



# COMUNE DI QUARRATA

PROVINCIA DI PISTOIA

## UFFICIO TECNICO COMUNALE

Servizio Lavori Pubblici

via Trieste 1 - 51039 Quarrata (PT)

### PROGETTO DEFINITIVO-ESECUTIVO



TAVOLA

**G**

**CALCOLO ILLUMINOTECNICO**

**MANUTENZIONE STRAORDINARIA DI VIA G. VERGA**

PROGETTISTA:

Ufficio Tecnico Comunale  
Servizio Lavori Pubblici

Geometra Sandro Trinci

Responsabile del  
Procedimento:

Geometra Massimo Valensise

LUGLIO 2020

Approvato con Deliberazione C.C. n.                      del



**Estensione rete della pubblica illuminazione tratto di via Verga,  
in località Valenzatico.**



**CALCOLO ILLUMINOTECNICO**

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# 1. Fixtures

## 1.1. TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332

Type TECEO 1

Reflector 5248

Source 32 LEDs 700mA WW 830

Protector Flat glass

Source flux 9,289 klm

G\* 2

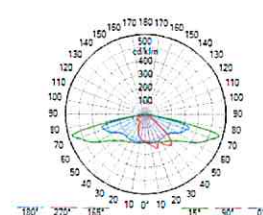
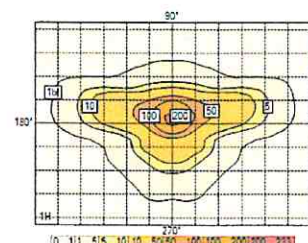
Luminaire wattage 70,0 W

MF 0,80

Matrix 407332

Luminaire flux 7,542 klm

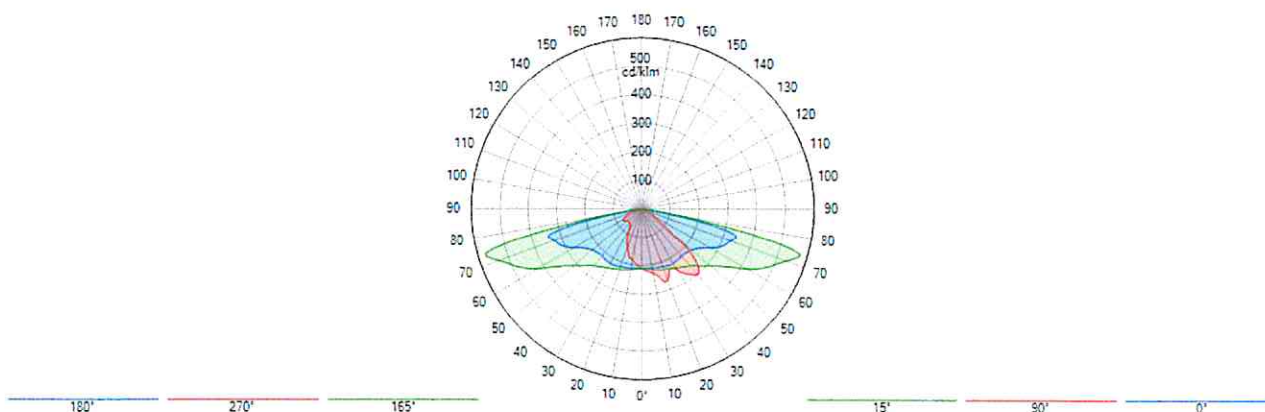
Efficacy 108 lm/W



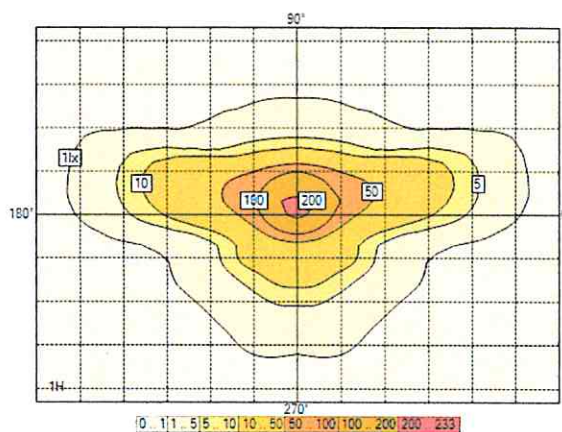
## 2. Photometric documents

### 2.1. TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332

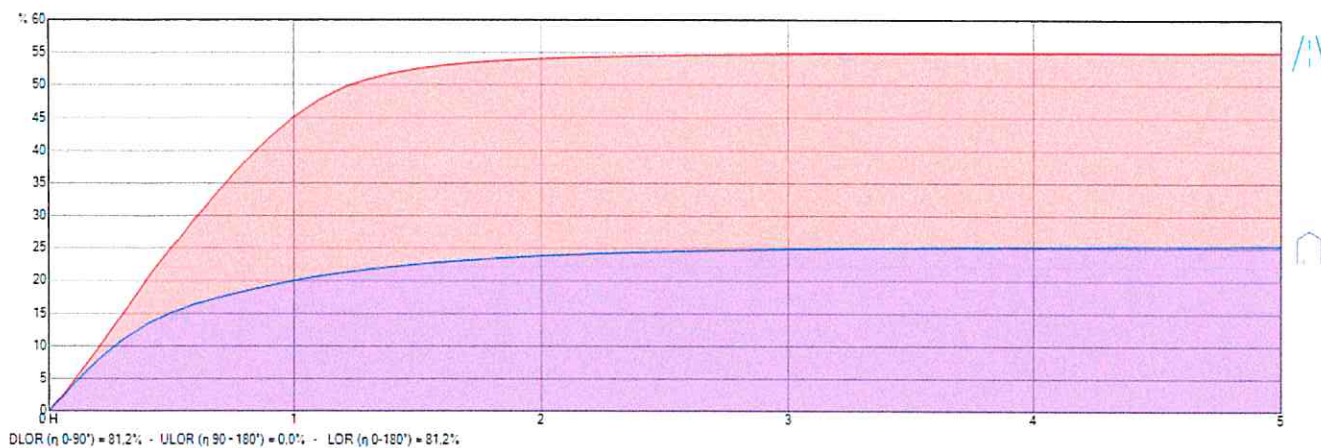
Polar/Cartesian diagram



Isolux



Utilization curve

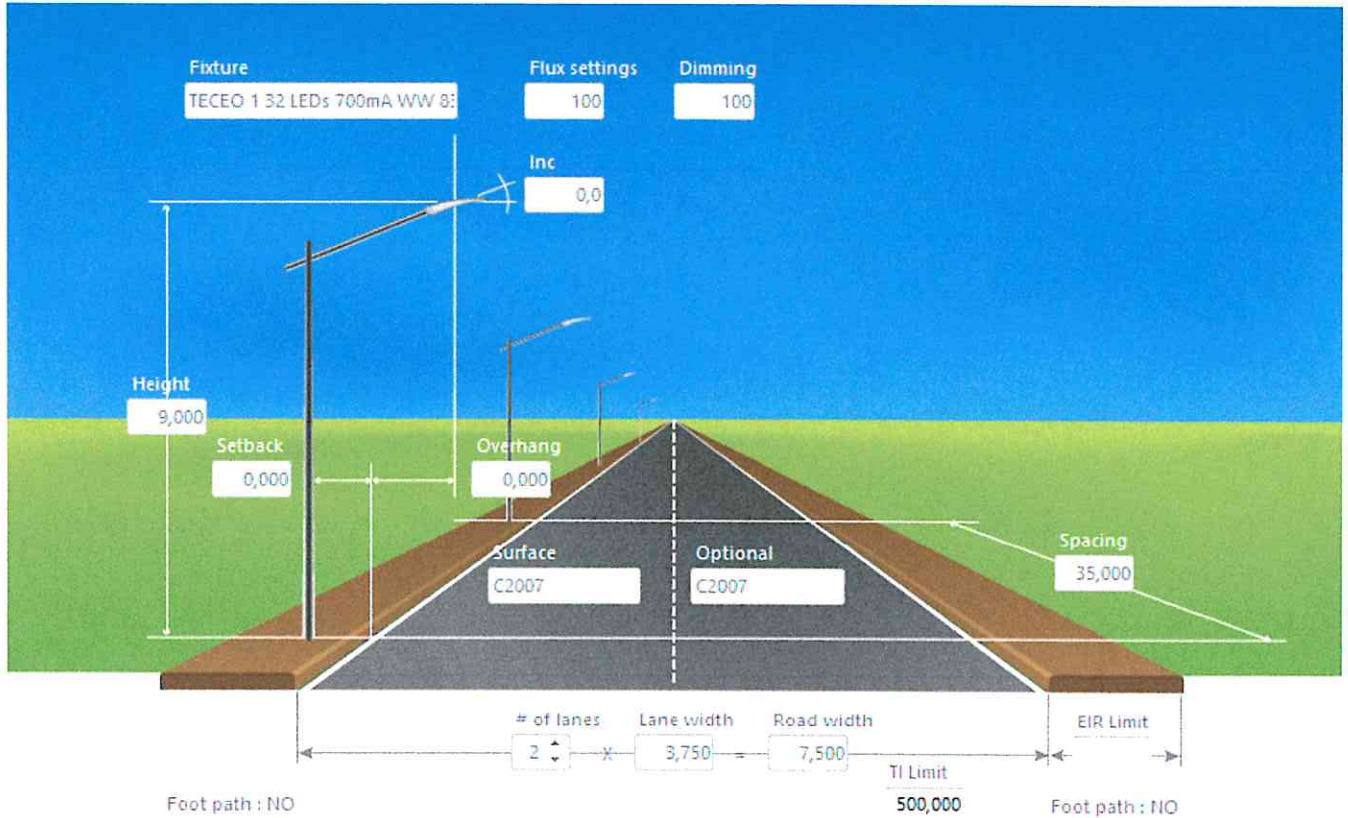


### 3. Standard

#### 3.1. Standard summary

Calculations according to CEN 13201 : 2015

Selected lighting class Road : M4 - LU : Ave = 0,75 cd/m<sup>2</sup> Uo = 40 % UI = 60 % UoW = 15 % TI : 15 % EIR : 0,30



#### 3.2. Results

Power per km 1,994 kW

Road (LU)

Luminance



<b>Ave</b> 0,84 cd/m <sup>2</sup>	✓	0,75 cd/m <sup>2</sup>
<b>Min</b> 0,43 cd/m <sup>2</sup>	NA	
<b>Uo</b> 51 %	✓	40,00 %
<b>UoW</b> 51 %	✓	15,00 %
<b>UI 1</b> 78 %	✓	60,00 %
<b>UI 2</b> 88 %	✓	60,00 %

Values







<b>EIR</b> 0,59	✓	0,30
<b>TI</b> 11	✓	15

## 4. Default


### 4.1. Matrix description

Ph. color	Description	Current [mA]	Source flux [klm]	Luminaire flux [klm]	Power [W]	Efficacy [lm/W]	MF	Height [m]	Fixture
	TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332	700	9,289	7,542	69,8	108	0,800	6 x 9,00	

### 4.2. 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	7,50	9,00	TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332	700	180,0	0,0	0,0	9,289	0,800	-35,00	7,50	0,00
<input checked="" type="checkbox"/>		2	0,00	7,50	9,00	TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332	700	180,0	0,0	0,0	9,289	0,800	0,00	7,50	0,00
<input checked="" type="checkbox"/>		3	35,00	7,50	9,00	TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332	700	180,0	0,0	0,0	9,289	0,800	35,00	7,50	0,00
<input checked="" type="checkbox"/>		4	70,00	7,50	9,00	TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332	700	180,0	0,0	0,0	9,289	0,800	70,00	7,50	0,00
<input checked="" type="checkbox"/>		5	105,00	7,50	9,00	TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332	700	180,0	0,0	0,0	9,289	0,800	105,00	7,50	0,00
<input checked="" type="checkbox"/>		6	140,00	7,50	9,00	TECEO 1 32 LEDs 700mA WW 830 Flat glass 5248 407332	700	180,0	0,0	0,0	9,289	0,800	140,00	7,50	0,00

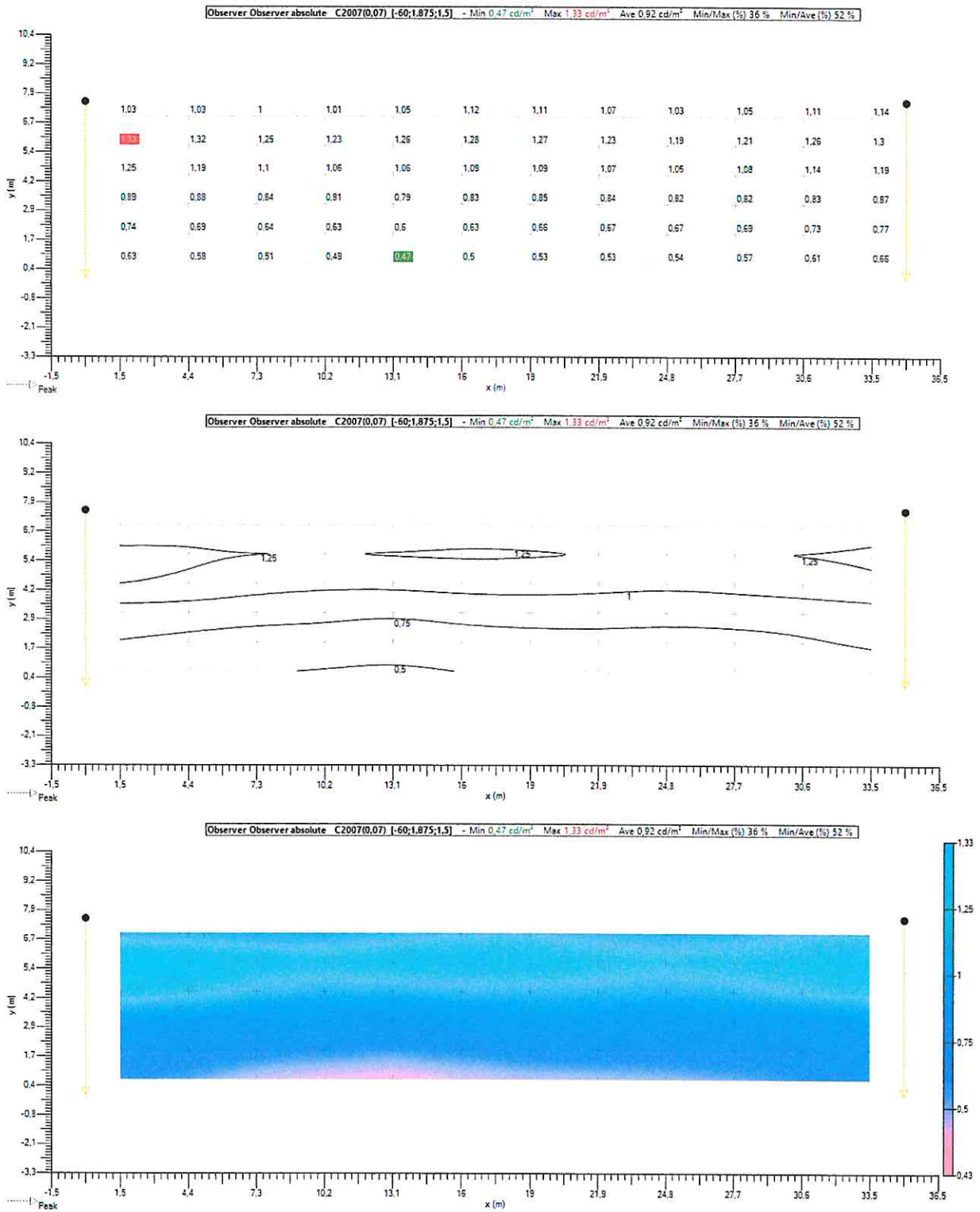
### 4.3. Luminaire groups

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	7,50	9,00	Left	180,0	0,0	0,0	100	6	35,00	175,00	0,0	0,0	0,0

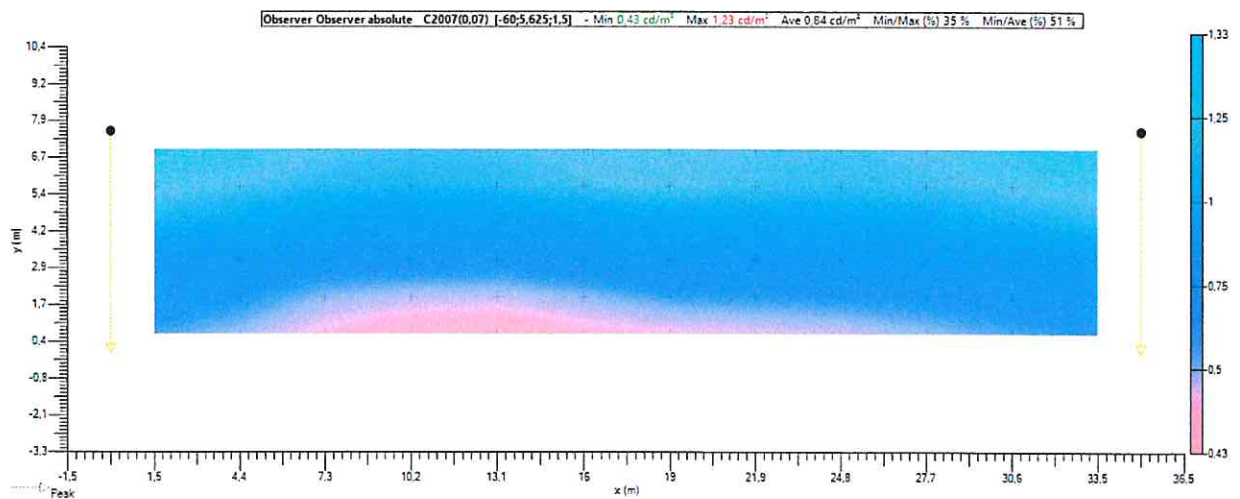
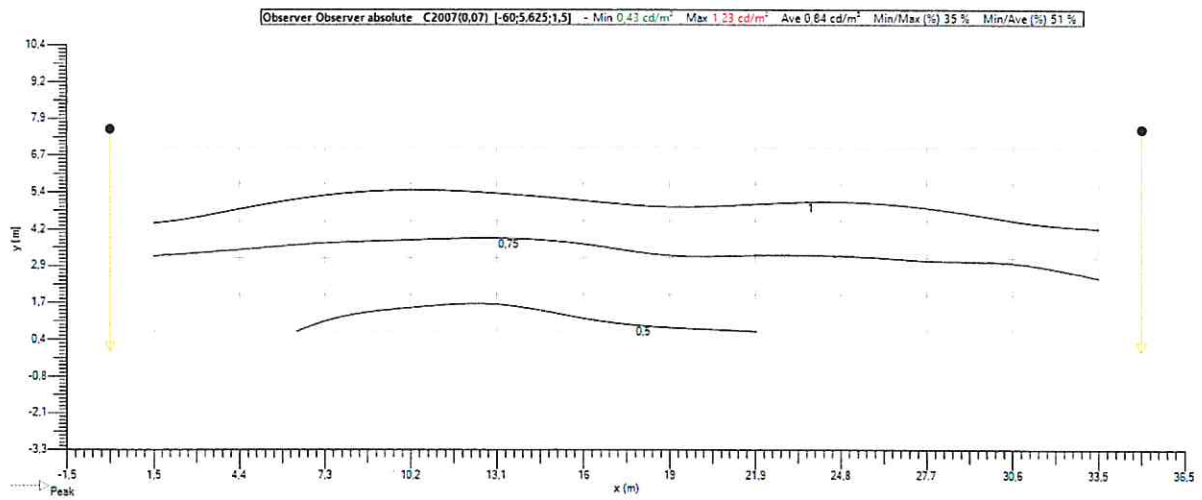
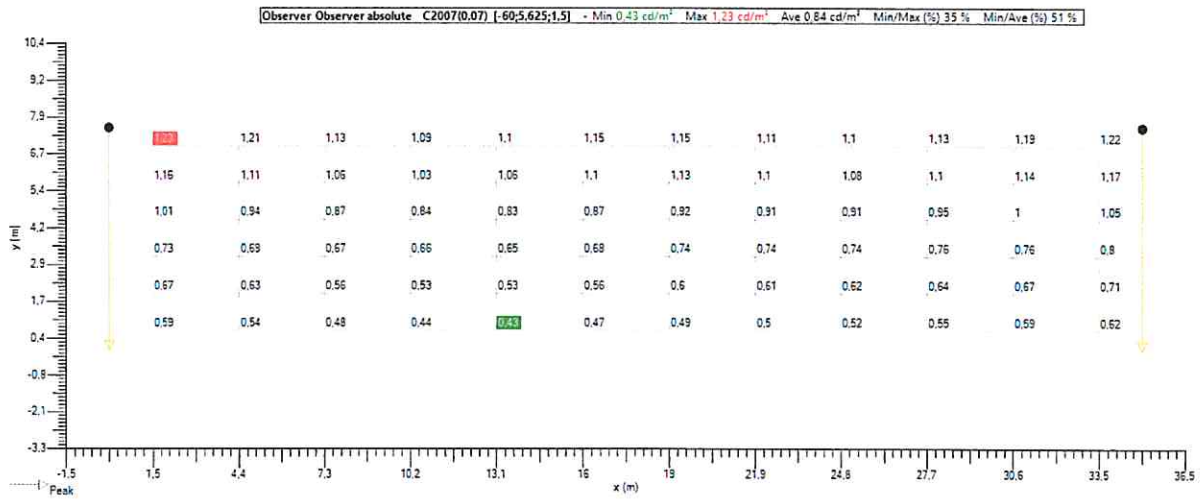


### 4.4. Luminance - Road (LU) - C2007

#### Road (LU) - Absolute 1

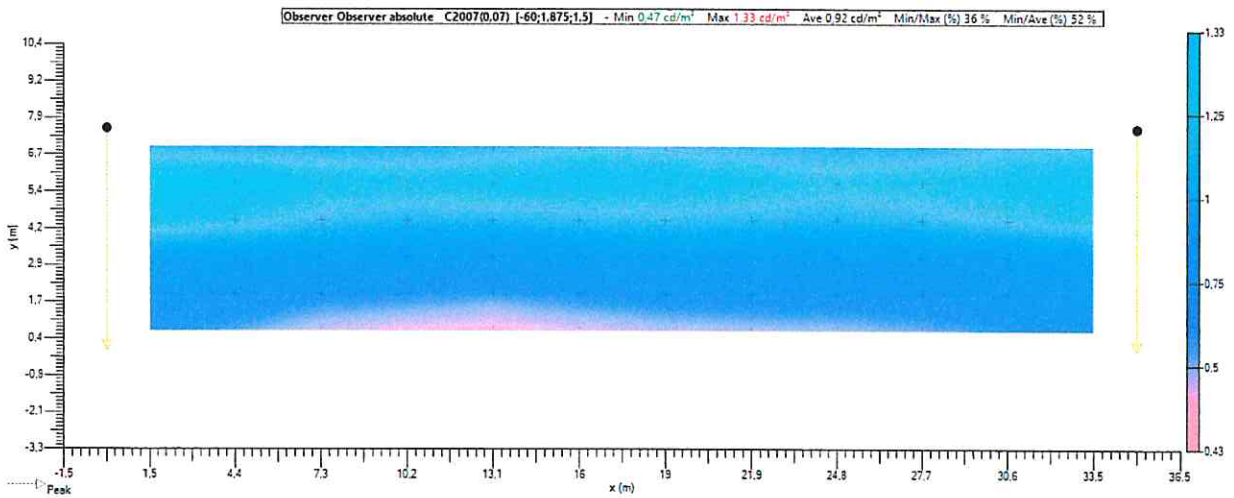
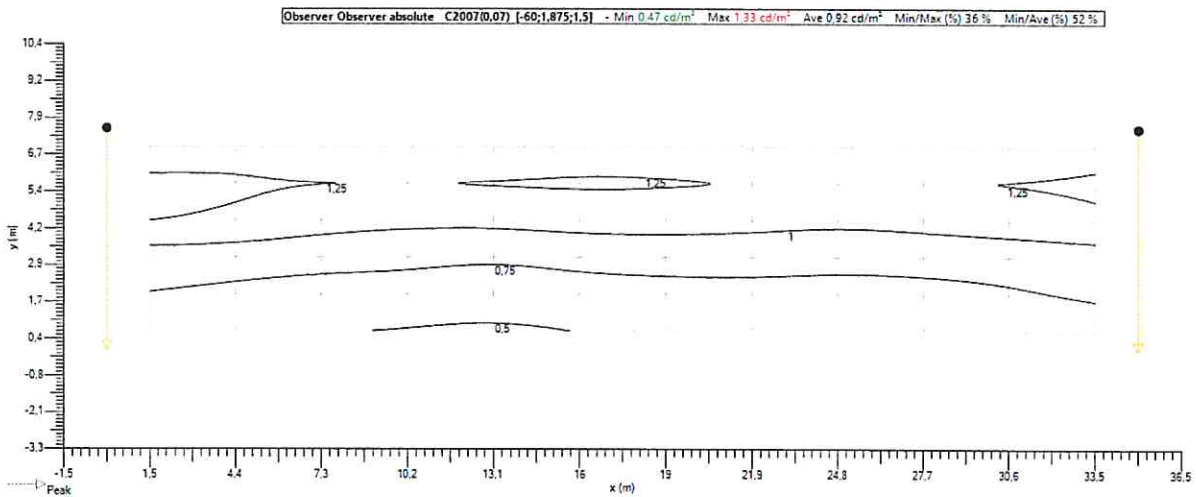
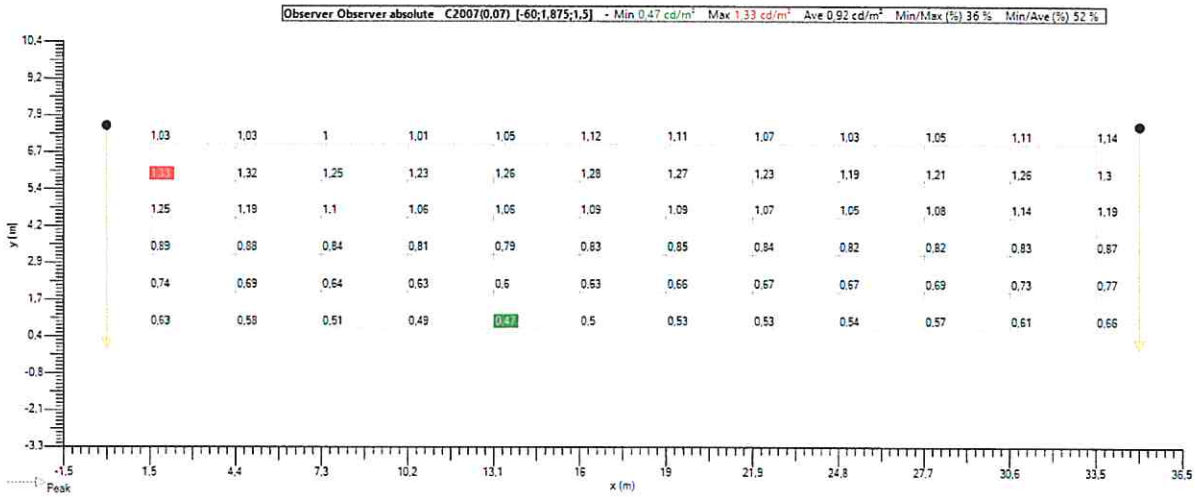


Road (LU) - Absolute 2

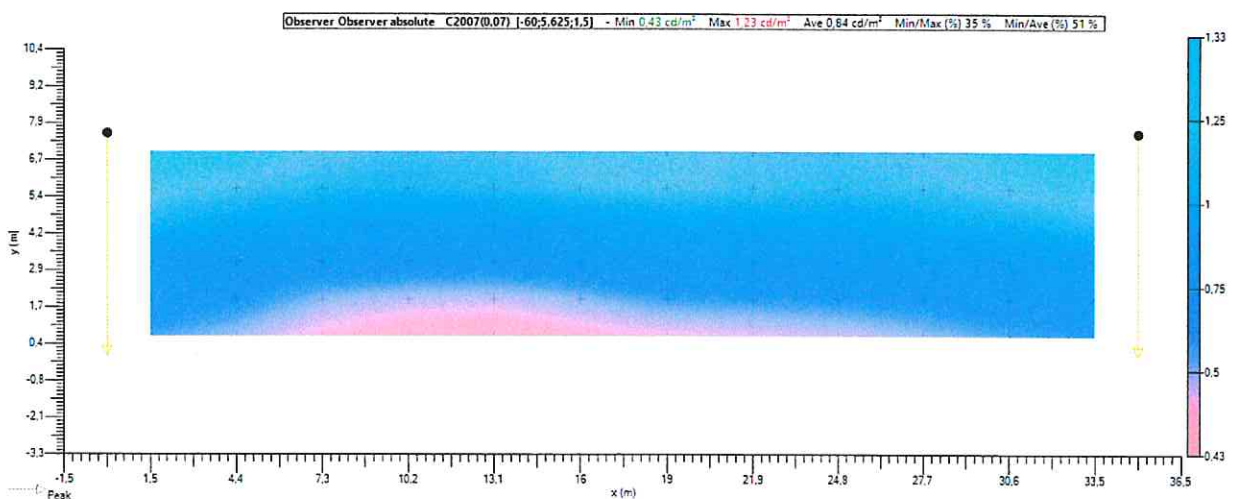
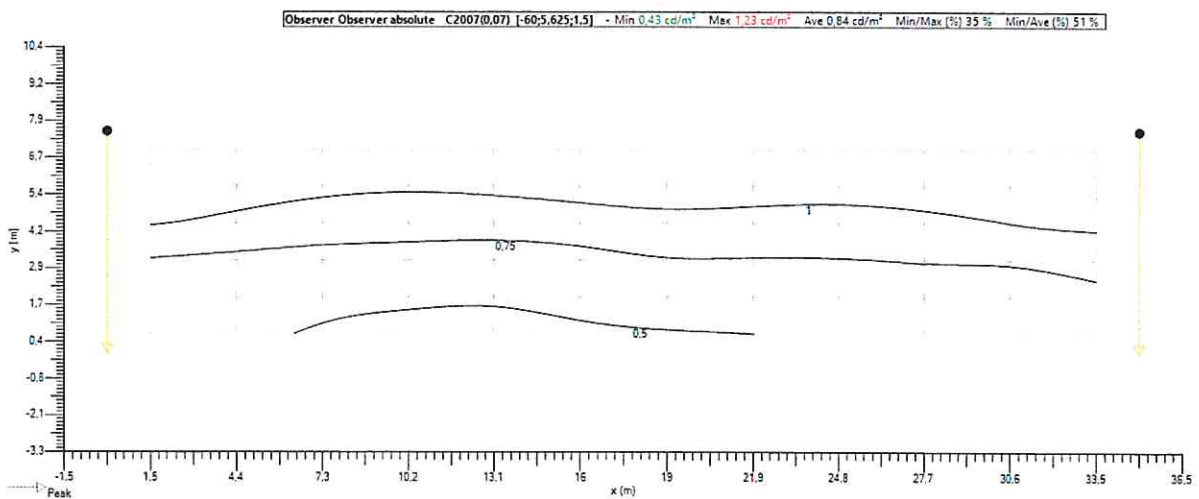
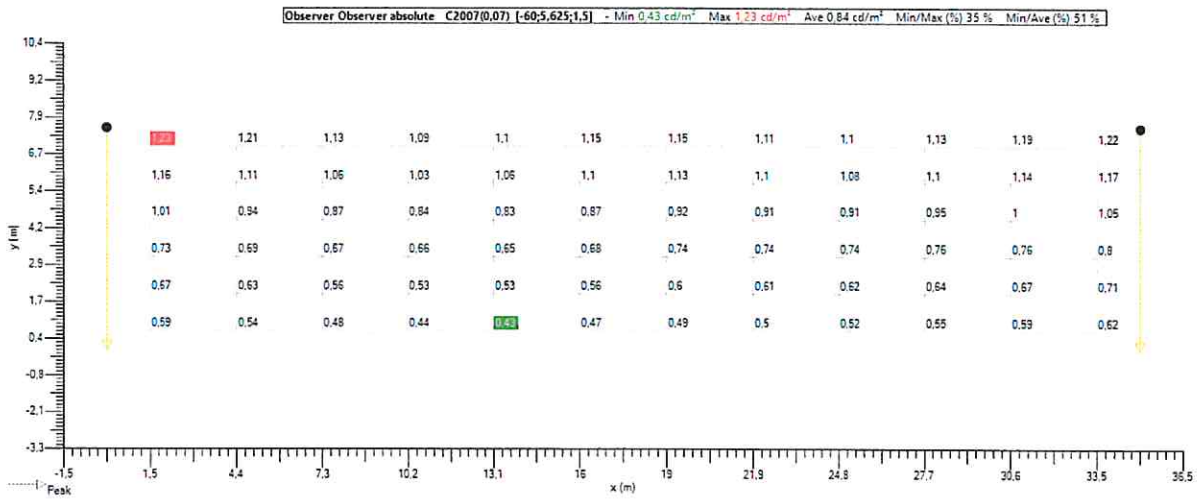


### 4.5. Luminance - Road (LU) - C2007

#### Road (LU) - Optional - Absolute 1

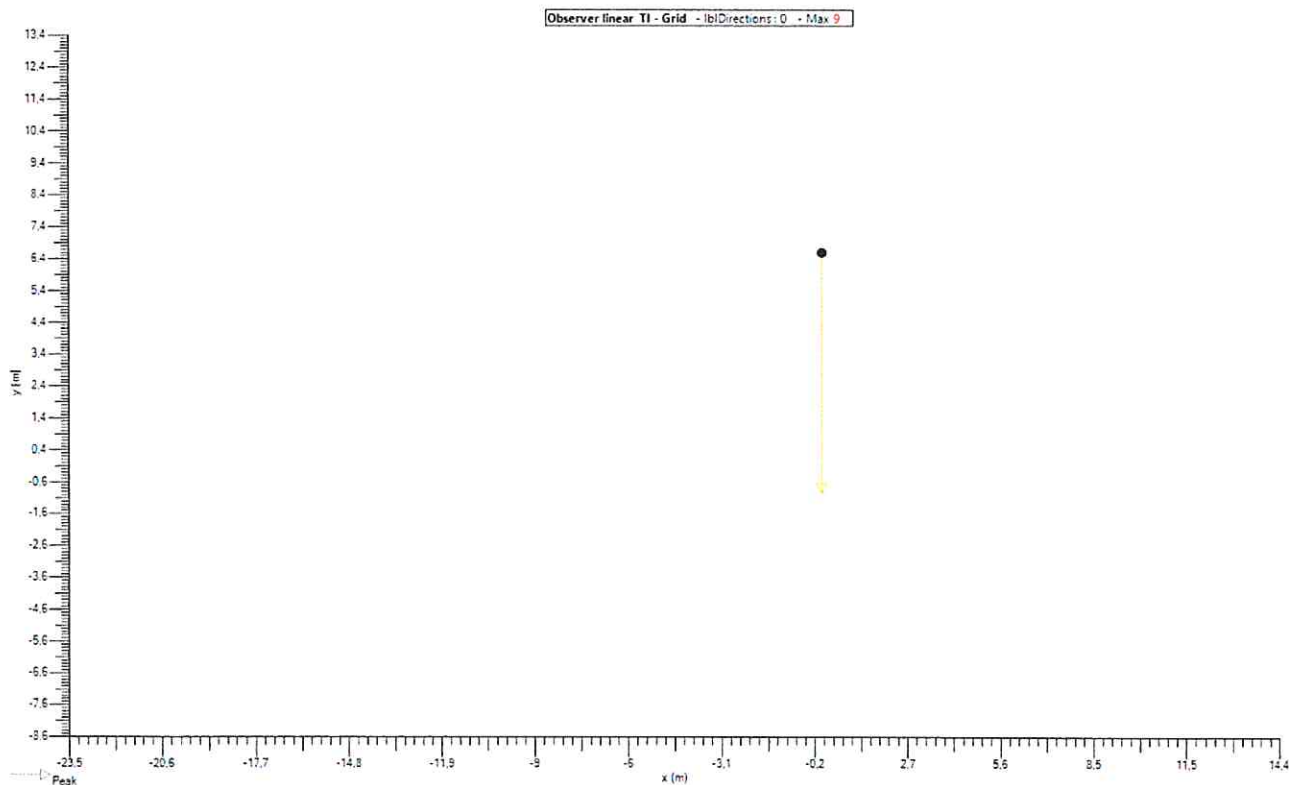


Road (LU) - Optional - Absolute 2

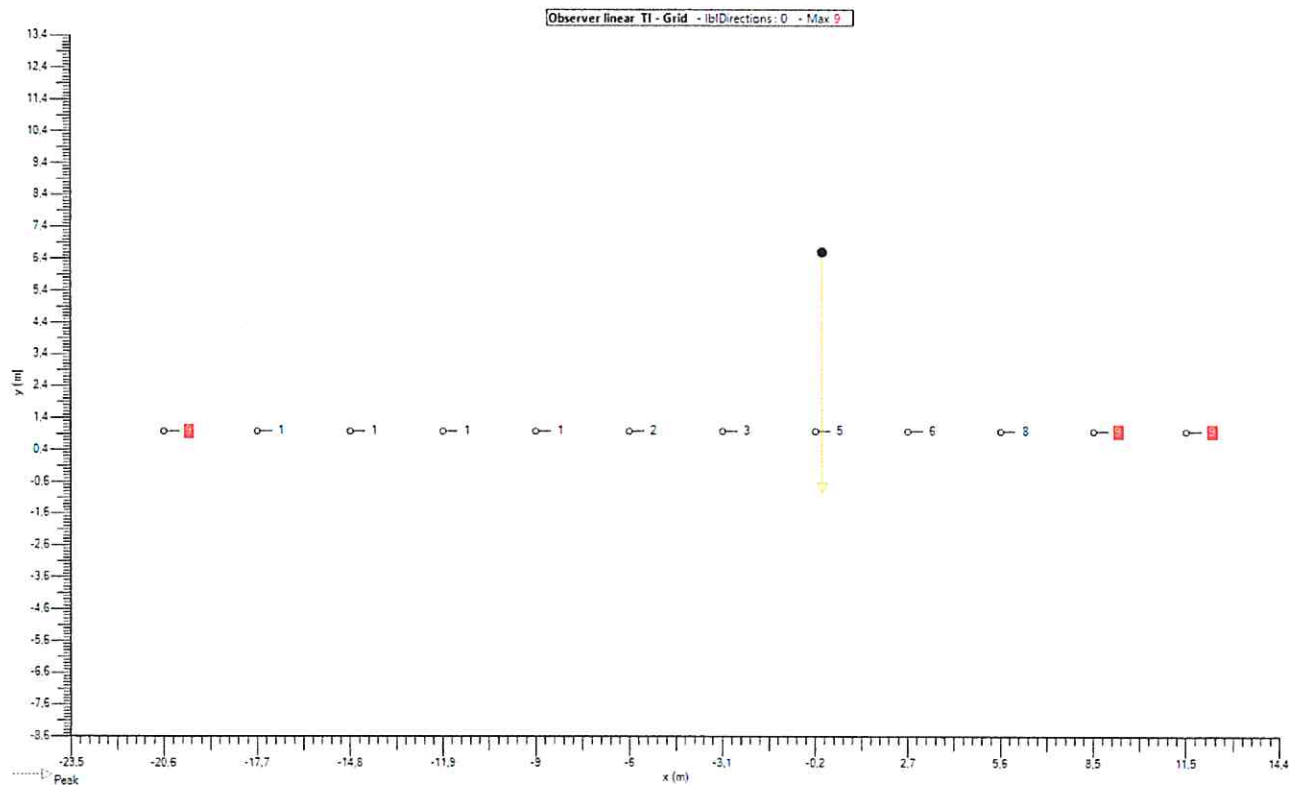


### 4.6. Road (TI 1) - TI - Grid

#### Implantation

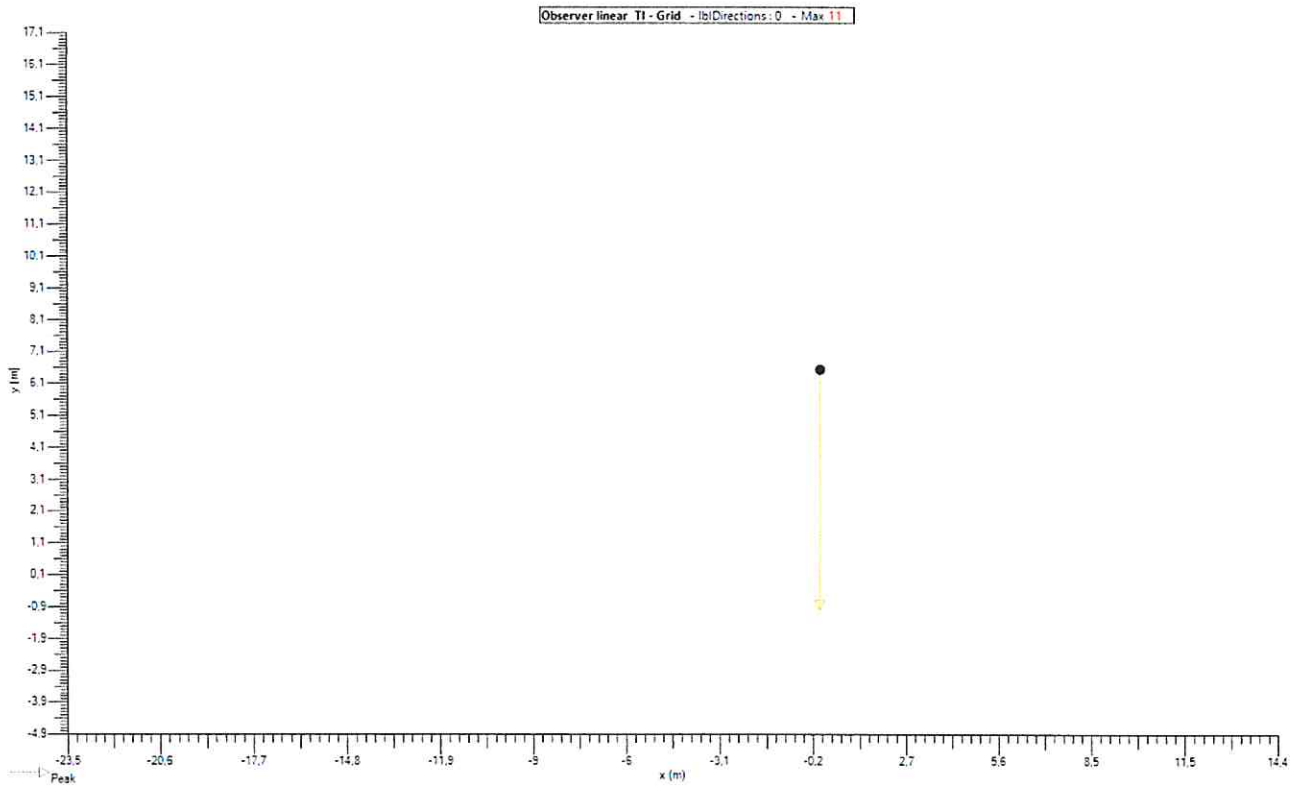


#### Values

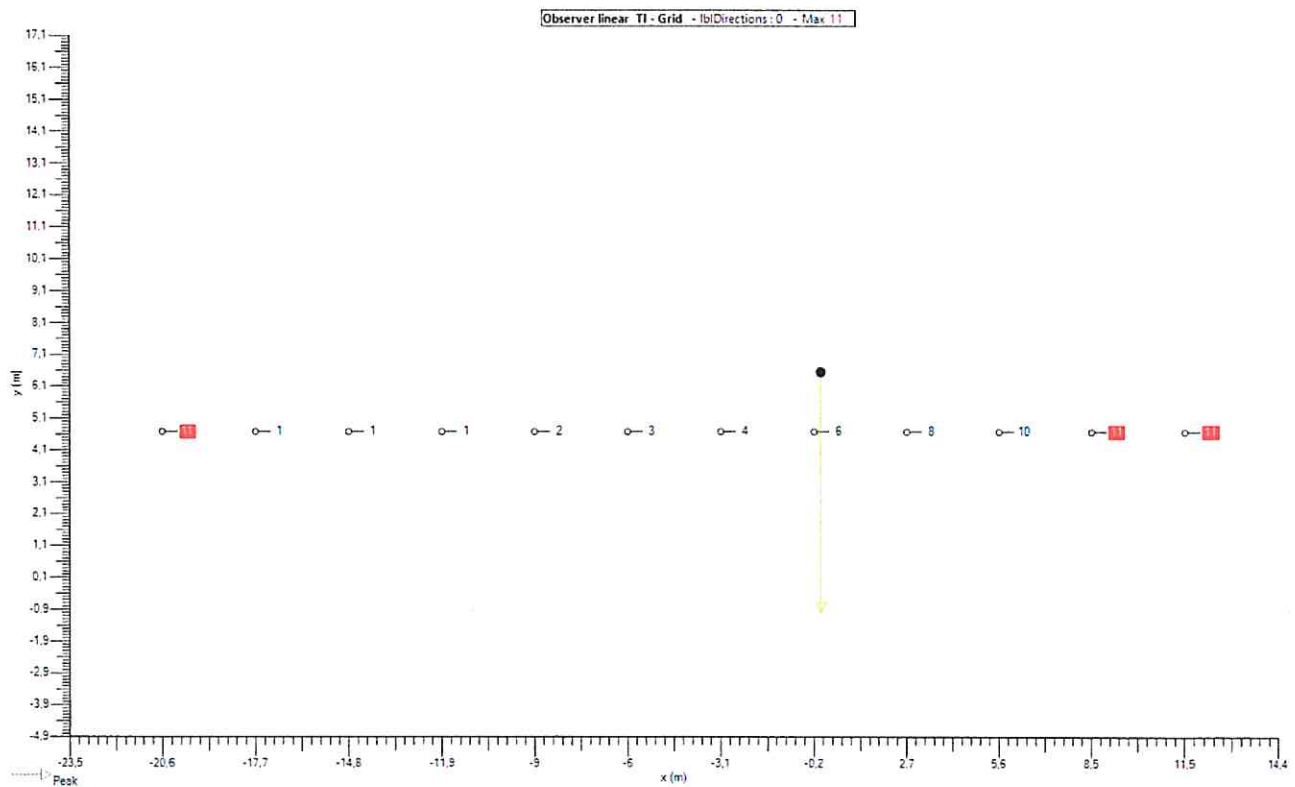


### 4.7. Road (TI 2) - TI - Grid

#### Implantation



#### Values




## 5. Grids

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### 5.1. Road (LU)

#### General

Type Grid rectangular XY  
Enabled   
Colour 

#### Geometry

Origin	X 1,46 m	Y 0,63 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 1,25 m	
	Size X 32,08 m	Size Y 6,25 m	

## 6. Observer

### 6.1. Road (TI 1)

#### General

Type Observer linear

En

Color ■

Directions 0,0

Calculation TI - Grid

Grid Road (LU)

#### Geometry

Origin X -20,63 m Y 1,88 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

### 6.2. Road (TI 2)

#### General

Type Observer linear

En

Color ■

Directions 0,0

Calculation TI - Grid

Grid Road (LU)

#### Geometry

Origin X -20,63 m Y 5,63 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