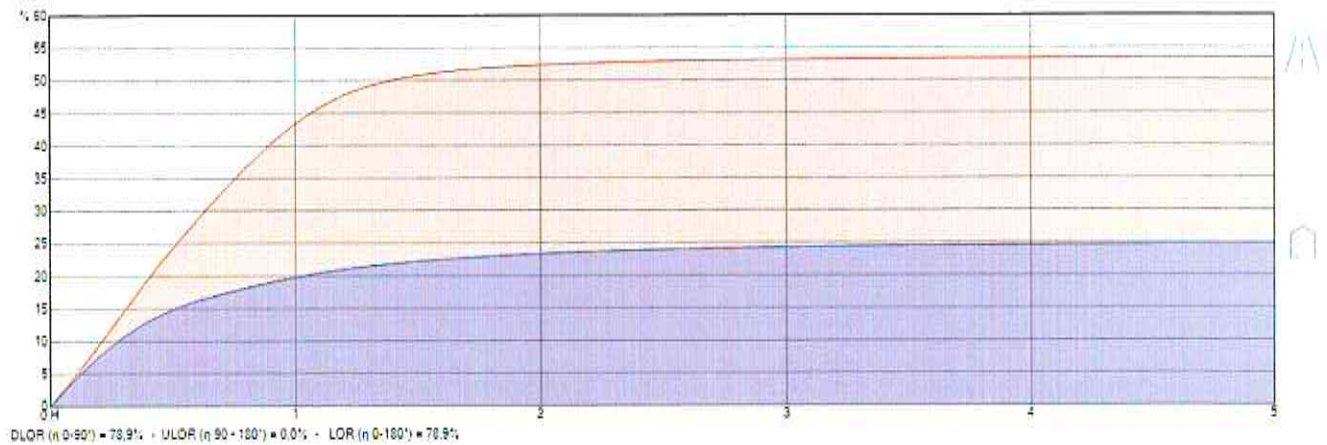
Polar/Cartesian diagram



Isolux



Utilization curve



3. Results

3.1. Grid summary

Multi-lanes (LU)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

1. Luminance - RTable - C2007

	Ave (A) (cd/m ²)	Min/Ave (%)	Min/Max (%)	Min (cd/m ²)	Max (cd/m ²)	UL (%)
Dynamic cross section - Observer 1 (-60,00; -5,63; 1,50)	1,00	49	31	0,49	1,60	75 %
Dynamic cross section - Observer 2 (-60,00; -1,88; 1,50)	1,09	49	31	0,54	1,71	74 %

3.2. Observer summary

Multi-lanes (TI 1)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	15

Multi-lanes (TI 2)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	11

3.3. Values summary

EIR road

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	EIR road
Dynamic cross section - Multi-lanes (EIR)	0,49

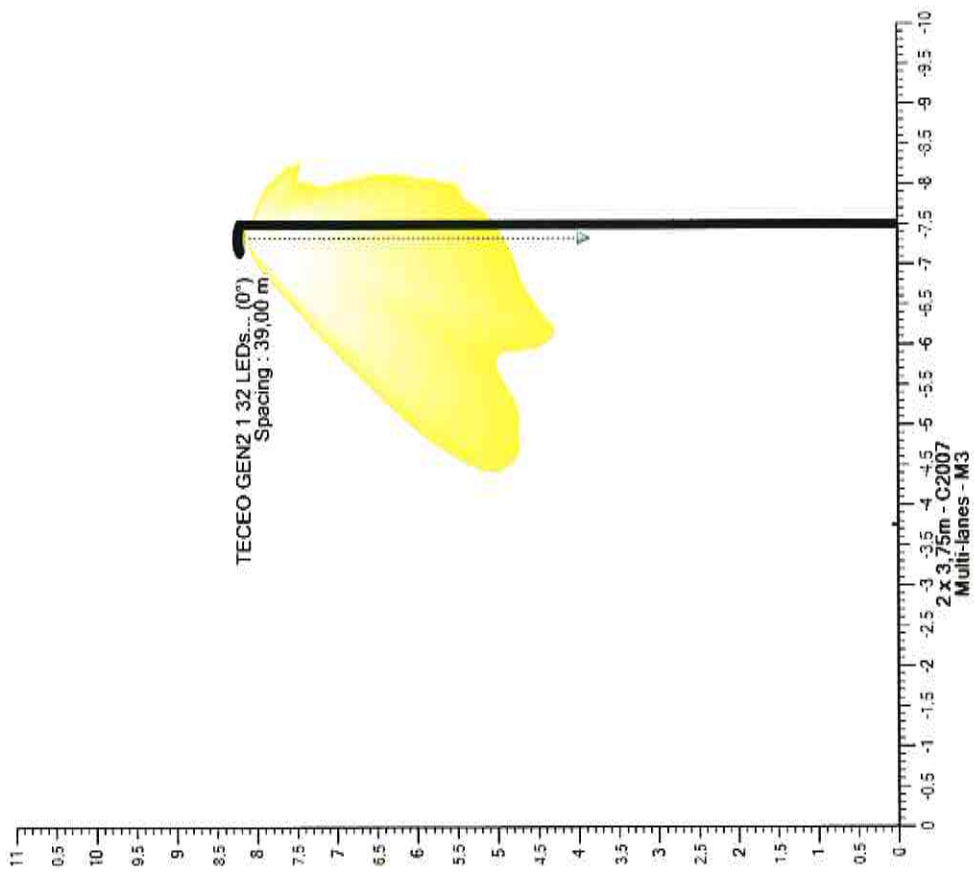
4. Power consumption

4.1. Dynamic cross section

Fixture	Current [mA]	Qty	Dimming	Power / Fixture	Total
TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702	900	26	100 %	91 W	2344 W



5. Cross section

5.1. 2D View








6. Dynamic cross section


6.1. Matrix description

Ph. color	Description	Current [mA]	Source flux [klm]	Luminaire flux [klm]	Power [W]	Efficacy [lm/W]	MF	Height [m]	Fixture
	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702	900	12,319	9,721	91,4	106	0,800	5 x 8,20	

6.2. Luminaire positions

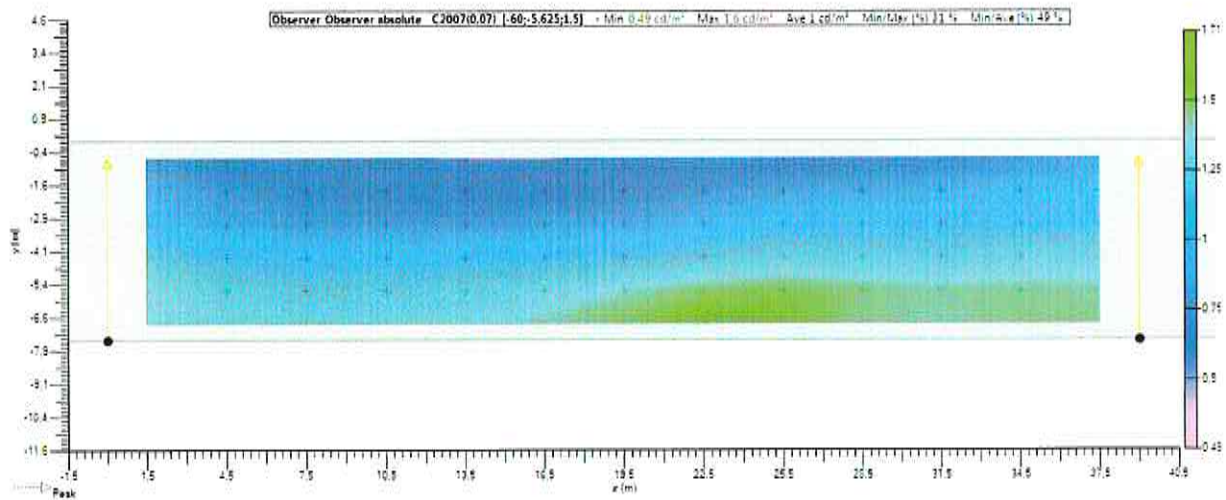
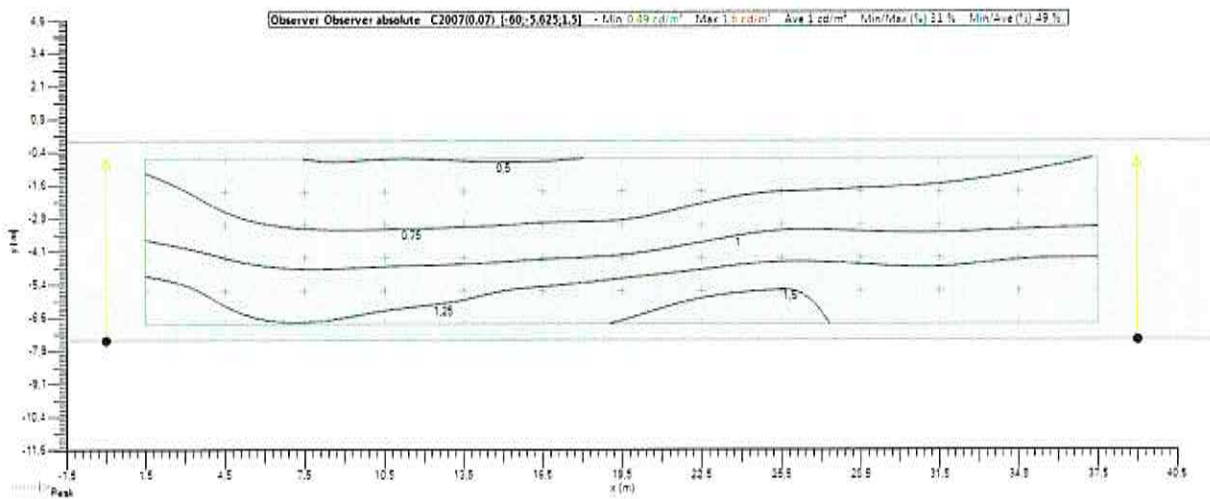
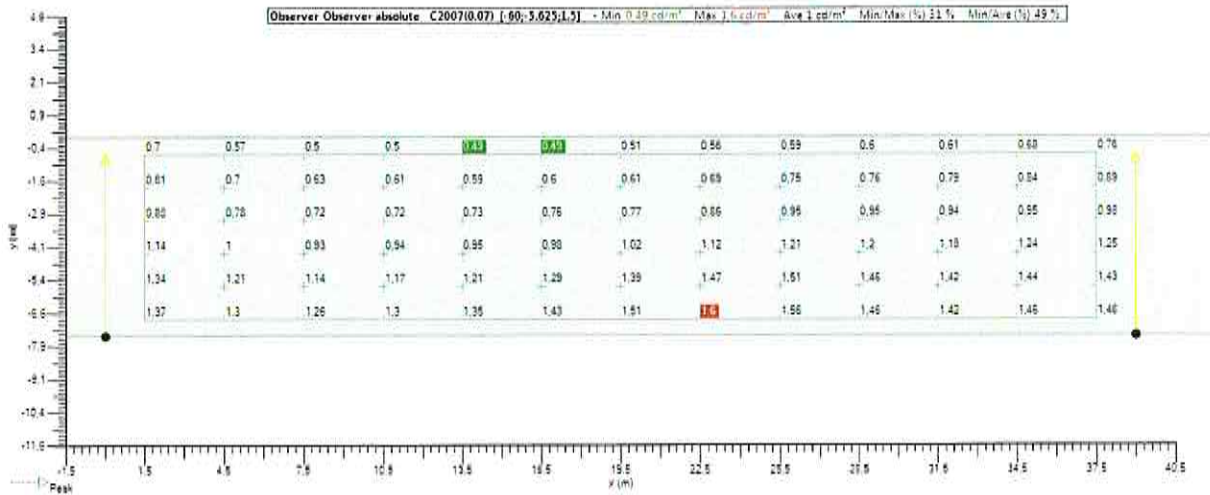
	Color	N°	Position			Luminaire							Target		
			X [m]	Y [m]	Z [m]	Name	Current [mA]	Az [°]	Incl [°]	Rot [°]	Flux [klm]	MF	X [m]	Y [m]	Z [m]
<input checked="" type="checkbox"/>		1	-39,00	-7,50	8,20	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702	-	0,0	0,0	0,0	12,319	0,800	-39,00	-7,50	0,00
<input checked="" type="checkbox"/>		2	0,00	-7,50	8,20	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702	-	0,0	0,0	0,0	12,319	0,800	0,00	-7,50	0,00
<input checked="" type="checkbox"/>		3	39,00	-7,50	8,20	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702	-	0,0	0,0	0,0	12,319	0,800	39,00	-7,50	0,00
<input checked="" type="checkbox"/>		4	78,00	-7,50	8,20	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702	-	0,0	0,0	0,0	12,319	0,800	78,00	-7,50	0,00
<input checked="" type="checkbox"/>		5	117,00	-7,50	8,20	TECEO GEN2 1 32 LEDs 900mA WW730 Piano, Vetro extra chiaro, Liscio 5248 468702	-	0,0	0,0	0,0	12,319	0,800	117,00	-7,50	0,00

6.3. Luminaire groups

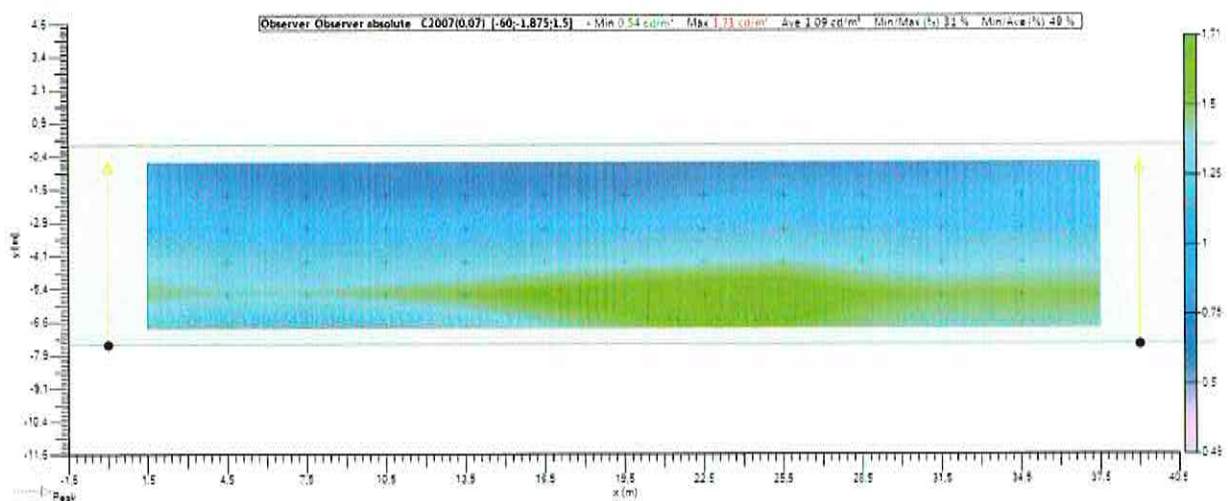
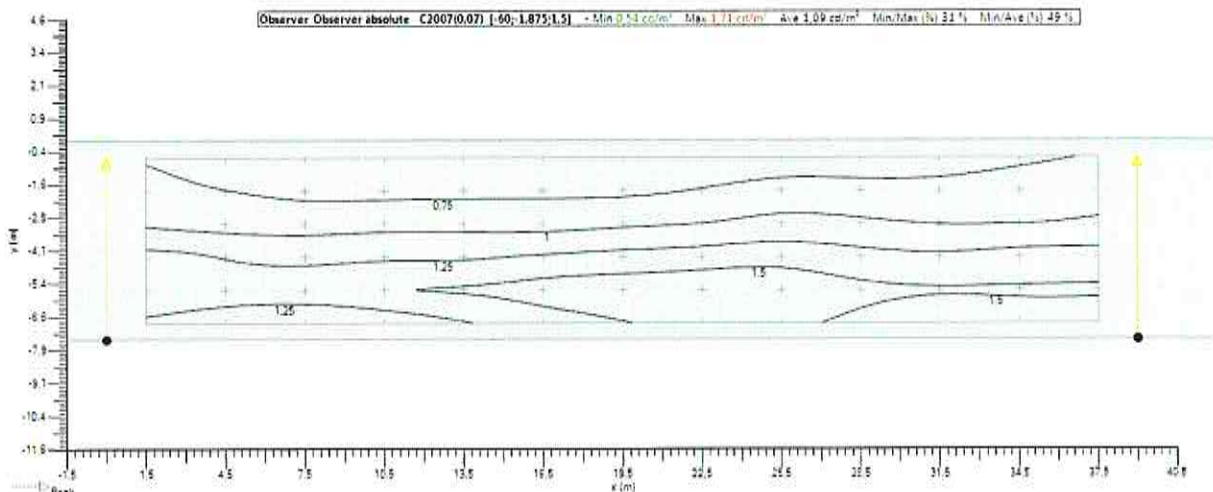
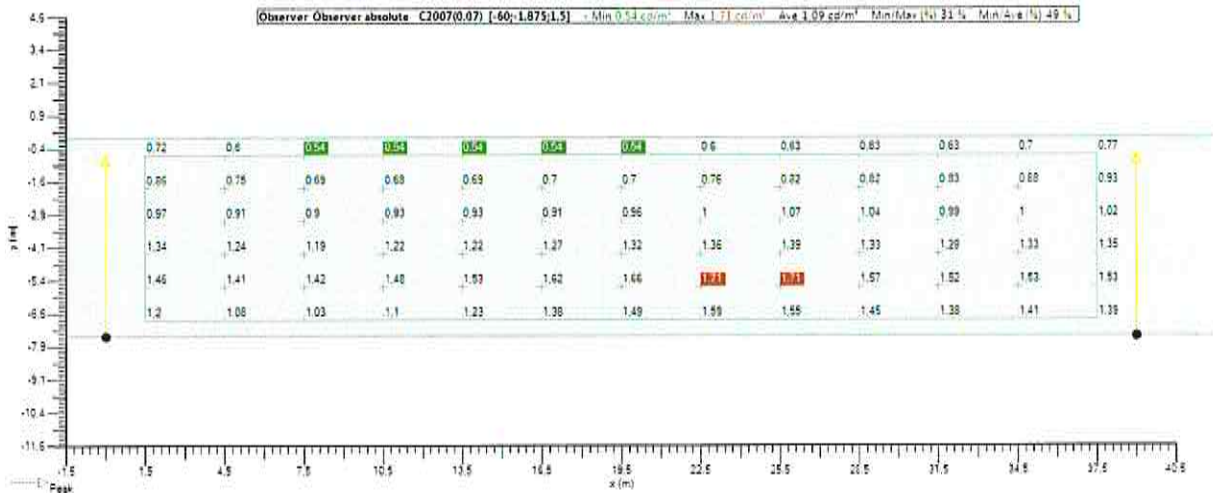
Linear																
	Color	N°	Position			Luminaire				Dimension			Rotation			
			X [m]	Y [m]	Z [m]	Name	Az [°]	Incl [°]	Rot [°]	Dim [%]	Count	Spacing [m]	Size [m]	X [°]	Y [°]	Z [°]
<input checked="" type="checkbox"/>		1	-39,00	-7,50	8,20	Fixture right	0,0	0,0	0,0	100	5	39,00	156,00	0,0	0,0	0,0

6.4. Luminance - Multi-lanes (LU) - C2007

Multi-lanes (LU) - Absolute 1

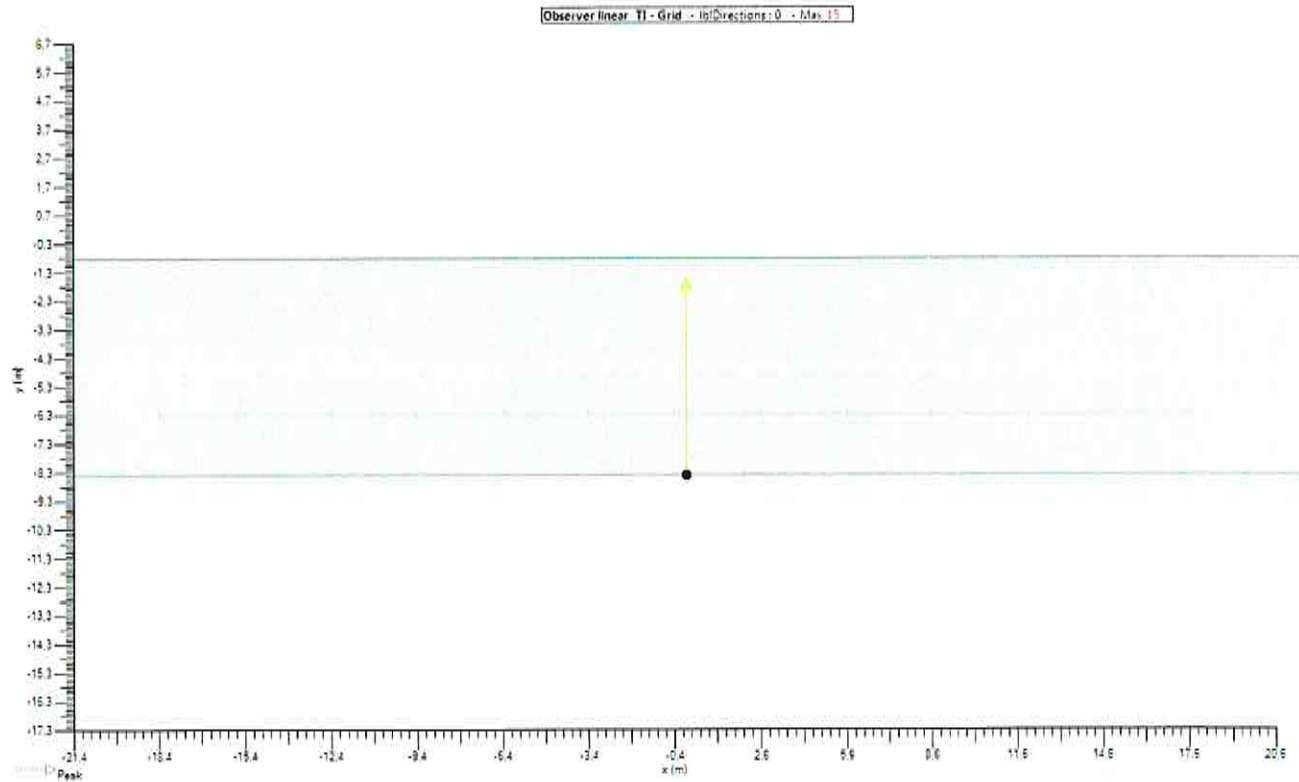


Multi-lanes (LU) - Absolute 2

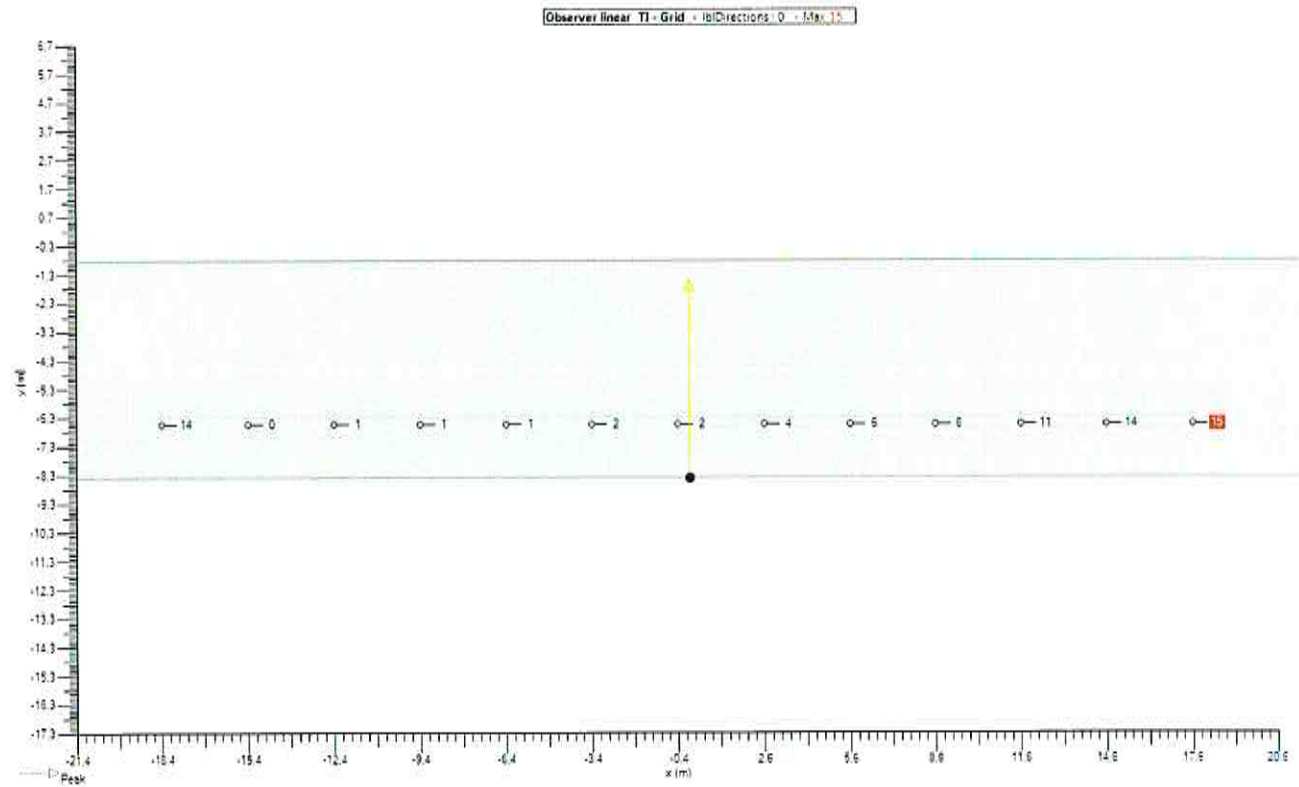


6.5. Multi-lanes (TI 1) - TI - Grid

Implantation

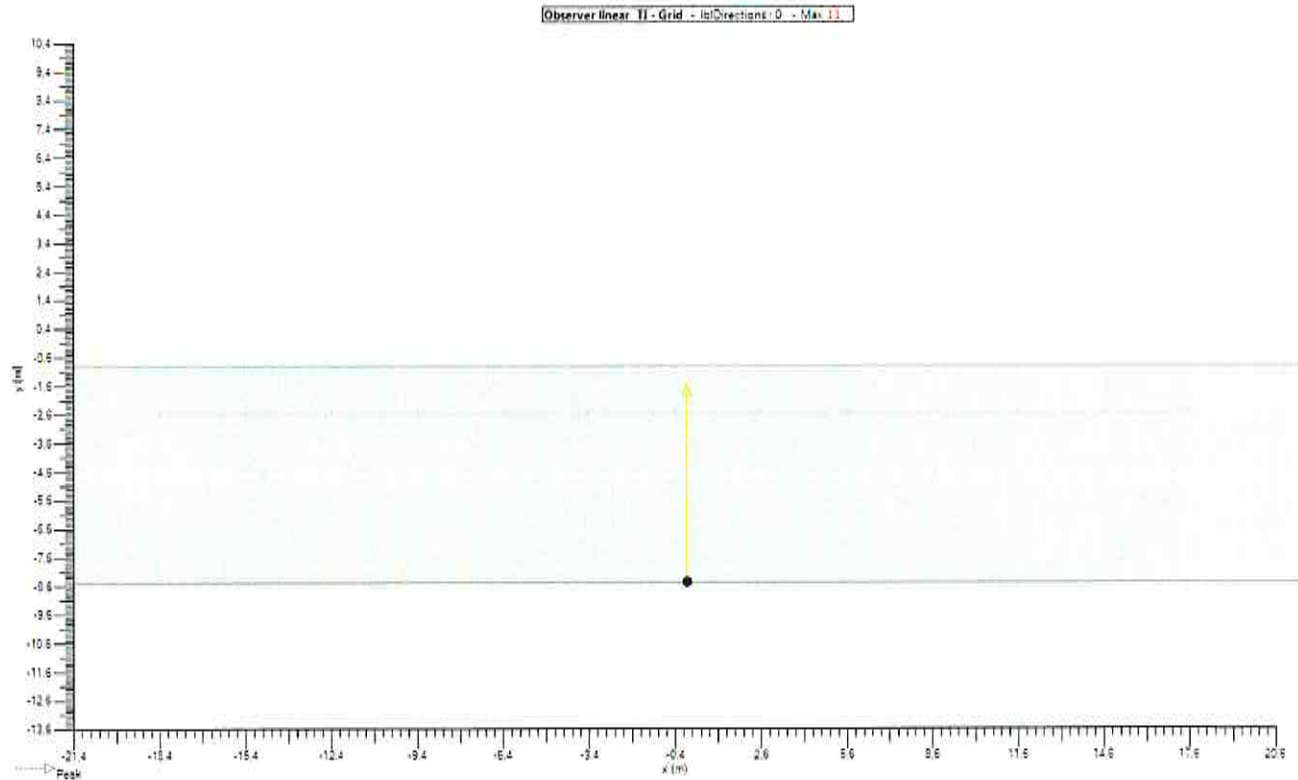


Values

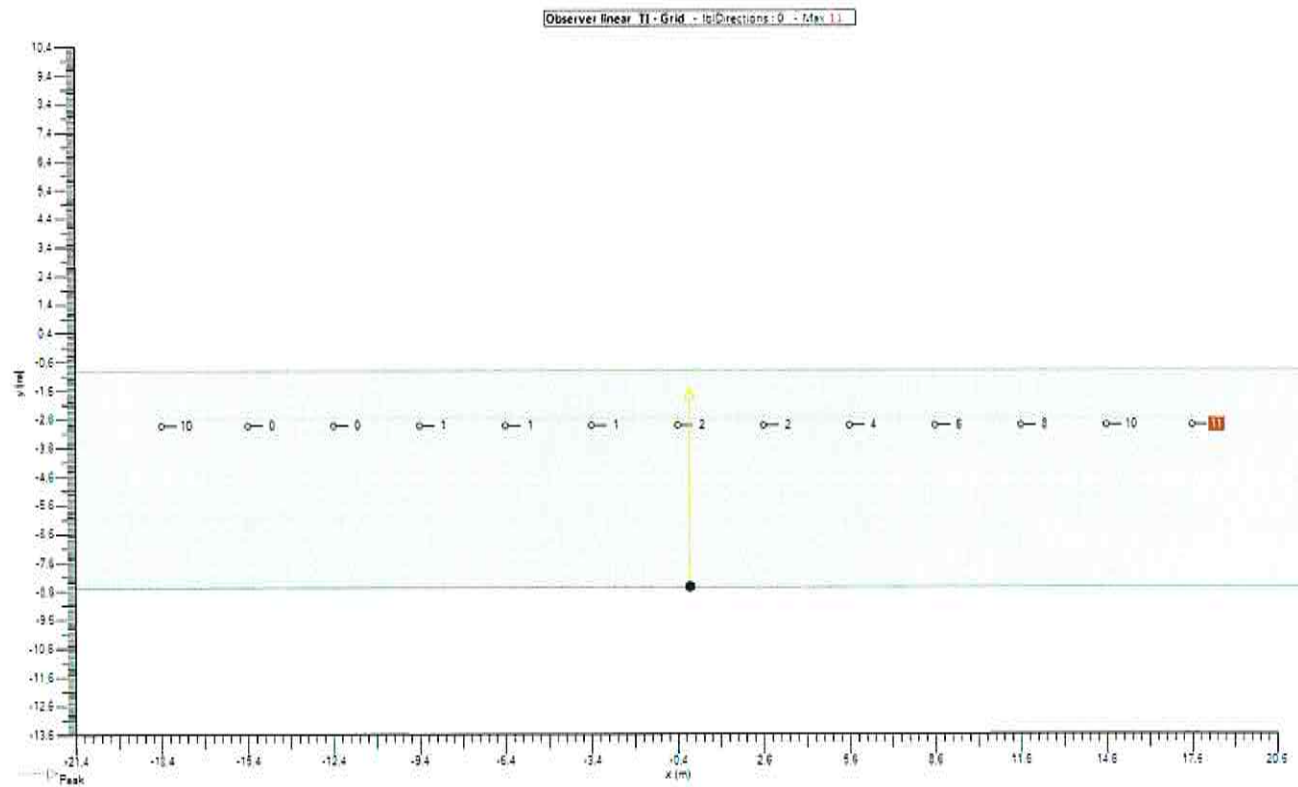


6.6. Multi-lanes (TI 2) - TI - Grid

Implantation



Values



7. Grids

7.1. Multi-lanes (LU)

General

Type Grid rectangular XY
Enabled
Colour

Geometry

Origin	X 1,50 m	Y -6,88 m	Z 0,00 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count X 13	Count Y 6	
	Spacing X 3,00 m	Spacing Y 1,25 m	
	Size X 36,00 m	Size Y 6,25 m	

8. Observer

8.1. Multi-lanes (TI 1)

General

Type Observer linear

En

Color

Directions 0,0

Calculation TI - Grid

Grid Multi-lanes (LU)

Geometry

Origin X -18,43 m Y -5,63 m Z 1,50 m

Rotation X 0,0 ° Y 0,0 ° Z 0,0 °

Dimension Count 13 Spacing 3,00 m Size 36,00 m

8.2. Multi-lanes (TI 2)

General

Type Observer linear

En

Color

Directions 0,0

Calculation TI - Grid

Grid Multi-lanes (LU)

Geometry

Origin X -18,43 m Y -1,88 m Z 1,50 m

Rotation X 0,0 ° Y 0,0 ° Z 0,0 °

Dimension Count 13 Spacing 3,00 m Size 36,00 m

Comune di Quarrata - Tratto di Via di Brana

Standard EN 13201 : 2015

Designer >Studio Tecnico

Date 26/09/2021

Application Ulysse 3.5.2

Description Verifica Illuminotecnica Tratto di Via di Brana

Categoria M3 strada urbana di quartiere

Teceo 1 32led 500mA 50W ottica 5246

Table of contents

1.	Fixtures	3
1.1.	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662.....	3
2.	Photometric documents	4
2.1.	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662.....	4
3.	Results	5
3.1.	Grid summary	5
3.2.	Observer summary	5
3.3.	Values summary	5
4.	Power consumption	5
4.1.	Dynamic cross section	5
5.	Cross section.....	6
5.1.	2D View.....	6
6.	Dynamic cross section	7
6.1.	Matrix description	7
6.2.	Luminaire positions	7
6.3.	Luminaire groups.....	7
6.4.	Luminance - Multi-lanes (LU) - C2007.....	8
6.5.	Multi-lanes (TI 1) - TI - Grid.....	10
6.6.	Multi-lanes (TI 2) - TI - Grid.....	11
7.	Grids	12
7.1.	Multi-lanes (LU)	12
8.	Observer	13
8.1.	Multi-lanes (TI 1).....	13
8.2.	Multi-lanes (TI 2).....	13

1. Fixtures

1.1. TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662

Type TECEO GEN2 1

Reflector 5246

Source 32 LEDs 500mA WW730

Protector Piano, Vetro extra chiaro, Liscio

Source flux 7,714 klm

G* 2

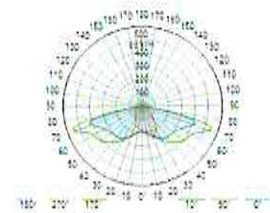
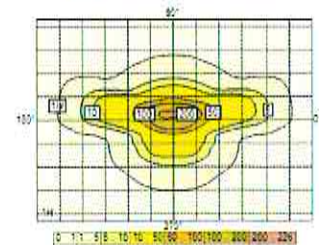
Luminaire wattage 50,0 W

MF 0,80

Matrix 468662

Luminaire flux 6,091 klm

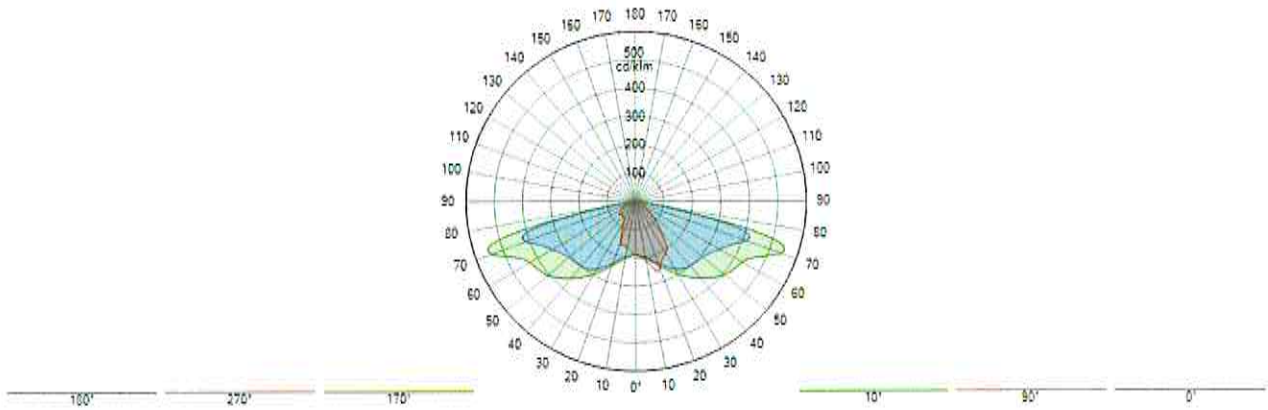
Efficacy 122 lm/W



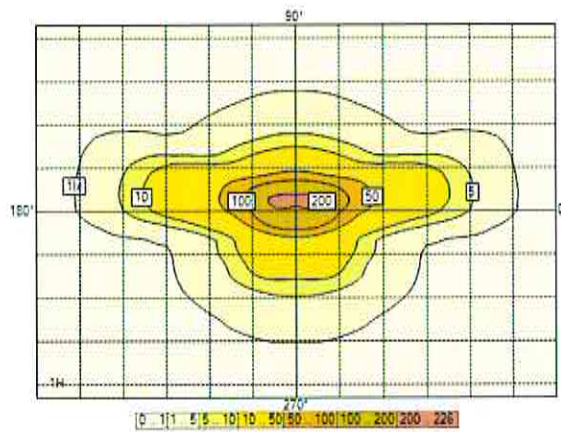
2. Photometric documents

2.1. TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662

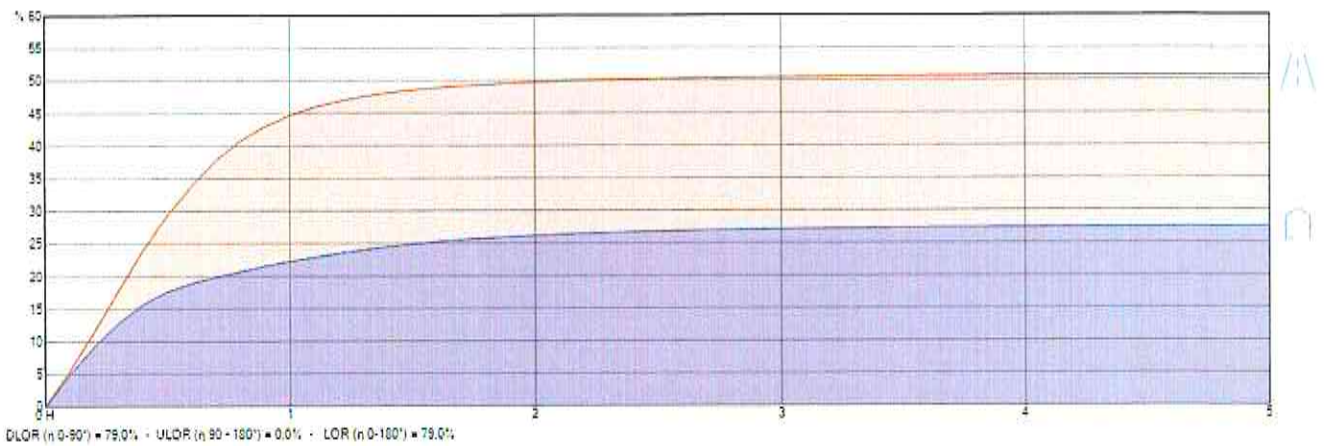
Polar/Cartesian diagram



Isolux



Utilization curve



3. Results

3.1. Grid summary

Multi-lanes (LU)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

1. Luminance - RTable - C2007

	Ave (A) (cd/m ²)	Min/Ave (%)	Min/Max (%)	Min (cd/m ²)	Max (cd/m ²)	UL (%)
Dynamic cross section - Observer 1 (-60,00; -3,75; 1,50)	1,06	54	39	0,57	1,48	80 %
Dynamic cross section - Observer 2 (-60,00; -1,25; 1,50)	1,14	55	40	0,63	1,55	83 %

3.2. Observer summary

Multi-lanes (TI 1)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	11

Multi-lanes (TI 2)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	9

3.3. Values summary

EIR road

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	EIR road
Dynamic cross section - Multi-lanes (EIR)	0,56

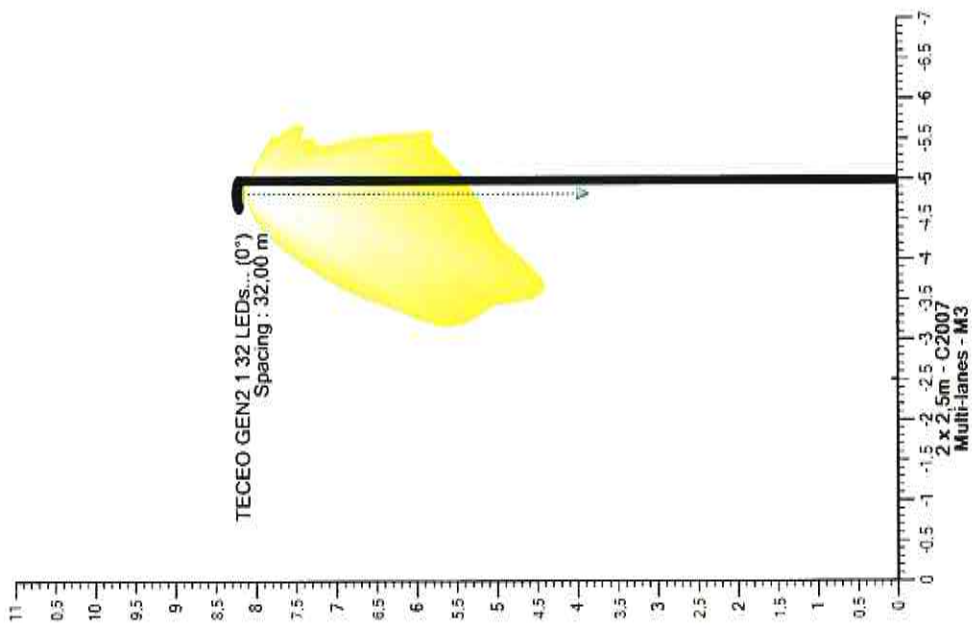
4. Power consumption

4.1. Dynamic cross section

Fixture	Current [mA]	Qty	Dimming	Power / Fixture	Total
TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	500	31	100 %	50 W	1555 W


5. Cross section

5.1. 2D View



6. Dynamic cross section

6.1. Matrix description

Ph. color	Description	Current [mA]	Source flux [klm]	Luminair e flux [klm]	Power [W]	Efficacy [lm/W]	MF	Height [m]	Fixture
■	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	500	7,714	6,091	49,8	122	0,800	6 x 8,20	

6.2. Luminaire positions

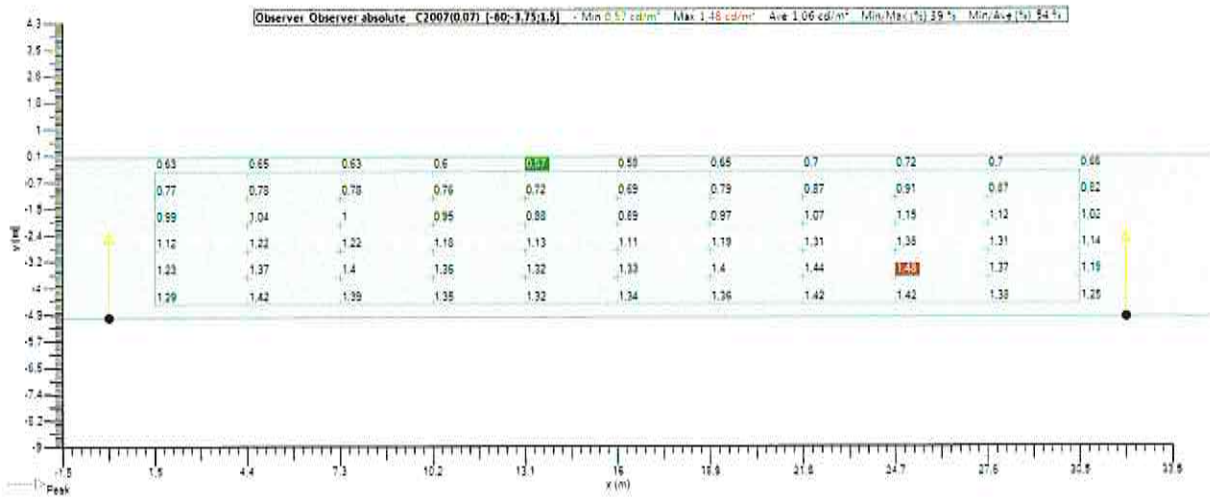
	Color	N°	Position			Luminaire							Target		
			X [m]	Y [m]	Z [m]	Name	Current [mA]	Az [°]	Incl [°]	Rot [°]	Flux [klm]	MF	X [m]	Y [m]	Z [m]
<input checked="" type="checkbox"/>	■	1	-32,00	-5,00	8,20	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	7,714	0,800	-32,00	-5,00	0,00
<input checked="" type="checkbox"/>	■	2	0,00	-5,00	8,20	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	7,714	0,800	0,00	-5,00	0,00
<input checked="" type="checkbox"/>	■	3	32,00	-5,00	8,20	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	7,714	0,800	32,00	-5,00	0,00
<input checked="" type="checkbox"/>	■	4	64,00	-5,00	8,20	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	7,714	0,800	64,00	-5,00	0,00
<input checked="" type="checkbox"/>	■	5	96,00	-5,00	8,20	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	7,714	0,800	96,00	-5,00	0,00
<input checked="" type="checkbox"/>	■	6	128,00	-5,00	8,20	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	7,714	0,800	128,00	-5,00	0,00

6.3. Luminaire groups

Linear																
	Color	N°	Position			Luminaire					Dimension			Rotation		
			X [m]	Y [m]	Z [m]	Name	Az [°]	Incl [°]	Rot [°]	Dim [%]	Count	Spacing [m]	Size [m]	X [°]	Y [°]	Z [°]
<input checked="" type="checkbox"/>	■	1	-32,00	-5,00	8,20	Fixture right	0,0	0,0	0,0	100	6	32,00	160,00	0,0	0,0	0,0

6.4. Luminance - Multi-lanes (LU) - C2007

Multi-lanes (LU) - Absolute 1



Comune di Quarrata - Tratto di Via di Mezzo

Standard EN 13201 : 2015

Designer Studio Tecnico

Date 26/09/2021

Application Ulysse 3.5.2

Description Verifica Illuminotecnica tratto di via di Mezzo

Categoria M3 Strada Urbana di Quartiere

Teceo 1 32led 600mA ottica 5244

Table of contents

1.	Fixtures	3
1.1.	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622.....	3
2.	Photometric documents	4
2.1.	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622.....	4
3.	Results	5
3.1.	Grid summary	5
3.2.	Observer summary	5
3.3.	Values summary	5
4.	Power consumption	5
4.1.	Dynamic cross section	5
5.	Cross section.....	6
5.1.	2D View	6
6.	Dynamic cross section	7
6.1.	Matrix description	7
6.2.	Luminaire positions	7
6.3.	Luminaire groups	7
6.4.	Luminance - Multi-lanes (LU) - C2007.....	8
6.5.	Multi-lanes (TI 1) - TI - Grid	10
6.6.	Multi-lanes (TI 2) - TI - Grid	11
7.	Grids	12
7.1.	Multi-lanes (LU)	12
8.	Observer	13
8.1.	Multi-lanes (TI 1).....	13
8.2.	Multi-lanes (TI 2).....	13

1. Fixtures

1.1. TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622

Type TECEO GEN2 1

Reflector 5244

Source 32 LEDs 600mA WW730

Protector Piano, Vetro extra chiaro, Liscio

Source flux 8,977 klm

G* 1

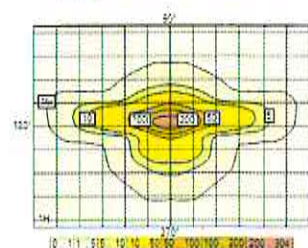
Luminaire wattage 60,0 W

MF 0,80

Matrix 468622

Luminaire flux 7,103 klm

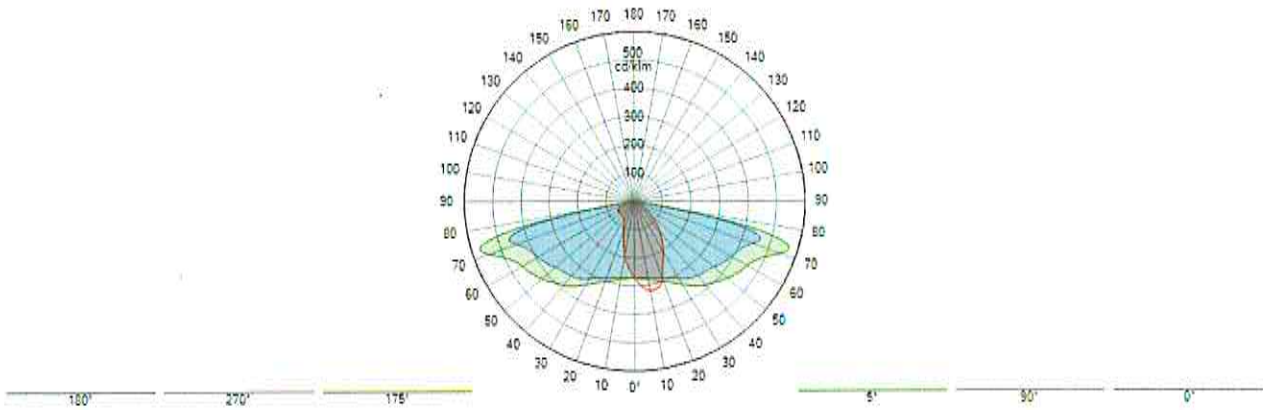
Efficacy 118 lm/W



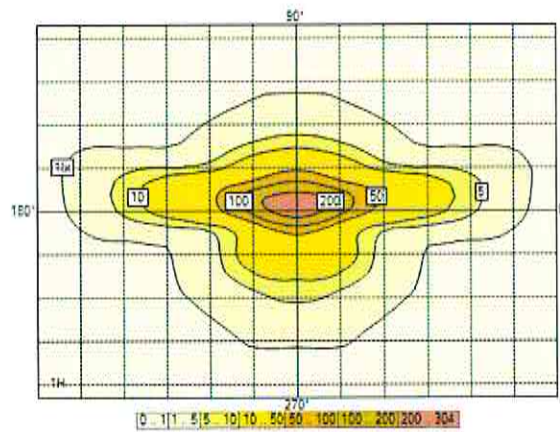
2. Photometric documents

2.1. TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622

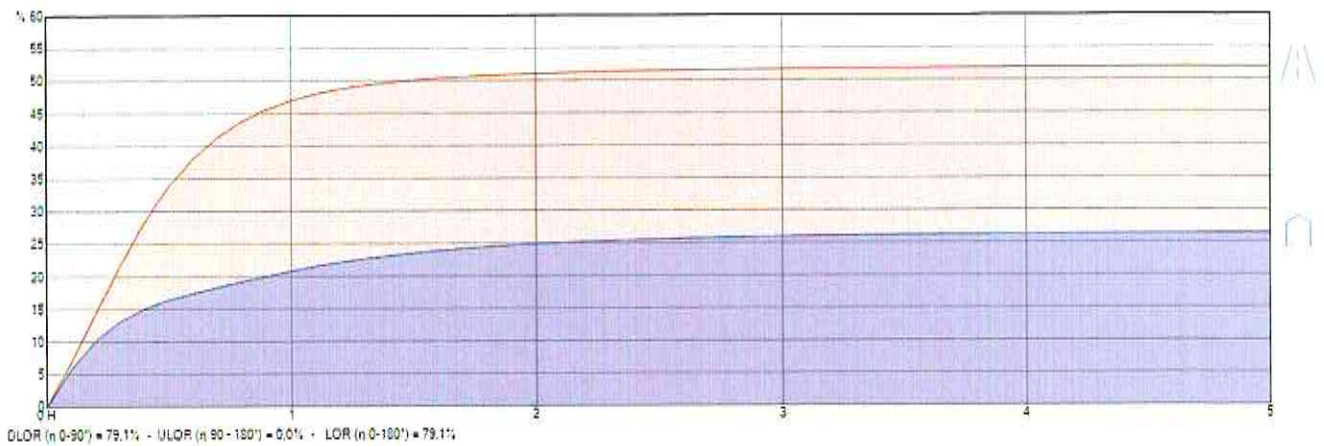
Polar/Cartesian diagram



Isolux



Utilization curve



3. Results

3.1. Grid summary

Multi-lanes (LU)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

1. Luminance - RTable - C2007	Ave (A) (cd/m ²)	Min/Ave (%)	Min/Max (%)	Min (cd/m ²)	Max (cd/m ²)	UL (%)
Dynamic cross section - Observer 1 (-60,00; -4,50; 1,50)	1,14	42	27	0,48	1,77	77 %
Dynamic cross section - Observer 2 (-60,00; -1,50; 1,50)	1,23	43	28	0,52	1,90	78 %



3.2. Observer summary

Multi-lanes (TI 1)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	12



Multi-lanes (TI 2)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	9



3.3. Values summary

EIR road

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	EIR road
Dynamic cross section - Multi-lanes (EIR)	0,42



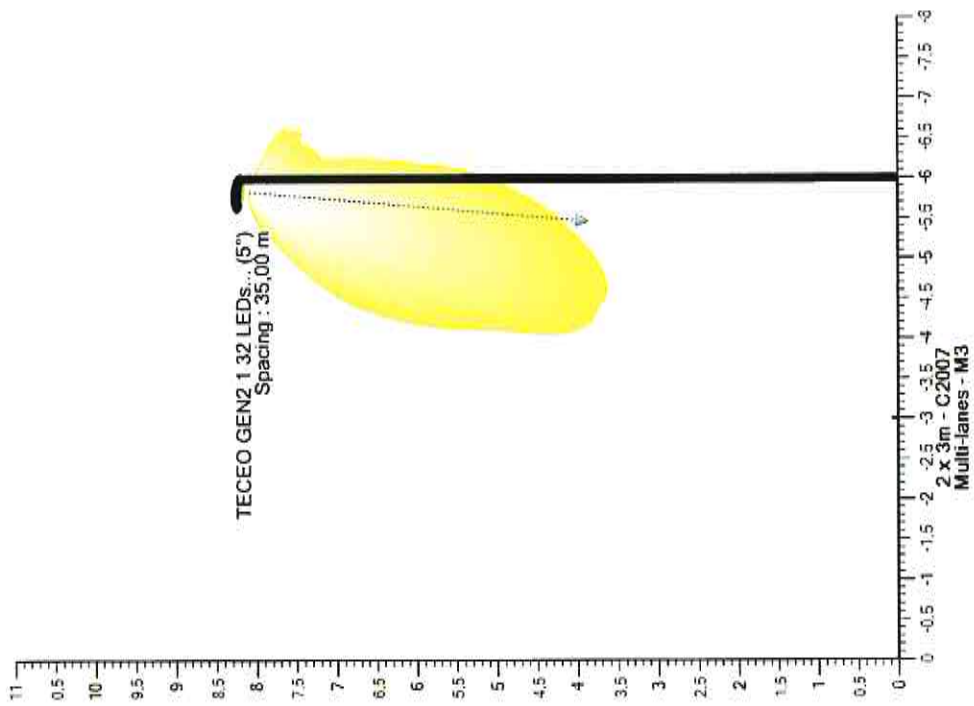
4. Power consumption

4.1. Dynamic cross section

Fixture	Current [mA]	Qty	Dimming	Power / Fixture	Total
TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	600	29	100 %	60 W	1710 W


5. Cross section

5.1. 2D View



6. Dynamic cross section

6.1. Matrix description

Ph. color	Description	Current [mA]	Source flux [klm]	Luminaire flux [klm]	Power [W]	Efficacy [lm/W]	MF	Height [m]	Fixture
■	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	600	8,977	7,103	59,9	119	0,800	5 x 8,20	

6.2. Luminaire positions

	Color	N°	Position			Luminaire							Target		
			X [m]	Y [m]	Z [m]	Name	Current [mA]	Az [°]	Incl [°]	Rot [°]	Flux [klm]	MF	X [m]	Y [m]	Z [m]
<input checked="" type="checkbox"/>	■	1	-35,00	-6,00	8,20	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	5,0	0,0	8,977	0,800	-35,00	-5,28	0,00
<input checked="" type="checkbox"/>	■	2	0,00	-6,00	8,20	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	5,0	0,0	8,977	0,800	0,00	-5,28	0,00
<input checked="" type="checkbox"/>	■	3	35,00	-6,00	8,20	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	5,0	0,0	8,977	0,800	35,00	-5,28	0,00
<input checked="" type="checkbox"/>	■	4	70,00	-6,00	8,20	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	5,0	0,0	8,977	0,800	70,00	-5,28	0,00
<input checked="" type="checkbox"/>	■	5	105,00	-6,00	8,20	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	5,0	0,0	8,977	0,800	105,00	-5,28	0,00

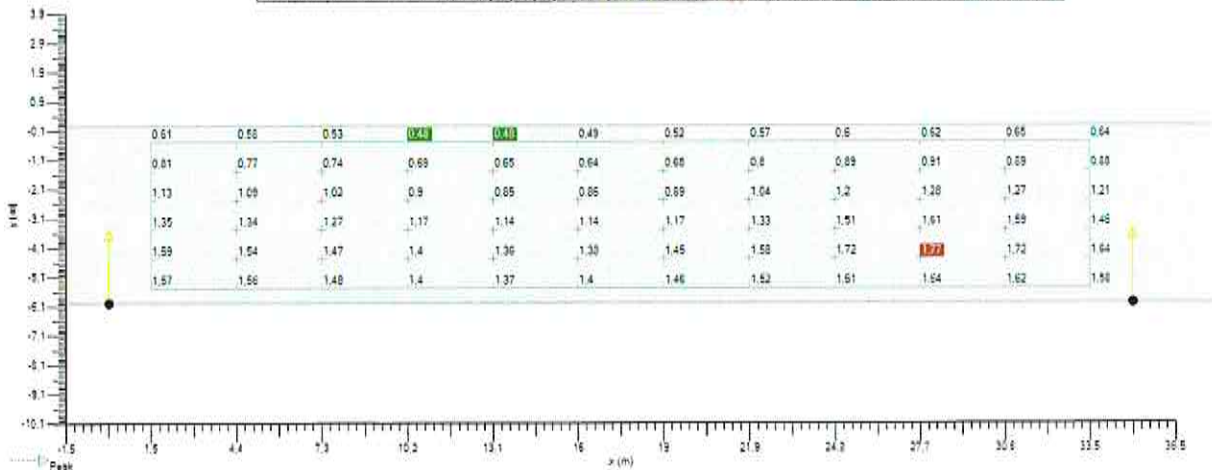
6.3. Luminaire groups

Linear																
	Color	N°	Position			Luminaire				Dimension			Rotation			
			X [m]	Y [m]	Z [m]	Name	Az [°]	Incl [°]	Rot [°]	Dim [%]	Count	Spacing [m]	Size [m]	X [°]	Y [°]	Z [°]
<input checked="" type="checkbox"/>	■	1	-35,00	-6,00	8,20	Fixture right	0,0	5,0	0,0	100	5	35,00	140,00	0,0	0,0	0,0

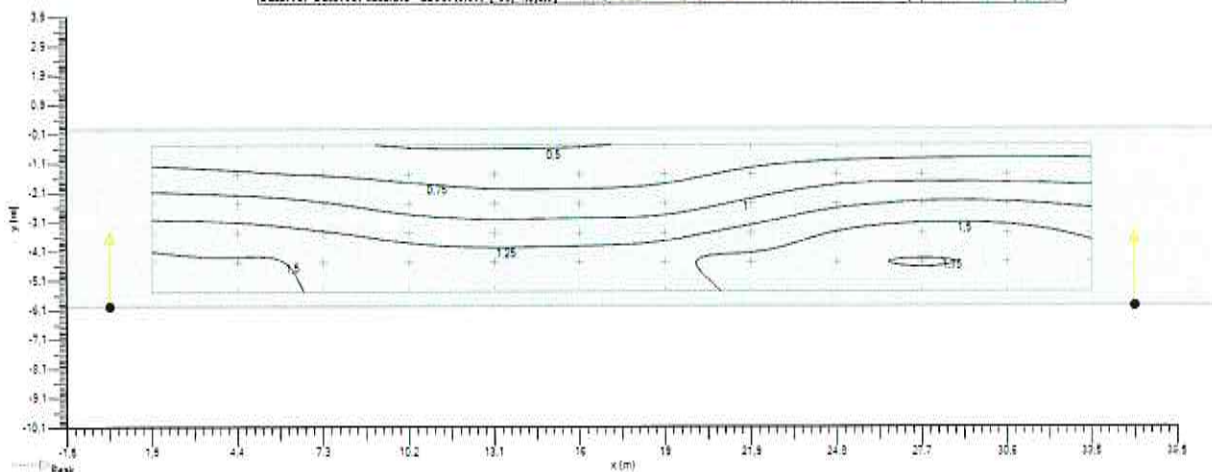
6.4. Luminance - Multi-lanes (LU) - C2007

Multi-lanes (LU) - Absolute 1

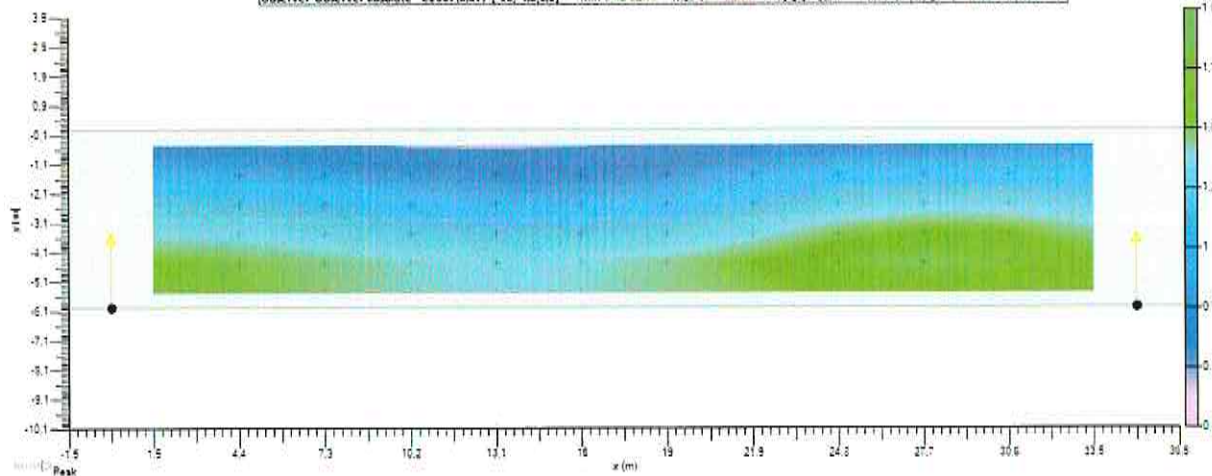
Observer Observer absolute C2007(0.07) [-60;-4.5;1.5] - Min 0.38 cd/m² - Max 1.77 cd/m² - Ave 1.14 cd/m² - Min/Max (%) 27 % - Min/Ave (%) 42 %



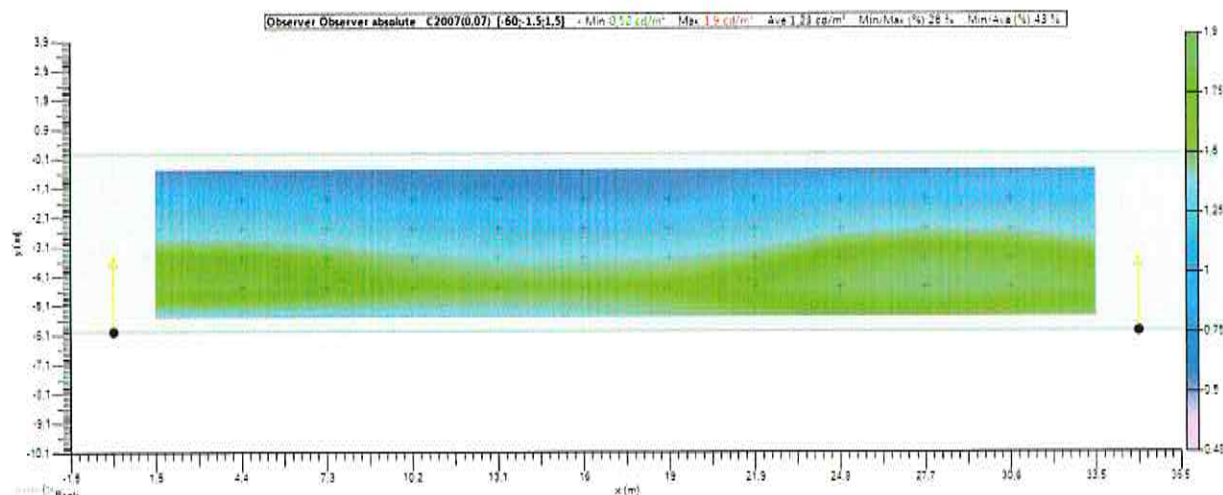
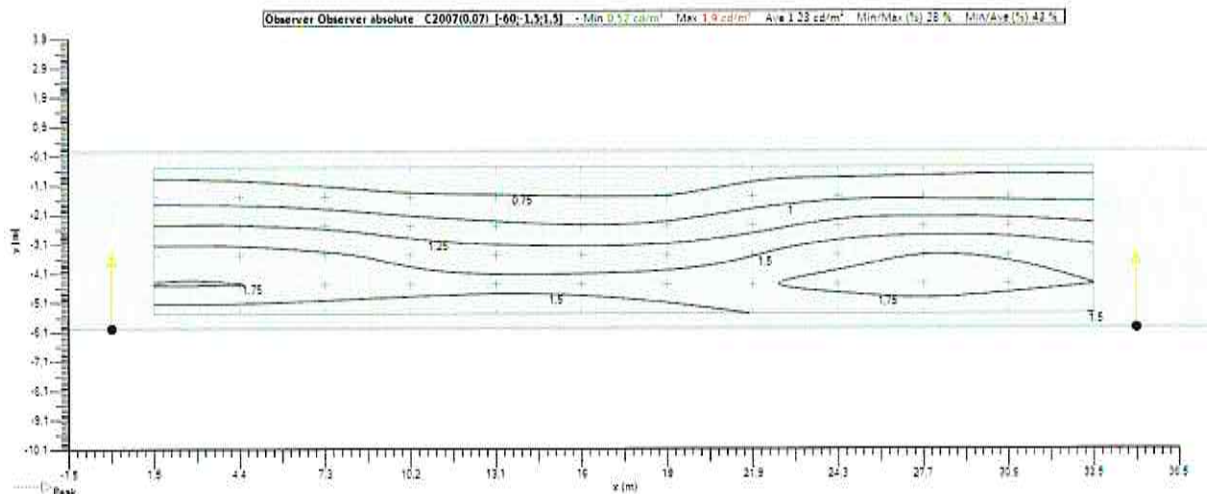
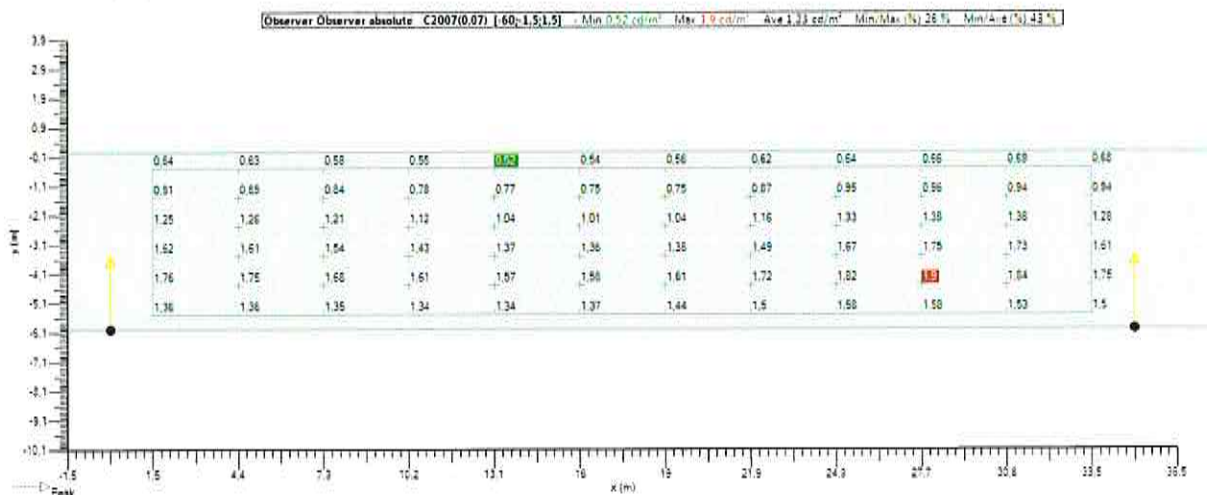
Observer Observer absolute C2007(0.07) [-60;-4.5;1.5] - Min 0.38 cd/m² - Max 1.77 cd/m² - Ave 1.14 cd/m² - Min/Max (%) 27 % - Min/Ave (%) 42 %



Observer Observer absolute C2007(0.07) [-60;-4.5;1.5] - Min 0.38 cd/m² - Max 1.77 cd/m² - Ave 1.14 cd/m² - Min/Max (%) 27 % - Min/Ave (%) 42 %

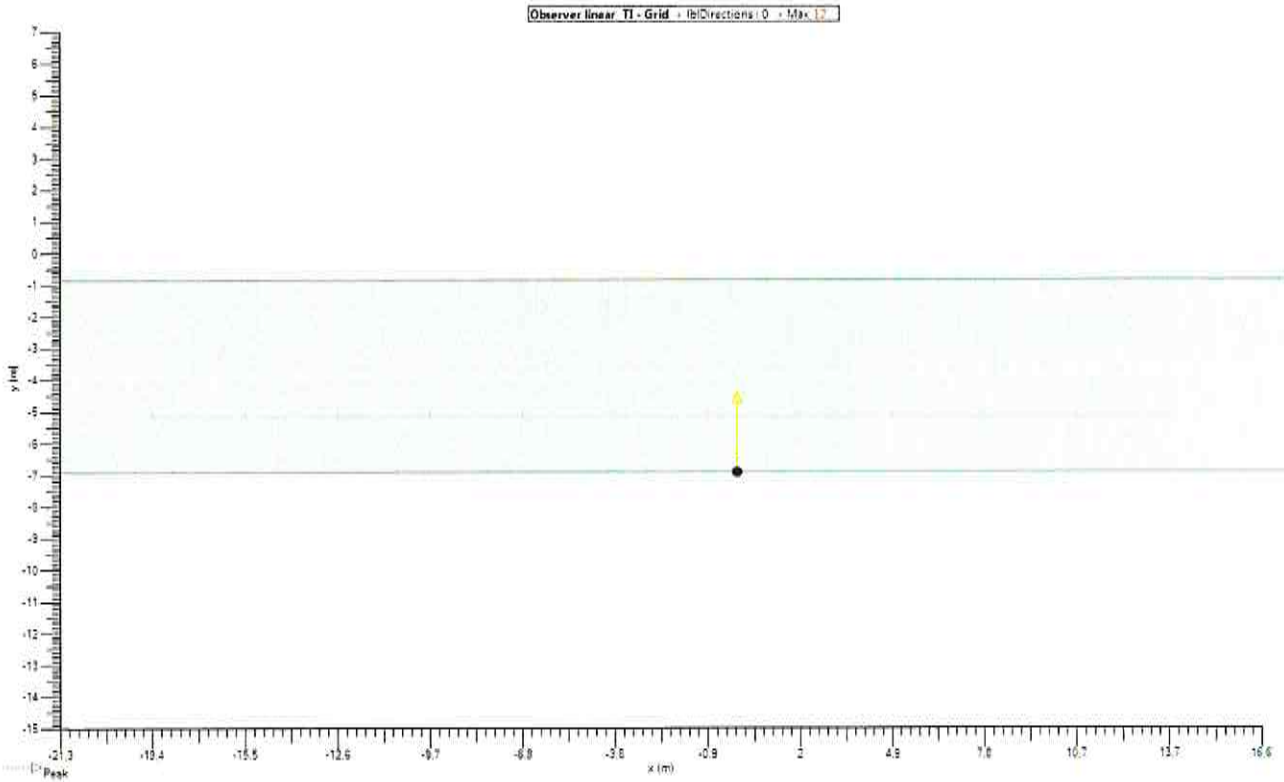


Multi-lanes (LU) - Absolute 2

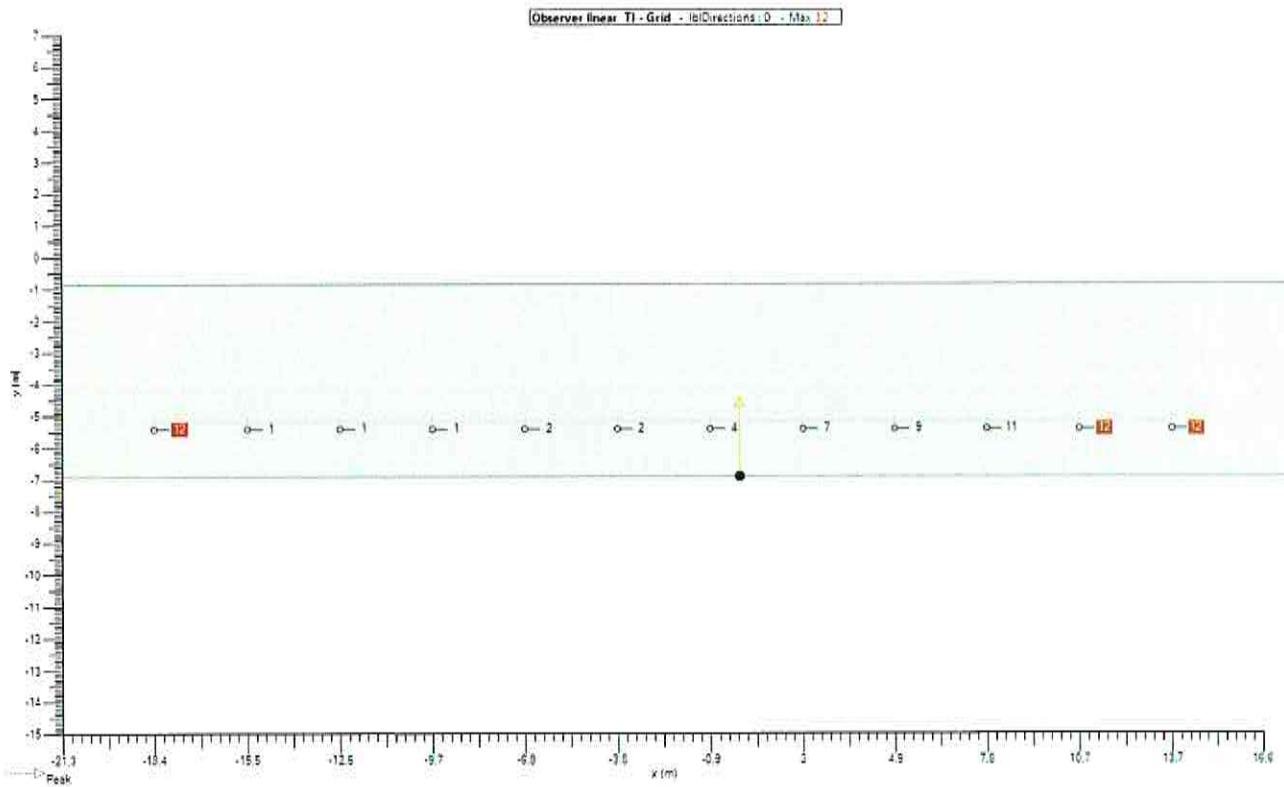


6.5. Multi-lanes (TI 1) - TI - Grid

Implantation

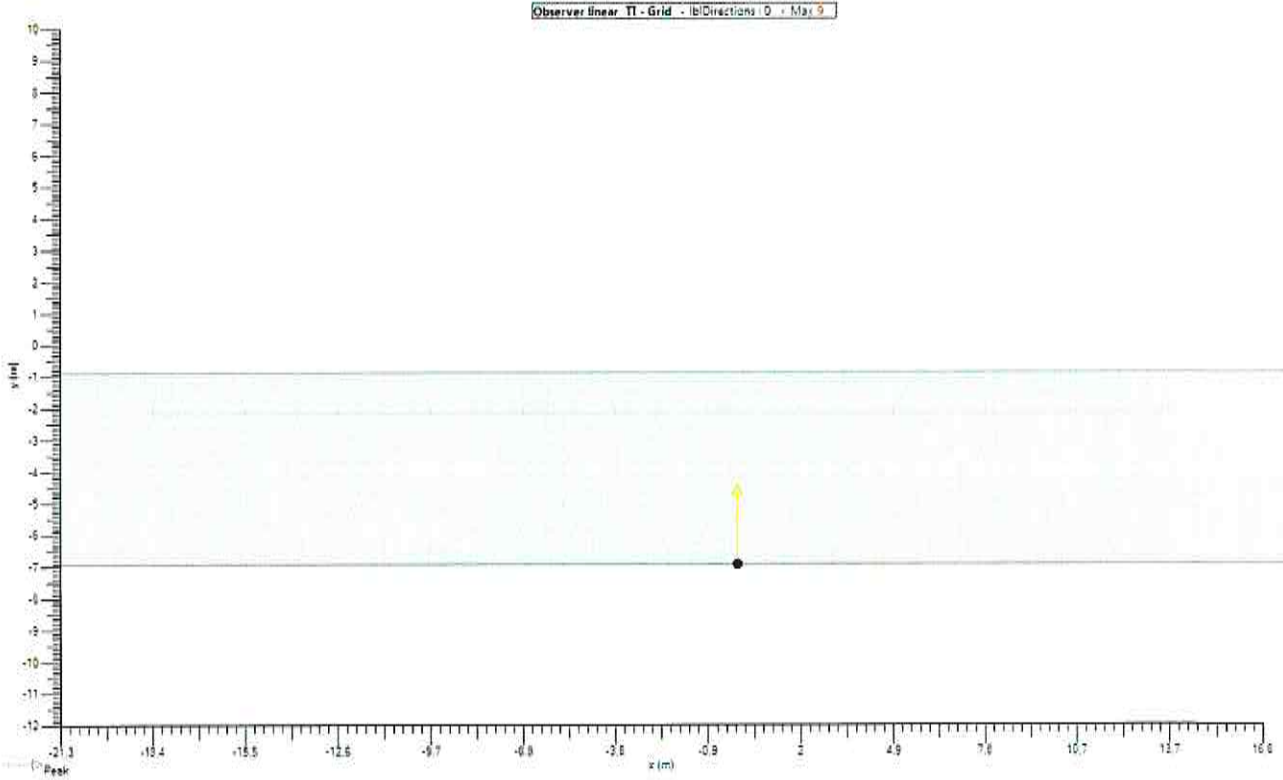


Values

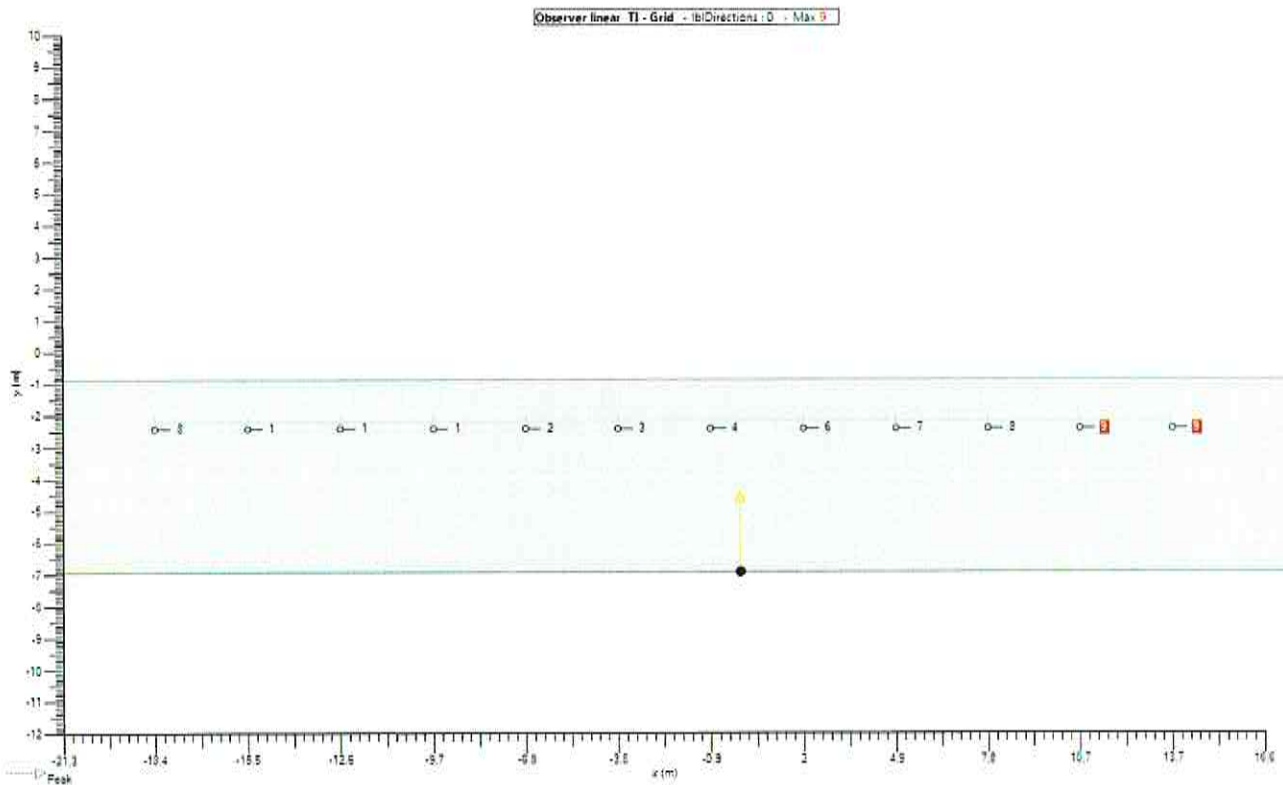


6.6. Multi-lanes (TI 2) - TI - Grid

Implantation




Values



7. Grids

7.1. Multi-lanes (LU)

General

Type Grid rectangular XY
Enabled
Colour 

Geometry

Origin	X 1,46 m	Y -5,50 m	Z 0,00 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count X 12	Count Y 6	
	Spacing X 2,92 m	Spacing Y 1,00 m	
	Size X 32,08 m	Size Y 5,00 m	

8. Observer

8.1. Multi-lanes (TI 1)

General

Type Observer linear

En

Color

Directions 0,0

Calculation TI - Grid

Grid Multi-lanes (LU)

Geometry

Origin X -18,43 m Y -4,50 m Z 1,50 m

Rotation X 0,0 ° Y 0,0 ° Z 0,0 °

Dimension Count 12 Spacing 2,92 m Size 32,08 m

8.2. Multi-lanes (TI 2)

General

Type Observer linear

En

Color

Directions 0,0

Calculation TI - Grid

Grid Multi-lanes (LU)

Geometry

Origin X -18,43 m Y -1,50 m Z 1,50 m

Rotation X 0,0 ° Y 0,0 ° Z 0,0 °

Dimension Count 12 Spacing 2,92 m Size 32,08 m

Comune di Quarrata - Tratto di Via Molin Nuovo

Standard EN 13201 : 2015

Designer Studio Tecnico

Date 26/09/2021

Application Ulysse 3.5.2

Description Verifica Illuminotecnica tratto di Via Molin Nuovo

Categoria M3 Strada Urbana di Quartiere

Teceo 1 32led 600mA ottica 5246

Table of contents

1. Fixtures	3
1.1. TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662.....	3
2. Photometric documents	4
2.1. TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662.....	4
3. Results	5
3.1. Grid summary	5
3.2. Observer summary	5
3.3. Values summary	5
4. Power consumption	5
4.1. Dynamic cross section	5
5. Cross section.....	6
5.1. 2D View.....	6
6. Dynamic cross section	7
6.1. Matrix description	7
6.2. Luminaire positions	7
6.3. Luminaire groups	7
6.4. Luminance - Multi-lanes (LU) - C2007.....	8
6.5. Multi-lanes (TI 1) - TI - Grid.....	10
6.6. Multi-lanes (TI 2) - TI - Grid.....	11
7. Grids	12
7.1. Multi-lanes (LU)	12
8. Observer	13
8.1. Multi-lanes (TI 1).....	13
8.2. Multi-lanes (TI 2).....	13

1. Fixtures

1.1. TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662

Type TECEO GEN2 1

Reflector 5246

Source 32 LEDs 600mA WW730

Protector Piano, Vetro extra chiaro, Liscio

Source flux 8,977 klm

G* 2

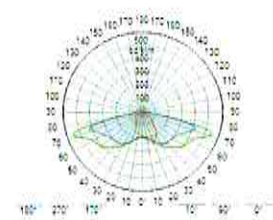
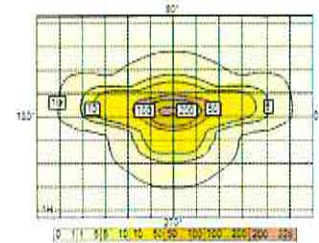
Luminaire wattage 60,0 W

MF 0,80

Matrix 468662

Luminaire flux 7,088 klm

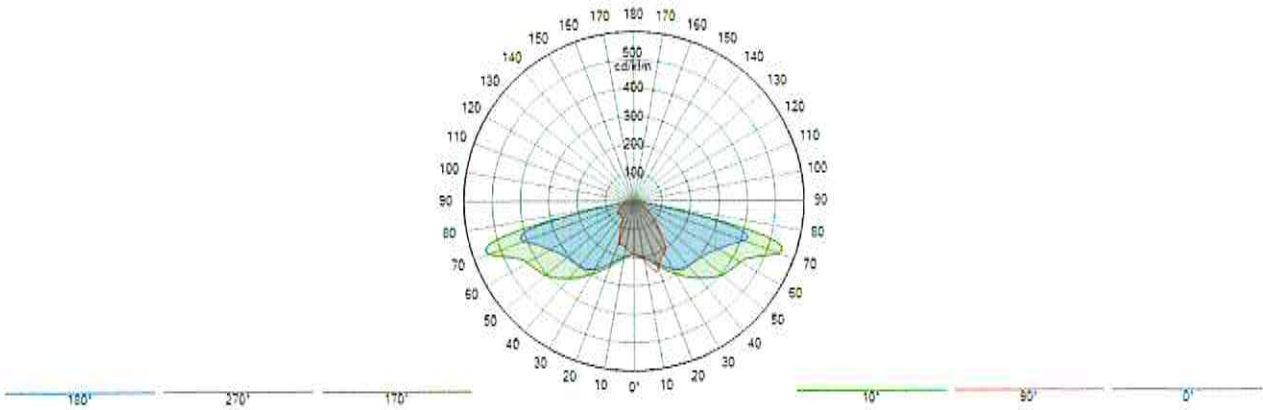
Efficacy 118 lm/W



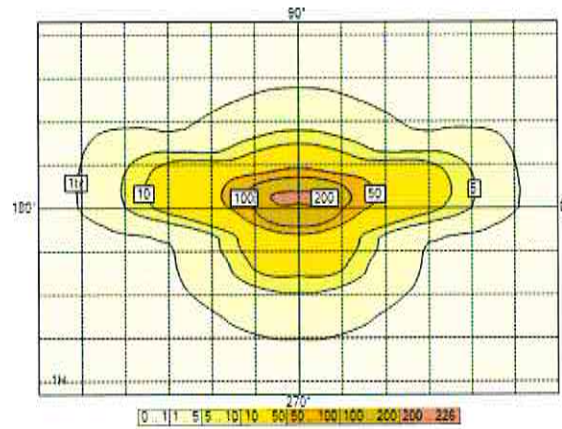
2. Photometric documents

2.1. TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662

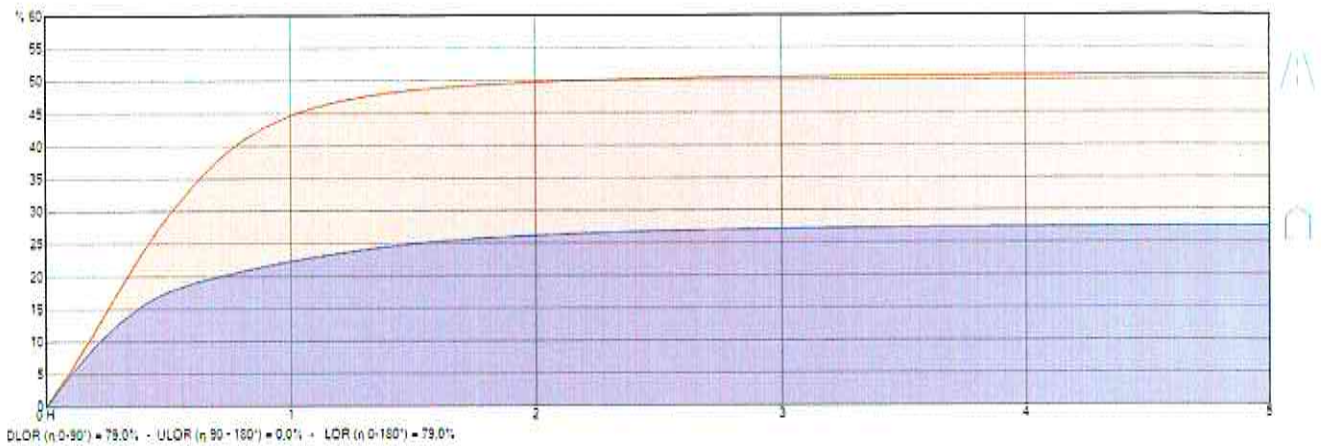
Polar/Cartesian diagram



Isolux



Utilization curve



3. Results

3.1. Grid summary

Multi-lanes (LU)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

1. Luminance - RTable - C2007

	Ave (A) (cd/m ²)	Min/Ave (%)	Min/Max (%)	Min (cd/m ²)	Max (cd/m ²)	UL (%)
Dynamic cross section - Observer 1 (-60,00; -5,25; 1,50)	1,07	44	29	0,47	1,63	87 %
Dynamic cross section - Observer 2 (-60,00; -1,75; 1,50)	1,16	44	29	0,51	1,78	86 %

3.2. Observer summary

Multi-lanes (TI 1)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	11

Multi-lanes (TI 2)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	7

3.3. Values summary

EIR road

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	EIR road
Dynamic cross section - Multi-lanes (EIR)	0,38

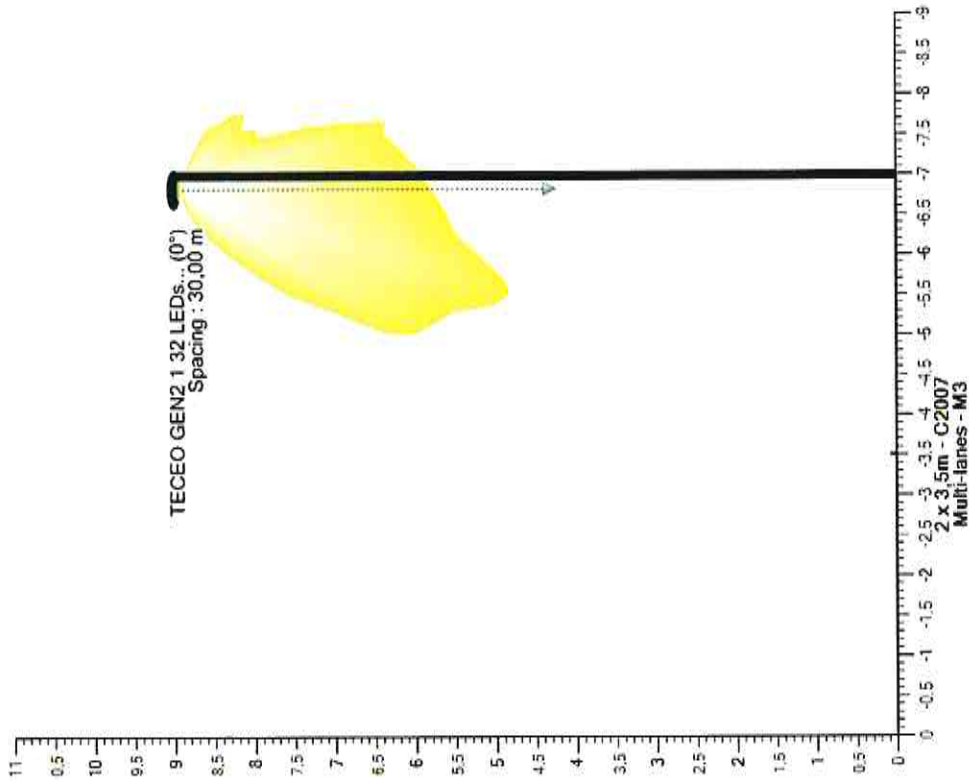
4. Power consumption

4.1. Dynamic cross section

Fixture	Current [mA]	Qty	Dimming	Power / Fixture	Total
TECEO GEN2 1 32 LEDs 600mA WW730 Plano, Vetro extra chiaro, Liscio 5246 468662	600	33	100 %	60 W	1995 W


5. Cross section

5.1. 2D View



6. Dynamic cross section

6.1. Matrix description

Ph. color	Description	Current [mA]	Source flux [klm]	Luminaire flux [klm]	Power [W]	Efficacy [lm/W]	MF	Height [m]	Fixture
■	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	600	8,977	7,088	59,9	118	0,800	6 x 9,00	

6.2. Luminaire positions

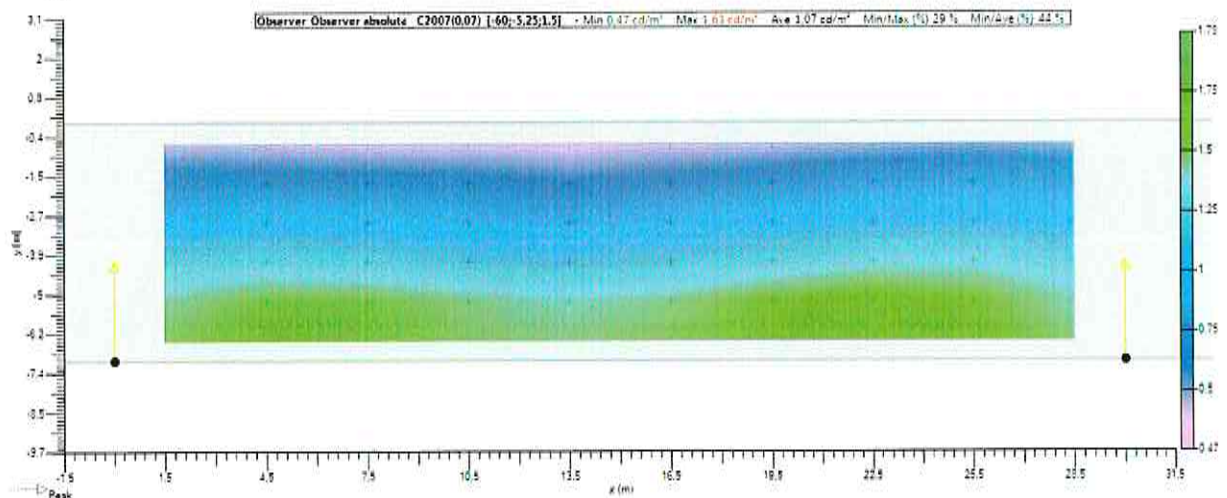
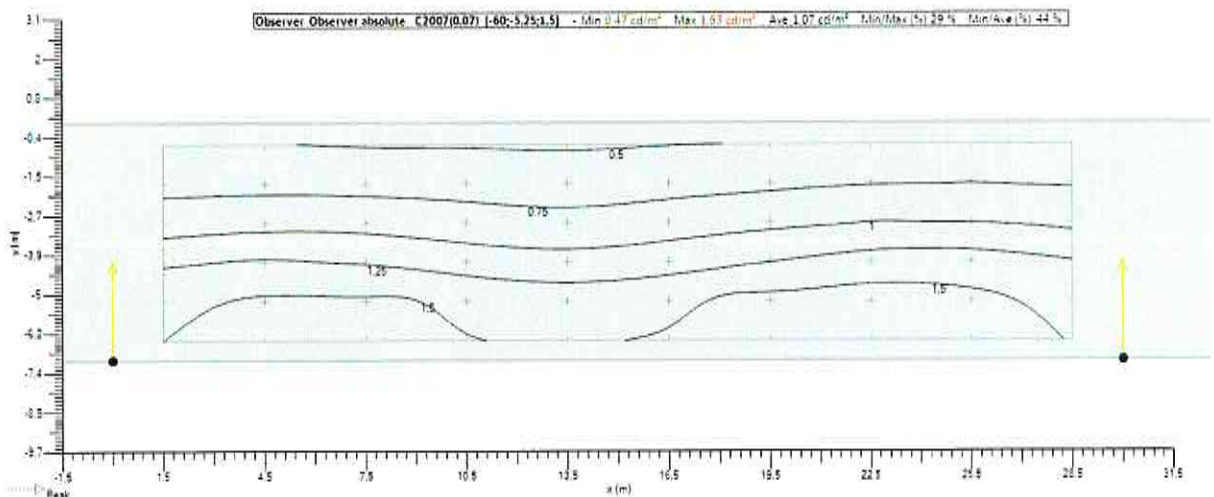
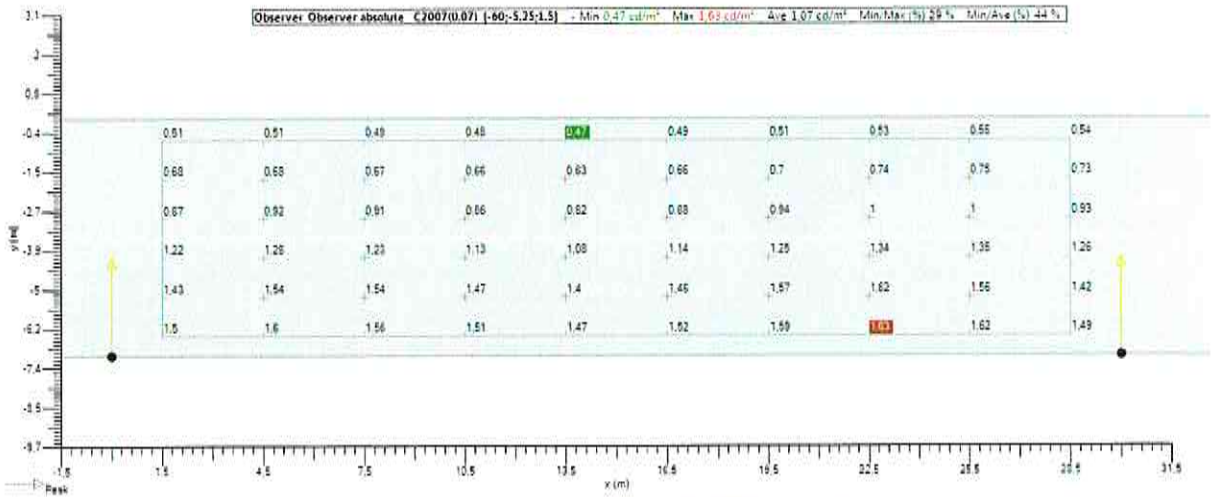
	Color	N°	Position			Luminaire							Target		
			X [m]	Y [m]	Z [m]	Name	Current [mA]	Az [°]	Incl [°]	Rot [°]	Flux [klm]	MF	X [m]	Y [m]	Z [m]
<input checked="" type="checkbox"/>	■	1	-30,00	-7,00	9,00	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	8,977	0,800	-30,00	-7,00	0,00
<input checked="" type="checkbox"/>	■	2	0,00	-7,00	9,00	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	8,977	0,800	0,00	-7,00	0,00
<input checked="" type="checkbox"/>	■	3	30,00	-7,00	9,00	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	8,977	0,800	30,00	-7,00	0,00
<input checked="" type="checkbox"/>	■	4	60,00	-7,00	9,00	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	8,977	0,800	60,00	-7,00	0,00
<input checked="" type="checkbox"/>	■	5	90,00	-7,00	9,00	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	8,977	0,800	90,00	-7,00	0,00
<input checked="" type="checkbox"/>	■	6	120,00	-7,00	9,00	TECEO GEN2 1 32 LEDs 600mA WW730 Piano, Vetro extra chiaro, Liscio 5246 468662	-	0,0	0,0	0,0	8,977	0,800	120,00	-7,00	0,00

6.3. Luminaire groups

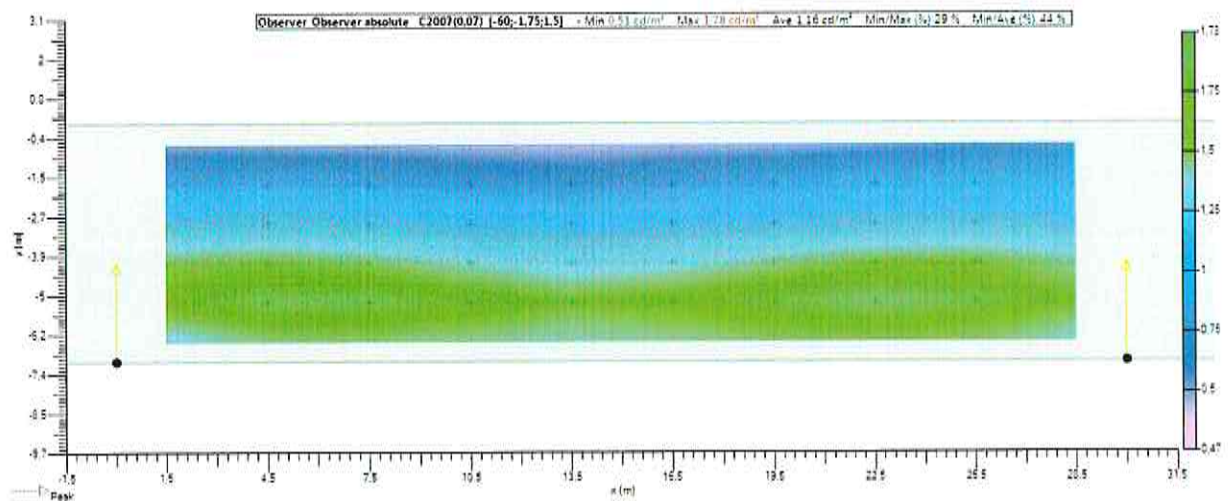
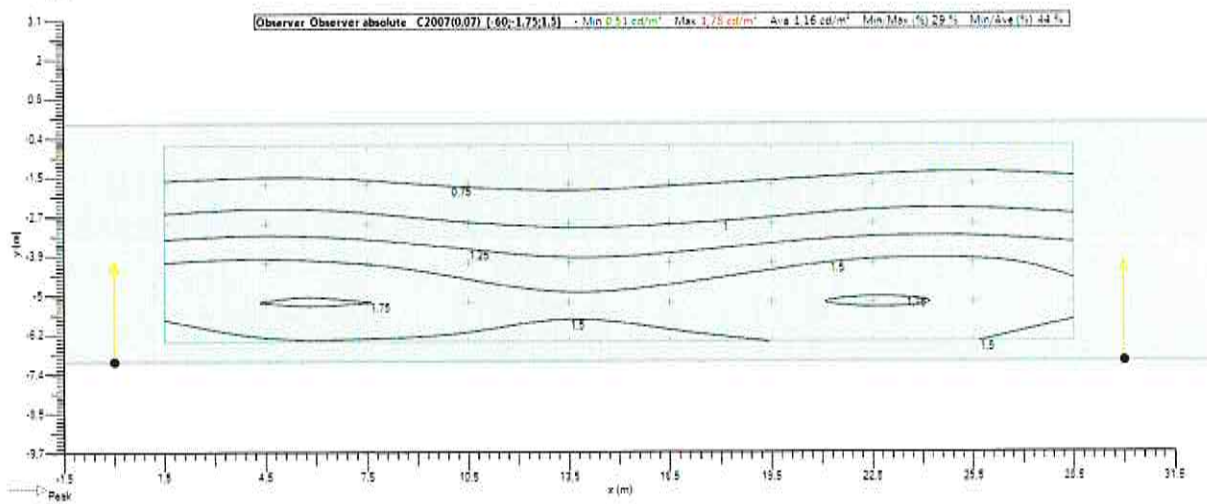
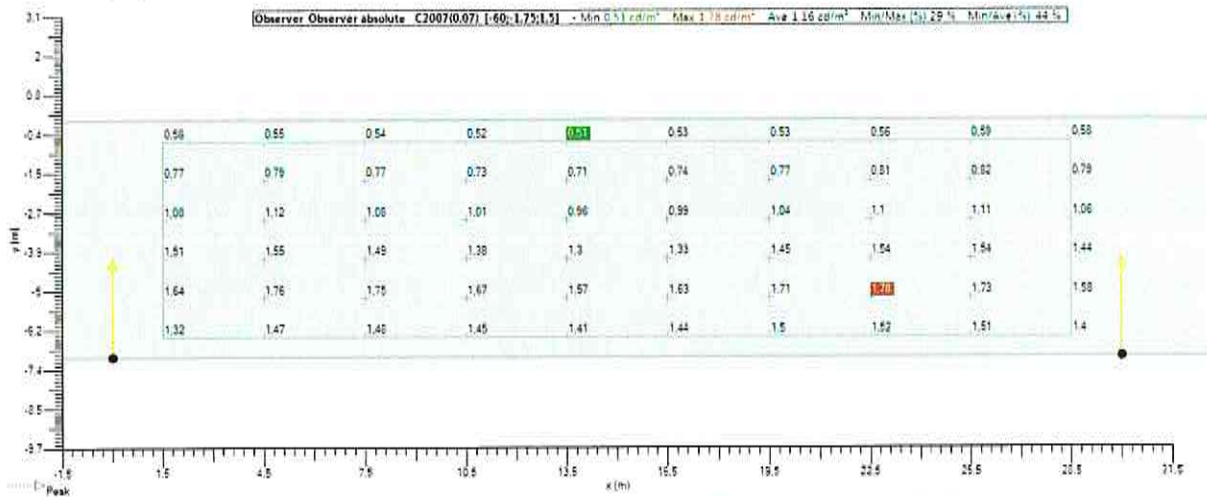
Linear																
	Color	N°	Position			Luminaire				Dimension			Rotation			
			X [m]	Y [m]	Z [m]	Name	Az [°]	Incl [°]	Rot [°]	Dim [%]	Count	Spacing [m]	Size [m]	X [°]	Y [°]	Z [°]
<input checked="" type="checkbox"/>	■	1	-30,00	-7,00	9,00	Fixture right	0,0	0,0	0,0	100	6	30,00	150,00	0,0	0,0	0,0

6.4. Luminance - Multi-lanes (LU) - C2007

Multi-lanes (LU) - Absolute 1

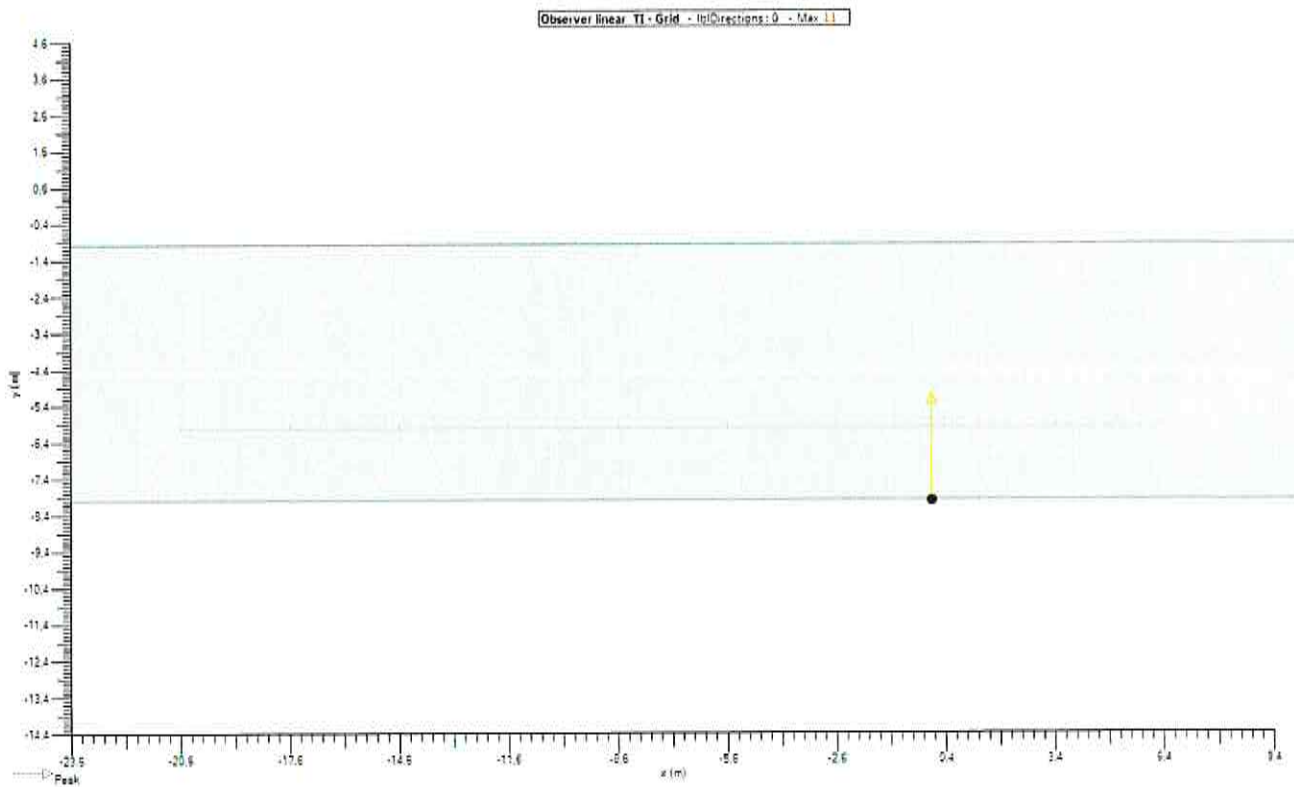


Multi-lanes (LU) - Absolute 2

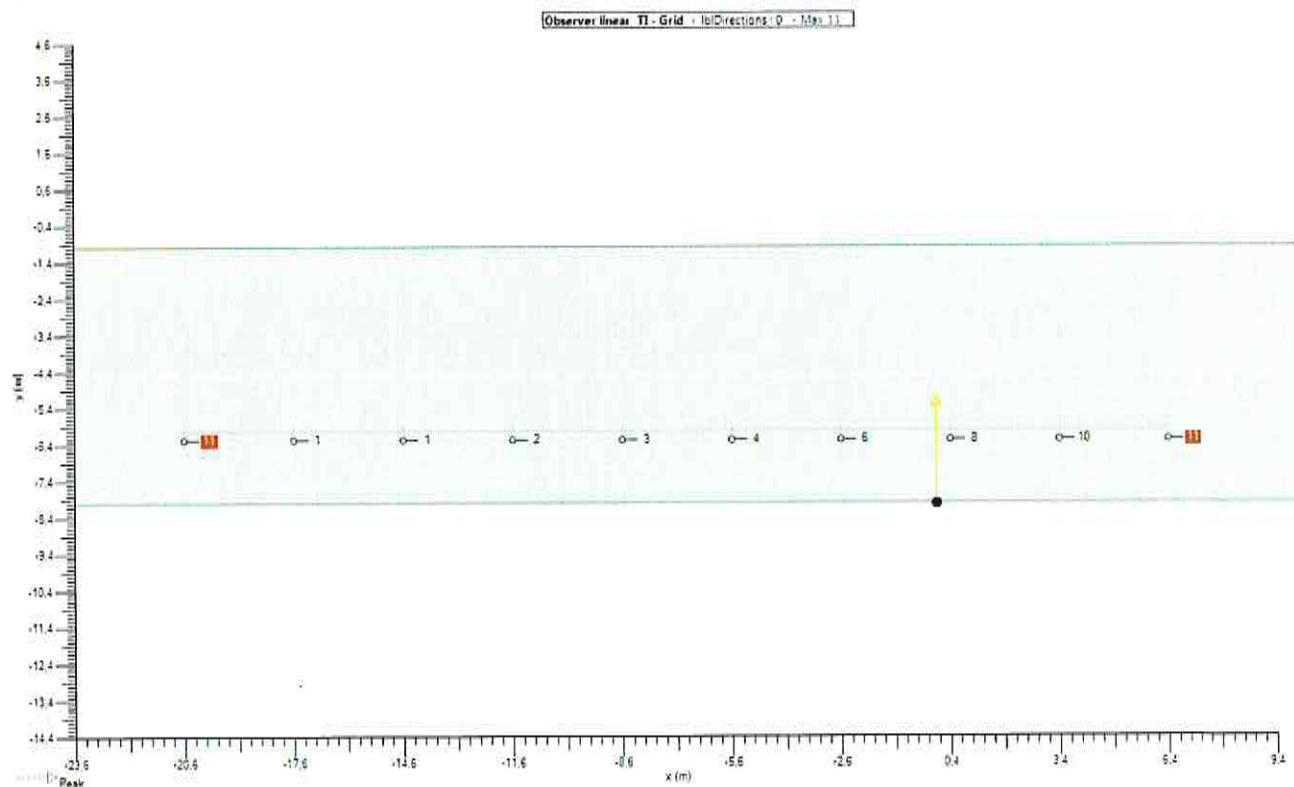


6.5. Multi-lanes (TI 1) - TI - Grid

Implantation

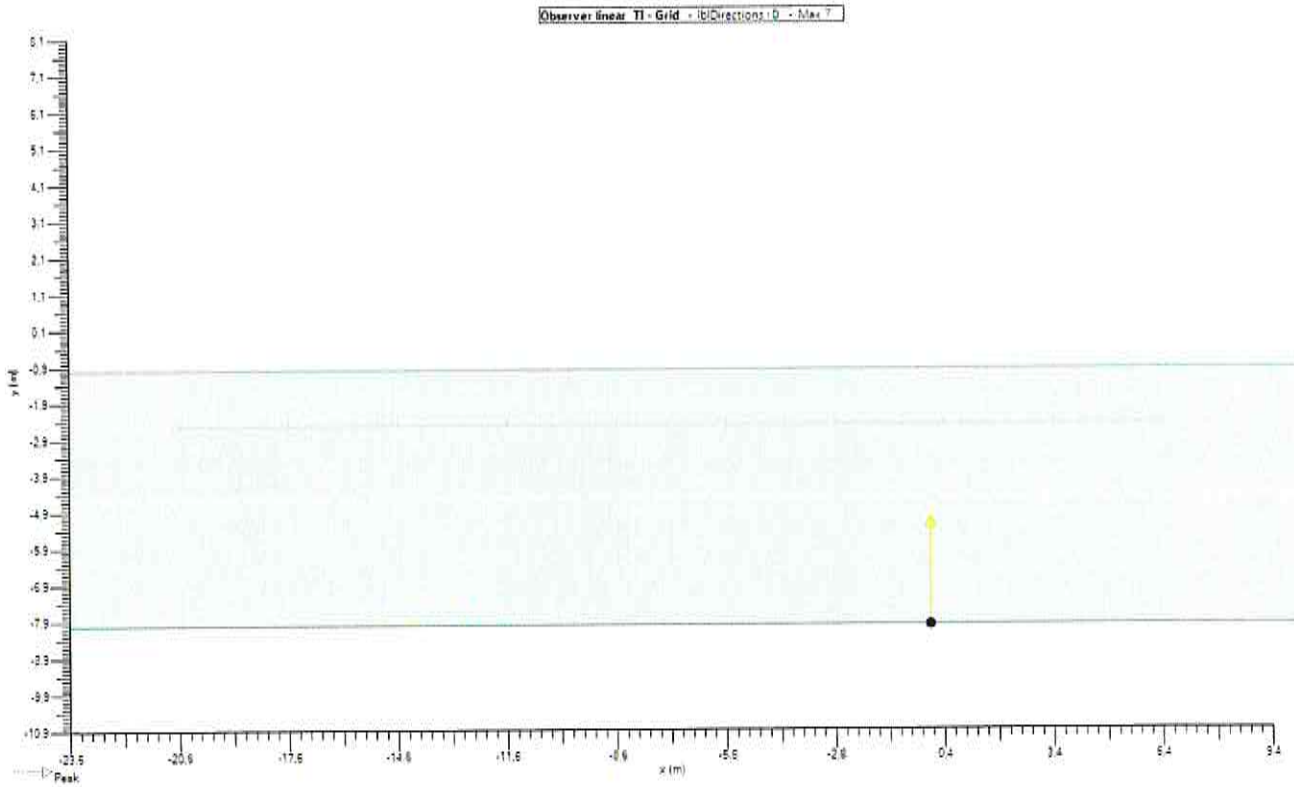


Values

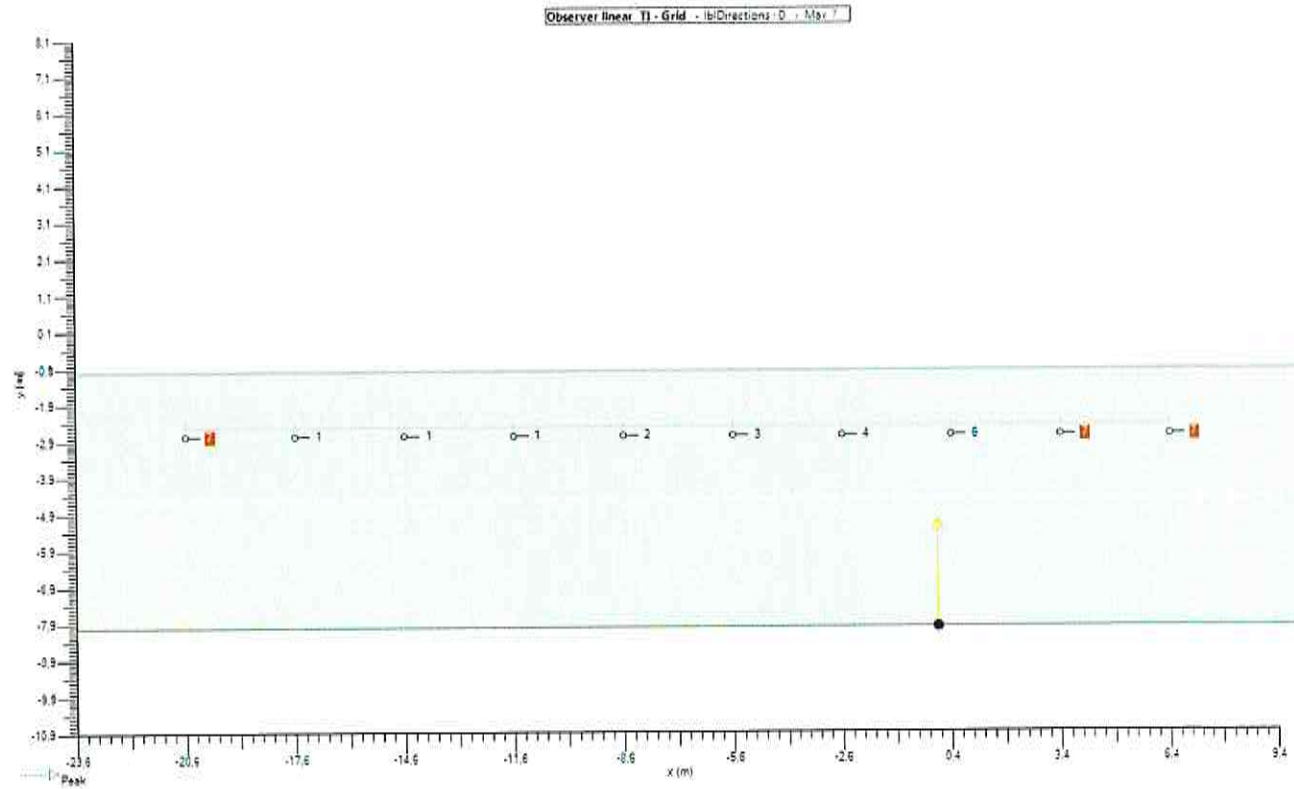


6.6. Multi-lanes (TI 2) - TI - Grid

Implantation



Values



7. Grids

7.1. Multi-lanes (LU)

General

Type Grid rectangular XY
Enabled
Colour

Geometry

Origin	X 1,50 m	Y -6,42 m	Z 0,00 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count X 10	Count Y 6	
	Spacing X 3,00 m	Spacing Y 1,17 m	
	Size X 27,00 m	Size Y 5,83 m	

8. Observer

8.1. Multi-lanes (TI 1)

General

Type Observer linear
 En
 Color
 Directions 0,0
 Calculation TI - Grid
 Grid Multi-lanes (LU)

Geometry

Origin	X -20,63 m	Y -5,25 m	Z 1,50 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count 10	Spacing 3,00 m	Size 27,00 m

8.2. Multi-lanes (TI 2)

General

Type Observer linear
 En
 Color
 Directions 0,0
 Calculation TI - Grid
 Grid Multi-lanes (LU)

Geometry

Origin	X -20,63 m	Y -1,75 m	Z 1,50 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count 10	Spacing 3,00 m	Size 27,00 m

Comune di Quarrata - Tratto di Via Piave

Standard EN 13201 : 2015

Designer Studio Tecnico

Date 26/09/2021

Application Ulysse 3.5.2

Description Verifica Illuminotecnica tratto di Via Piave

Categoria M3 Strada Urbana di Quartiere

Teceo 1 32led 500mA ottica 5246

Table of contents

1.	Fixtures	3
1.1.	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622.....	3
2.	Photometric documents.....	4
2.1.	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622.....	4
3.	Results	5
3.1.	Grid summary	5
3.2.	Observer summary	5
3.3.	Values summary	5
4.	Power consumption	5
4.1.	Dynamic cross section	5
5.	Cross section.....	6
5.1.	2D View.....	6
6.	Dynamic cross section	7
6.1.	Matrix description	7
6.2.	Luminaire positions	7
6.3.	Luminaire groups	7
6.4.	Luminance - Multi-lanes (LU) - C2007.....	8
6.5.	Multi-lanes (TI 1) - TI - Grid.....	10
6.6.	Multi-lanes (TI 2) - TI - Grid.....	11
7.	Grids	12
7.1.	Multi-lanes (LU)	12
8.	Observer	13
8.1.	Multi-lanes (TI 1).....	13
8.2.	Multi-lanes (TI 2).....	13

1. Fixtures

1.1. TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622

Type TECEO GEN2 1

Reflector 5244

Source 32 LEDs 500mA WW730

Protector Piano, Vetro extra chiaro, Liscio

Source flux 7,714 klm

G* 1

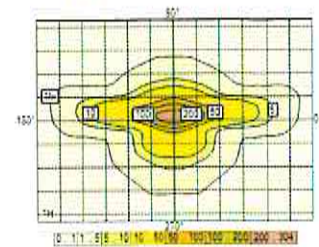
Luminaire wattage 50,0 W

MF 0,80

Matrix 468622

Luminaire flux 6,104 klm

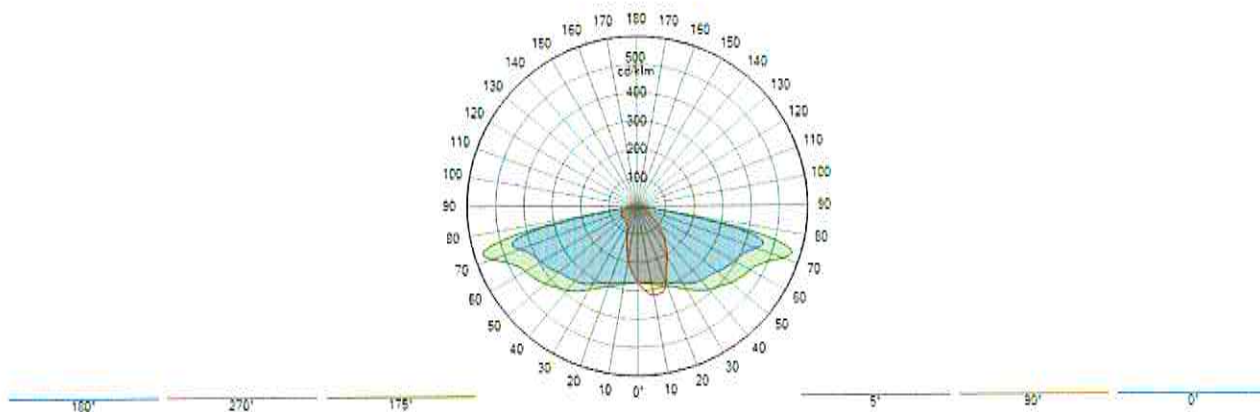
Efficacy 122 lm/W



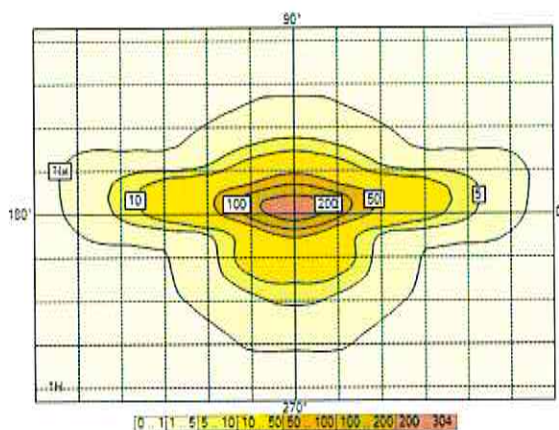
2. Photometric documents

2.1. TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622

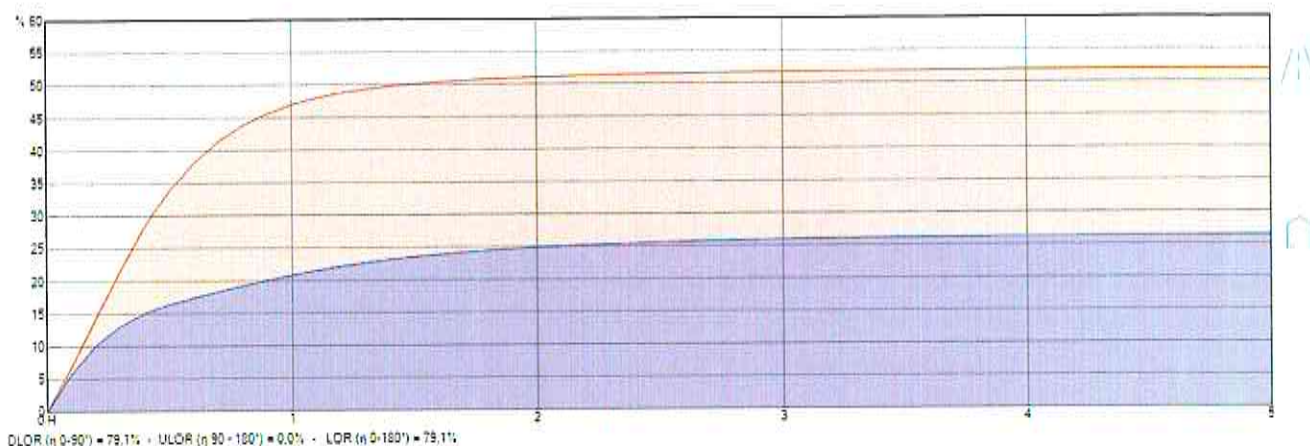
Polar/Cartesian diagram



Isolux



Utilization curve



3. Results

3.1. Grid summary

Multi-lanes (LU)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

1. Luminance - RTable - C2007	Ave (A) (cd/m ²)	Min/Ave (%)	Min/Max (%)	Min (cd/m ²)	Max (cd/m ²)	UL (%)
Dynamic cross section - Observer 1 (-60,00; -4,50; 1,50)	1,02	42	27	0,43	1,59	81 %
Dynamic cross section - Observer 2 (-60,00; -1,50; 1,50)	1,11	43	28	0,47	1,71	87 %

3.2. Observer summary

Multi-lanes (TI 1)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	10

Multi-lanes (TI 2)

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	TI
Dynamic cross section - Direction (0,0)	7

3.3. Values summary

EIR road

M3 (LU : Ave = 1,00 cd/m² Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30)

	EIR road
Dynamic cross section - Multi-lanes (EIR)	0,41

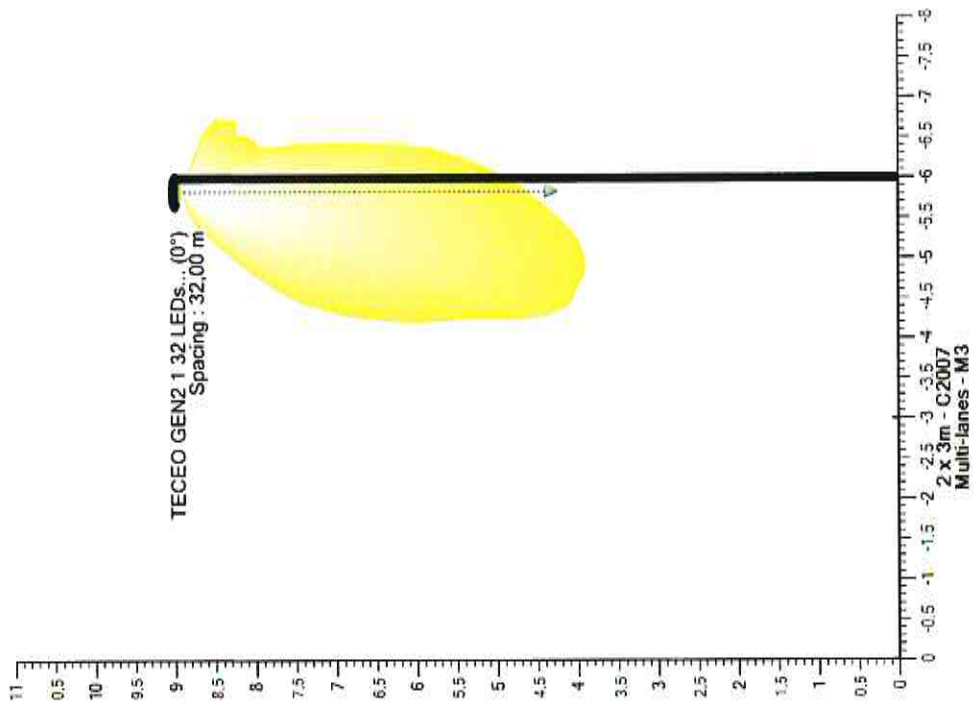
4. Power consumption

4.1. Dynamic cross section

Fixture	Current [mA]	Qty	Dimming	Power / Fixture	Total
TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	500	31	100 %	50 W	1555 W



5. Cross section

5.1. 2D View









6. Dynamic cross section


6.1. Matrix description

Ph. color	Description	Current [mA]	Source flux [klm]	Luminaire flux [klm]	Power [W]	Efficacy [lm/W]	MF	Height [m]	Fixture
	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	500	7,714	6,104	49,8	123	0,800	6 x 9,00	

6.2. Luminaire positions

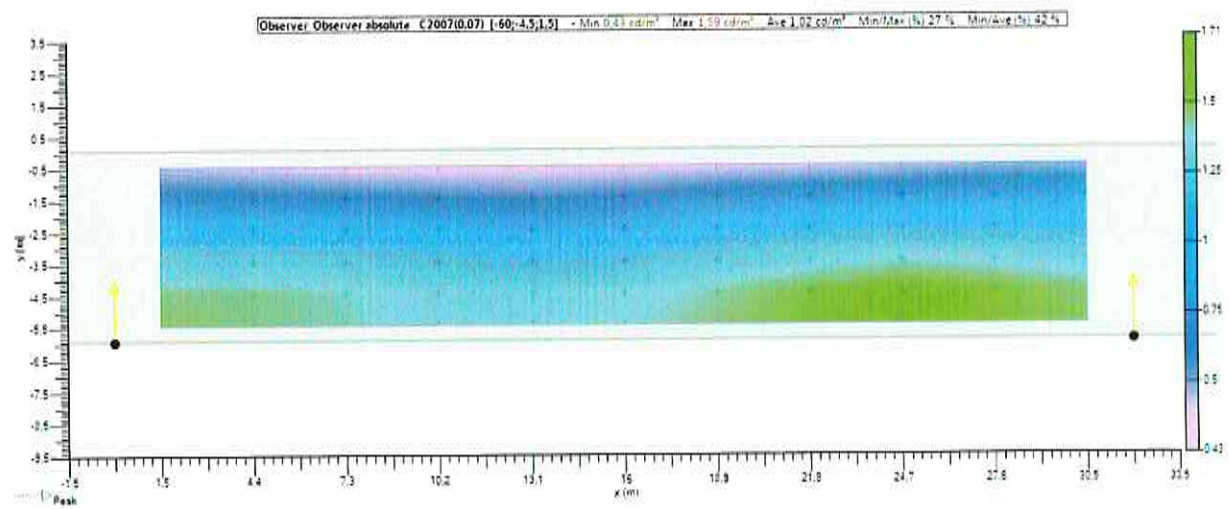
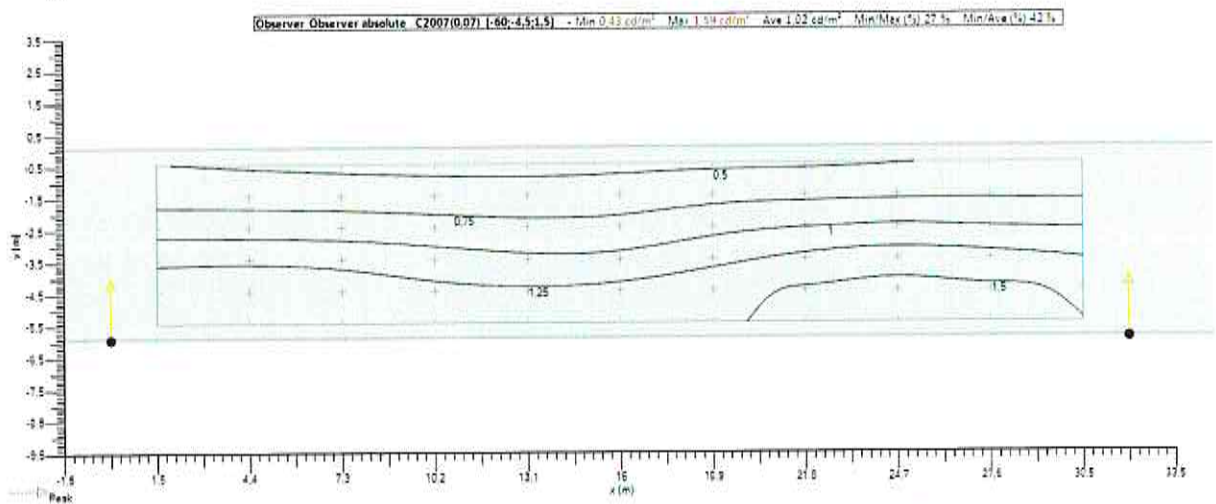
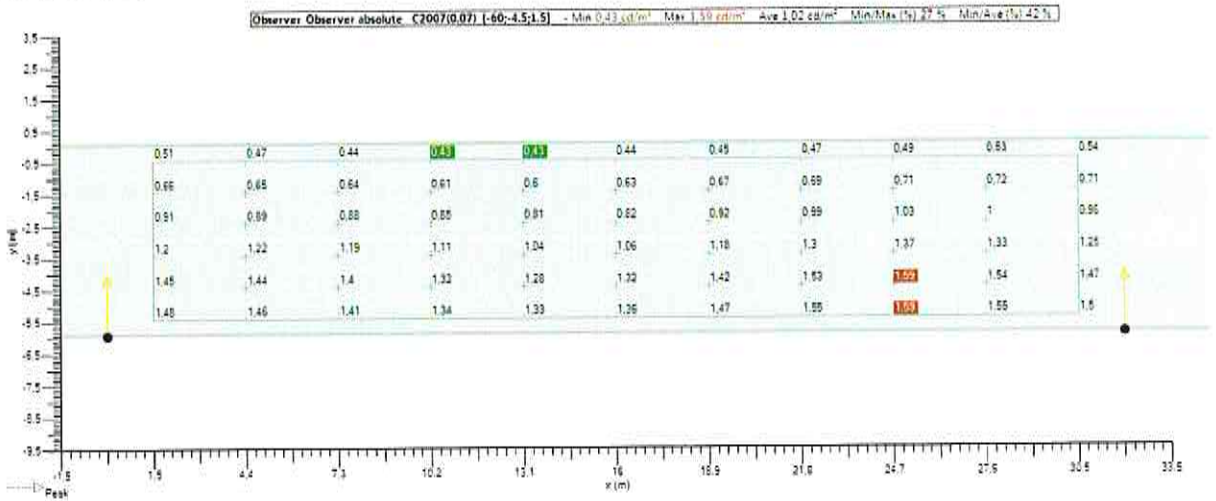
	Color	N°	Position			Luminaire						Target			
			X [m]	Y [m]	Z [m]	Name	Current [mA]	Az [°]	Incl [°]	Rot [°]	Flux [klm]	MF	X [m]	Y [m]	Z [m]
<input checked="" type="checkbox"/>		1	-32,00	-6,00	9,00	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	0,0	0,0	7,714	0,800	-32,00	-6,00	0,00
<input checked="" type="checkbox"/>		2	0,00	-6,00	9,00	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	0,0	0,0	7,714	0,800	0,00	-6,00	0,00
<input checked="" type="checkbox"/>		3	32,00	-6,00	9,00	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	0,0	0,0	7,714	0,800	32,00	-6,00	0,00
<input checked="" type="checkbox"/>		4	64,00	-6,00	9,00	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	0,0	0,0	7,714	0,800	64,00	-6,00	0,00
<input checked="" type="checkbox"/>		5	96,00	-6,00	9,00	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	0,0	0,0	7,714	0,800	96,00	-6,00	0,00
<input checked="" type="checkbox"/>		6	128,00	-6,00	9,00	TECEO GEN2 1 32 LEDs 500mA WW730 Piano, Vetro extra chiaro, Liscio 5244 468622	-	0,0	0,0	0,0	7,714	0,800	128,00	-6,00	0,00

6.3. Luminaire groups

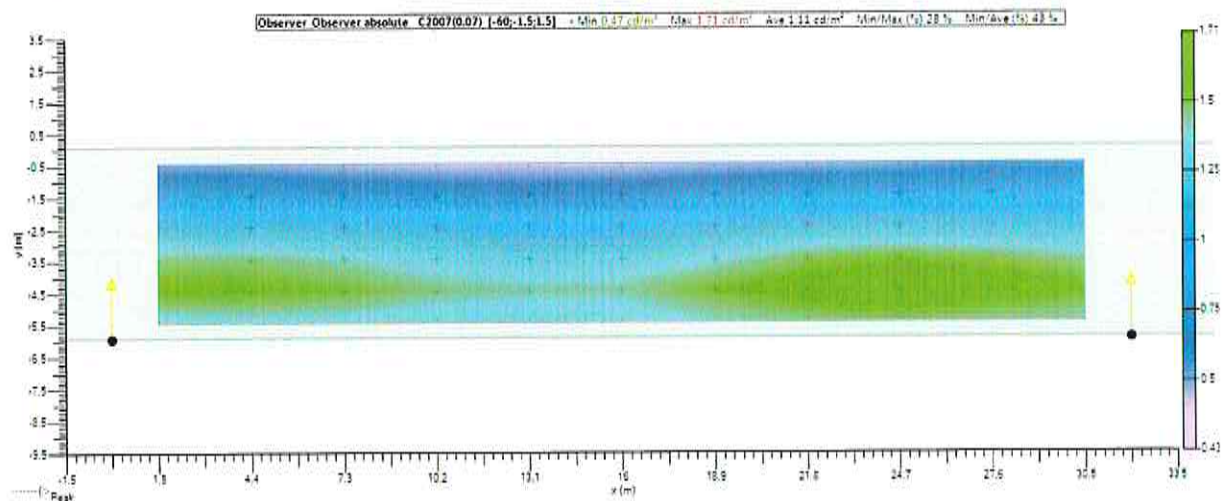
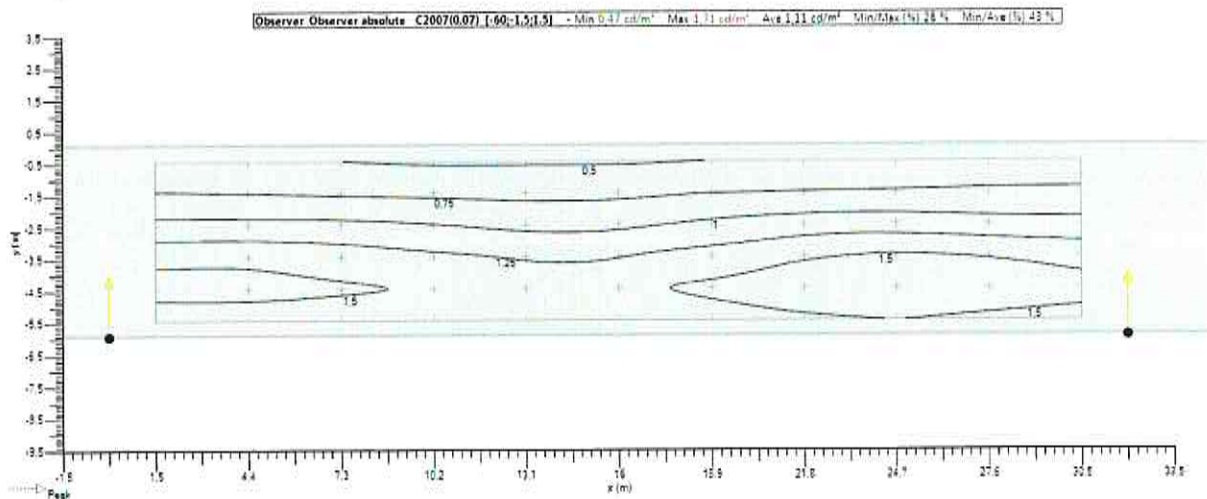
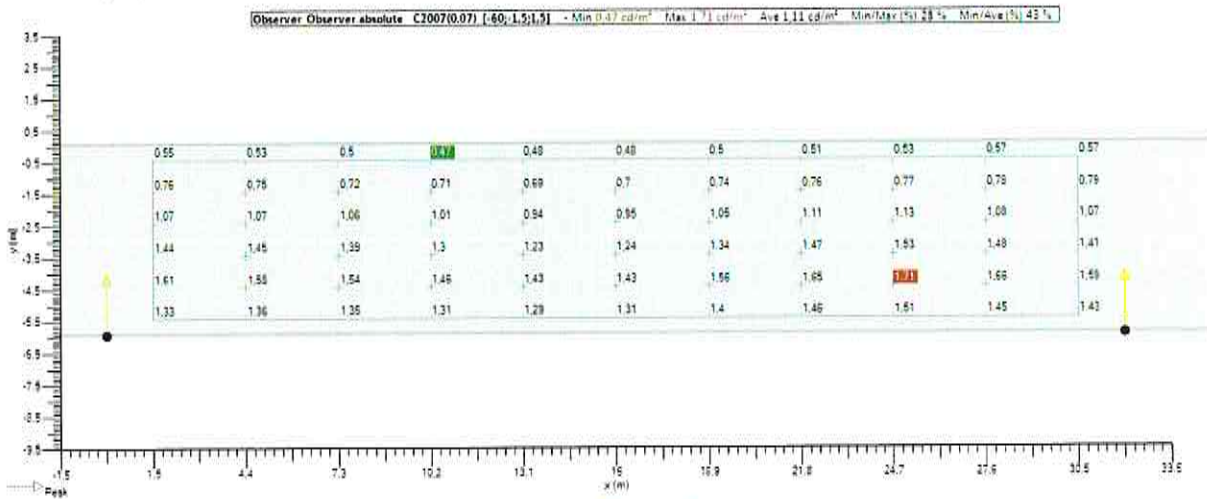
Linear																
	Color	N°	Position			Luminaire				Dimension			Rotation			
			X [m]	Y [m]	Z [m]	Name	Az [°]	Incl [°]	Rot [°]	Dim [%]	Count	Spacing [m]	Size [m]	X [°]	Y [°]	Z [°]
<input checked="" type="checkbox"/>		1	-32,00	-6,00	9,00	Fixture right	0,0	0,0	0,0	100	6	32,00	160,00	0,0	0,0	0,0

6.4. Luminance - Multi-lanes (LU) - C2007

Multi-lanes (LU) - Absolute 1

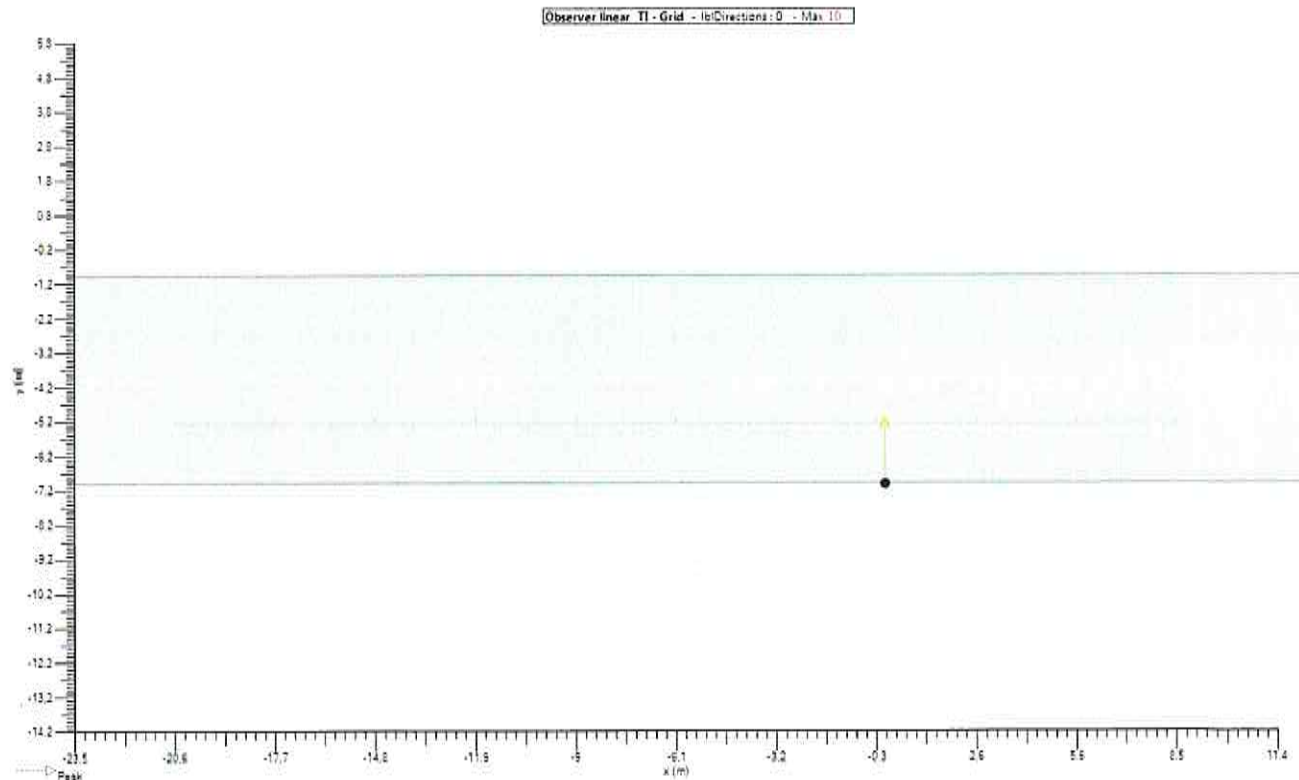


Multi-lanes (LU) - Absolute 2

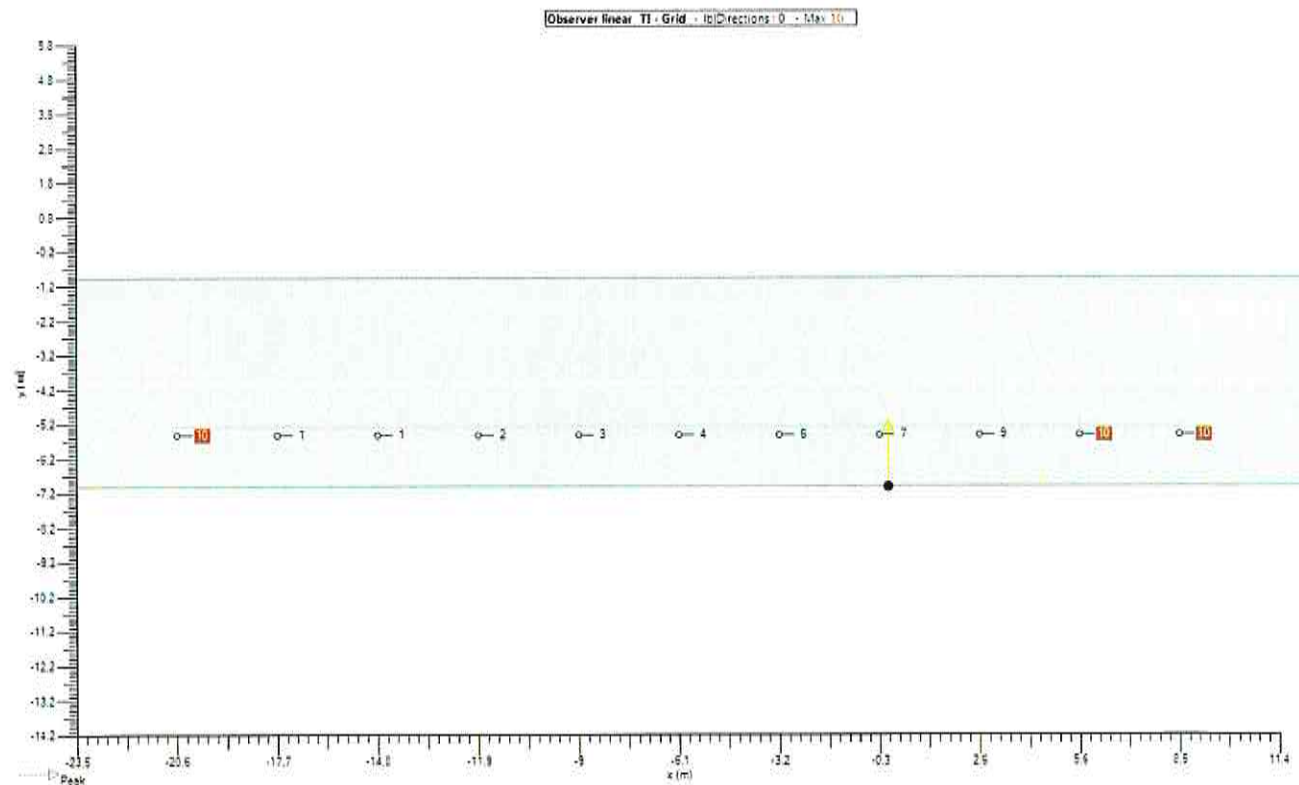


6.5. Multi-lanes (TI 1) - TI - Grid

Implantation

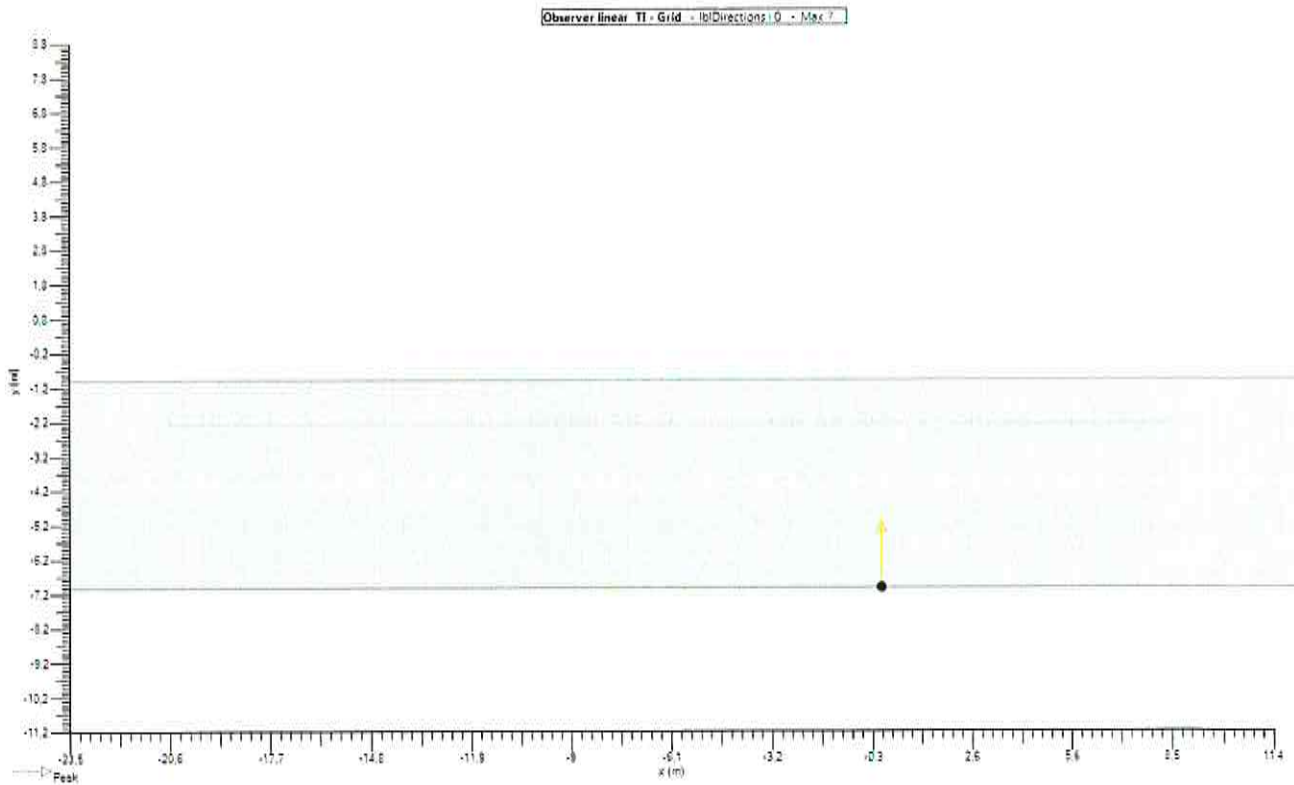


Values

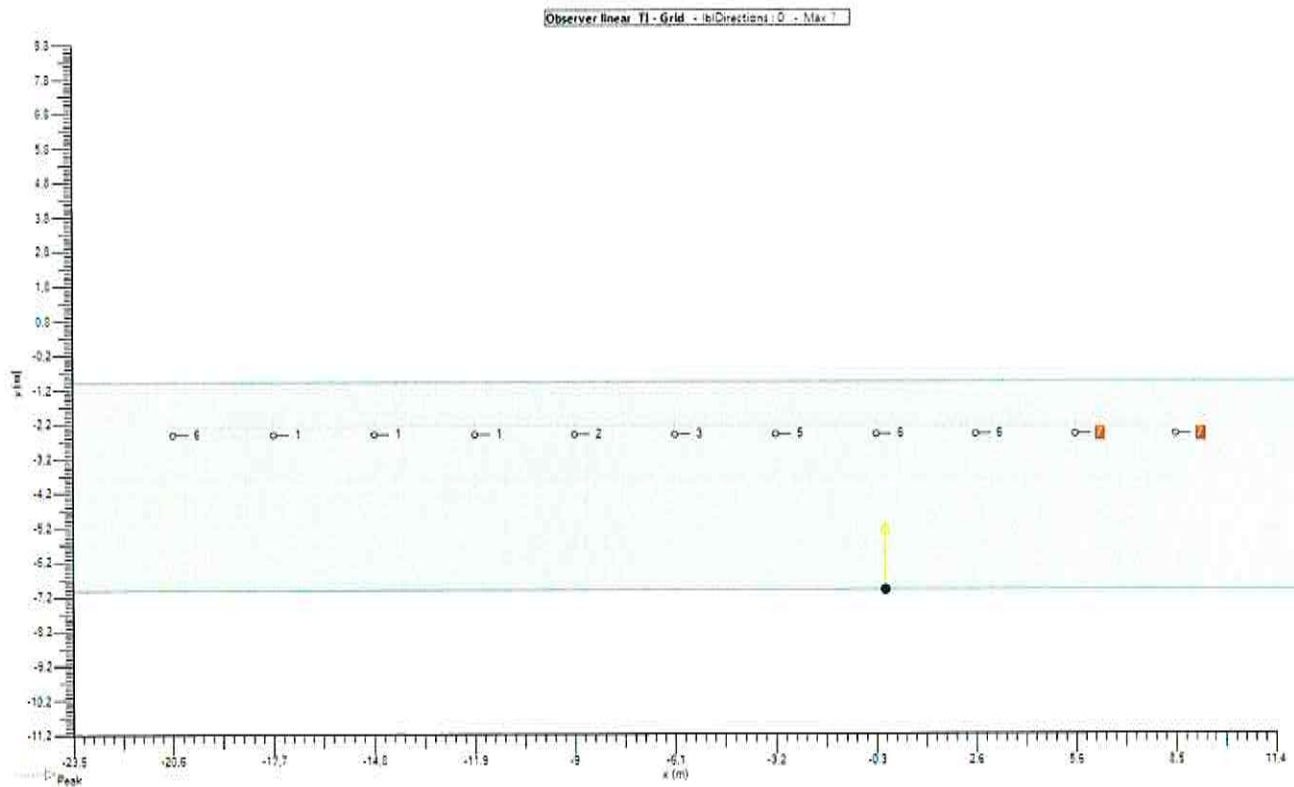


6.6. Multi-lanes (TI 2) - TI - Grid

Implantation



Values



7. Grids

7.1. Multi-lanes (LU)

General

Type Grid rectangular XY
Enabled
Colour

Geometry

Origin	X 1,45 m	Y -5,50 m	Z 0,00 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count X 11	Count Y 6	
	Spacing X 2,91 m	Spacing Y 1,00 m	
	Size X 29,09 m	Size Y 5,00 m	

8. Observer

8.1. Multi-lanes (TI 1)

General

Type Observer linear
 En
 Color ■
 Directions 0,0
 Calculation TI - Grid
 Grid Multi-lanes (LU)

Geometry

Origin	X -20,63 m	Y -4,50 m	Z 1,50 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count 11	Spacing 2,91 m	Size 29,09 m

8.2. Multi-lanes (TI 2)

General

Type Observer linear
 En
 Color ■
 Directions 0,0
 Calculation TI - Grid
 Grid Multi-lanes (LU)

Geometry

Origin	X -20,63 m	Y -1,50 m	Z 1,50 m
Rotation	X 0,0 °	Y 0,0 °	Z 0,0 °
Dimension	Count 11	Spacing 2,91 m	Size 29,09 m