

Valkas pilseta

Tranzita A3 iela

Project code:

LED gaismekli M4

Date:

16-12-2011

Description:

Ielas apgaismojuma noslogotības kategorija (M4)

Ielas platums 7,5m

Attālums starp balstiem 28.0m

Apgaismes Balsts 6,0m

Balsta konsole H-2m L-1.50m 0 grādi

Balsta attālums no Ceļa braucamas daļas - 1,5m

The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties and electrical supply.

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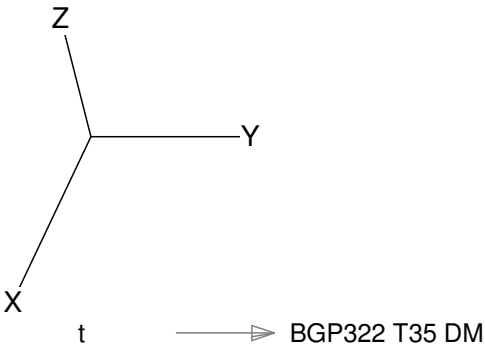
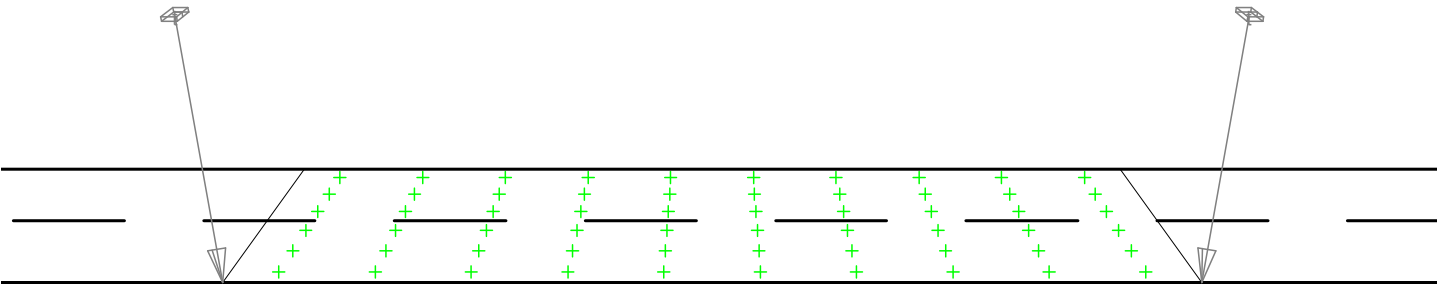
CalcuLuX Road 7.6.1.0

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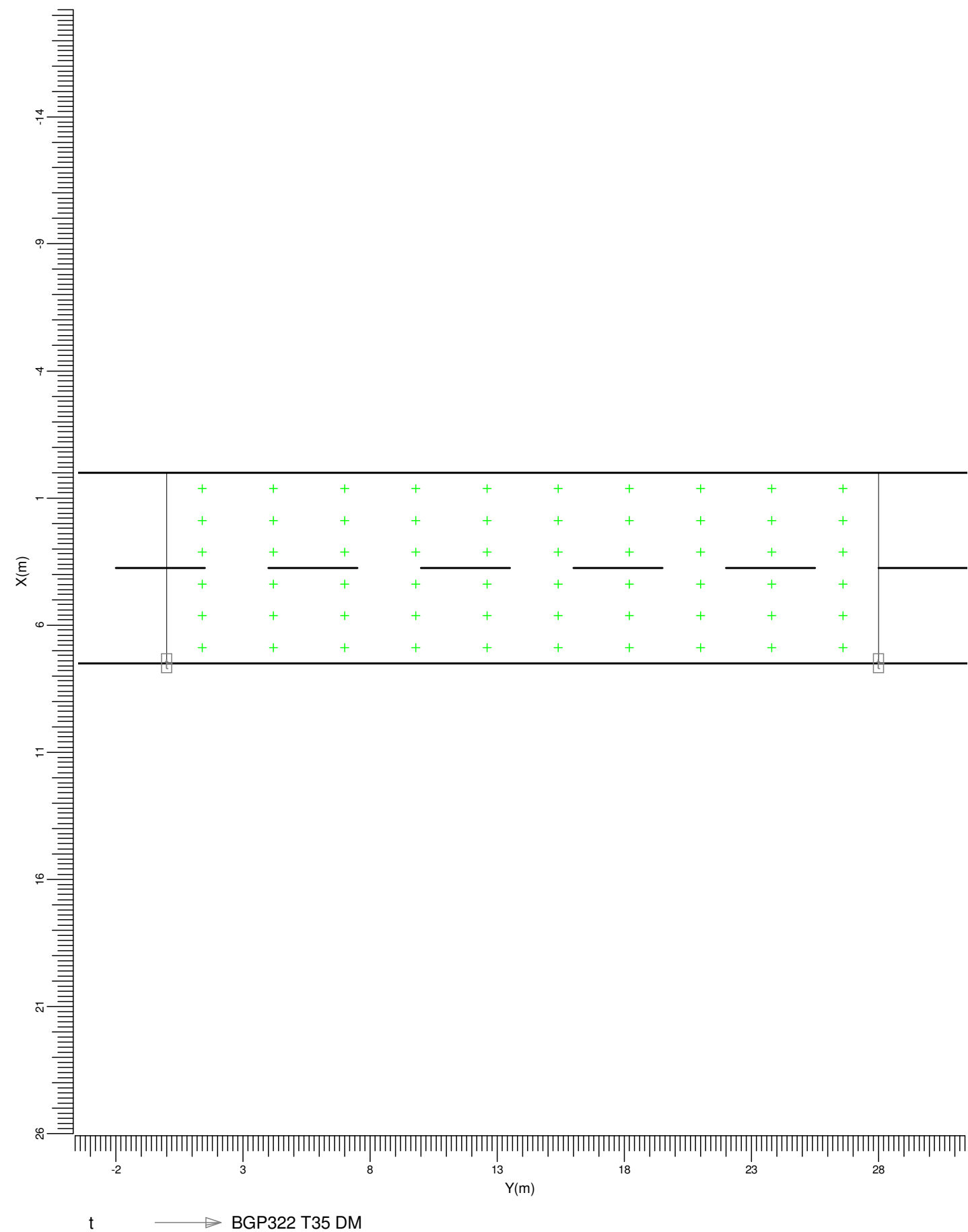
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1. Project Description

1.1 3-D Project Overview

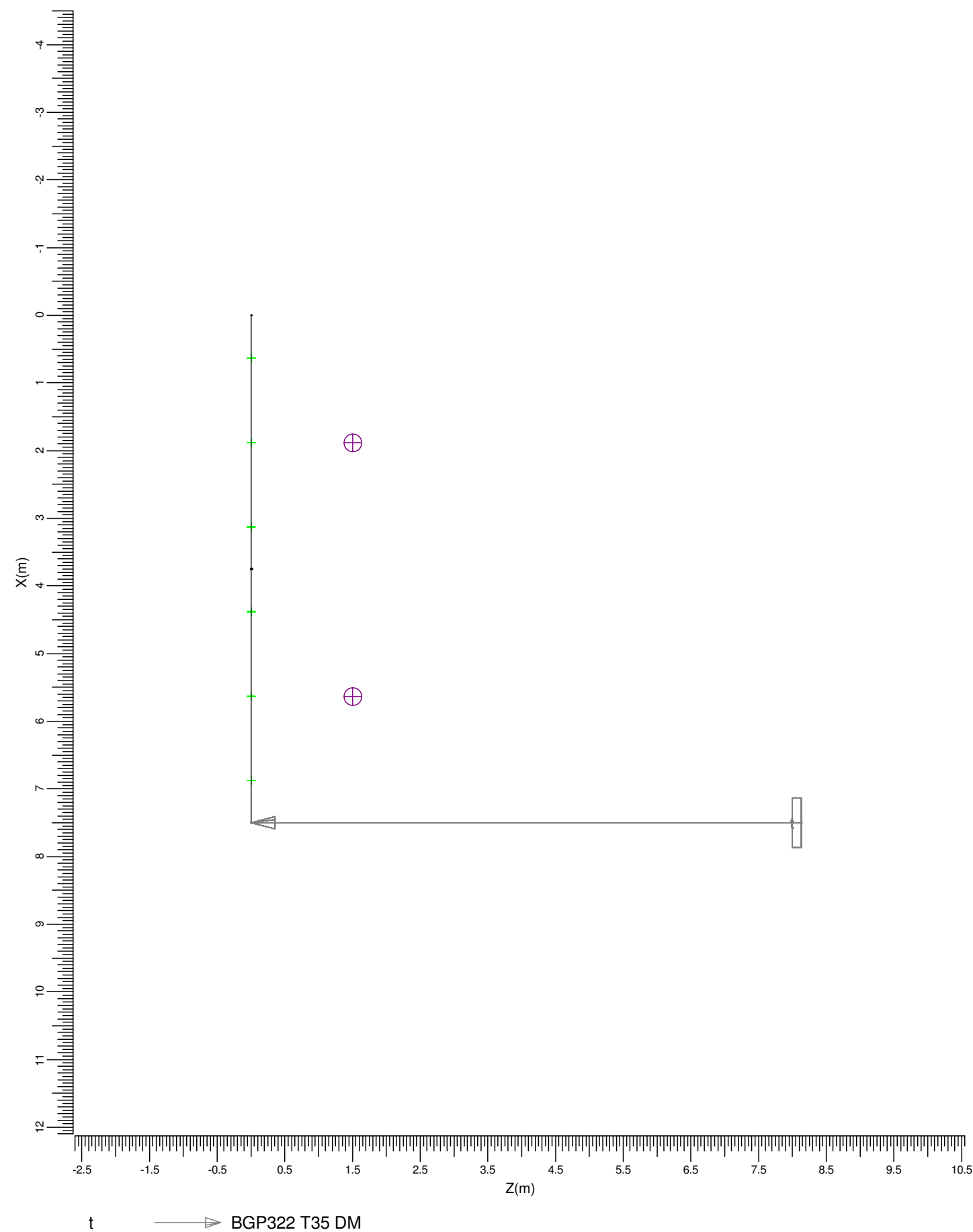


1.2 Top Project Overview



Scale
1:200

1.3 Front Project Overview



Scale
1:75

2. Overview of Schemes

The overall maintenance factor used for this project is 0.80.

Main Field grid is based on the CEN Luminance grid method.

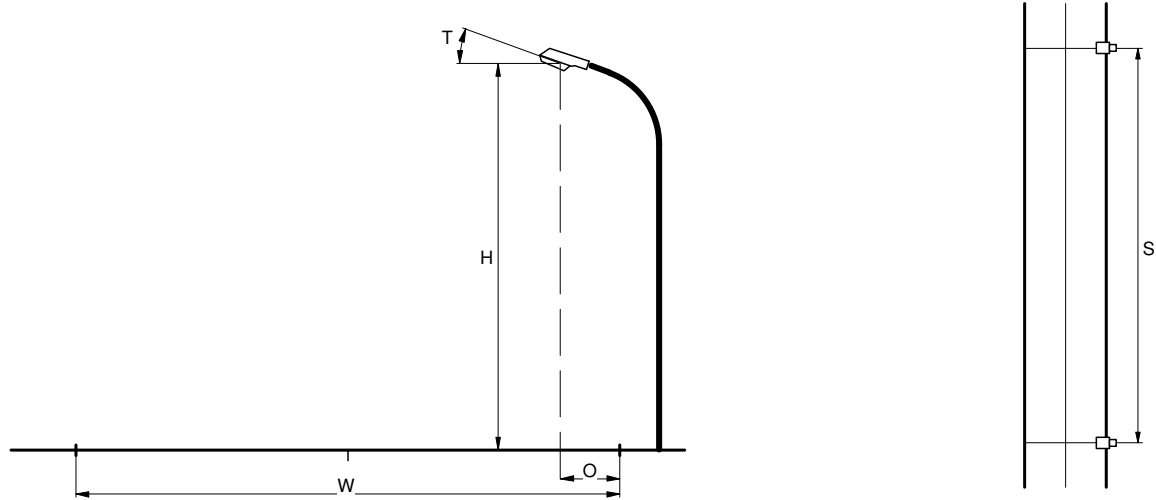
Code	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
t	BGP322 T35 DM	1 * GRN59-2S/740	57.0	1 * 5856

	Unit	Scheme 1
Carriageway		Single Carriageway
Road Width	m	7.50
Number of Lanes		2
Reflection Table		CIE C2
Q0 of Table		0.070
Maintenance Factor		0.80
Luminaire Code	t	
Installation		Single Sided Right
Height	m	8.00
Spacing	m	28.00
Overhang	m	0.00
Tilt90	deg	0.0
L ave	cd/m2	0.77
L min/ave		0.56
TI	%	10.2
Eh ave	lux	11.4

3. Summary

3.1 Main Road

Luminaire Type	:	BGP322 T35 DM
Lamp Type	:	1 * GRN59-2S/740
Lamp Flux	:	5856 lumen
Tilt90 (T)	:	0.0 deg
Grid Method	:	CEN Luminance
Project Maintenance Factor	:	0.80



Carriageway	:	Single Carriageway
Road Width (W)	:	7.50 m
Number of Lanes	:	2
Reflection Table	:	CIE C2
Q0 of Table	:	0.070
Maintenance Factor	:	0.80
Installation	:	Single Sided Right
Height (H)	:	8.00 m
Spacing (S)	:	28.00 m
Overhang (O)	:	0.00 m

Overall quality figures for the above road scheme.

Luminance

Average	=	0.77 cd/m2
Minimum/Average	=	0.56

Horizontal Illuminance

Average	=	11.4 lux
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Glare

TI	=	10.2 %
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4. Calculation Results

4.1 Main L (O1): Textual Table

Grid : Main at Z = -0.00 m TI (1.88,-17.88, 1.50) = 7.3%
 Calculation : Luminance towards CEN Observer (O1) (1.88, -60.00, 1.50) (cd/m2)
 Road Surface : CIE C2 with Q0 = 0.070

Y (m)	1.40	4.20	7.00	9.80	12.60	15.40	18.20	21.00	23.80	26.60
X (m)										
0.63	0.47	0.46	0.46<	0.48	0.50	0.53	0.52	0.50	0.50	0.49
1.88	0.63	0.63	0.61	0.61	0.60	0.64	0.65	0.65	0.66	0.64
3.13	0.81	0.80	0.77	0.75	0.69	0.74	0.74	0.75	0.78	0.81
4.38	1.02	1.00	0.98	0.92	0.87	0.87	0.86	0.88	0.91	0.96
5.63	1.23>	1.22	1.20	1.13	1.07	1.05	1.03	1.04	1.07	1.16
6.88	1.06	1.07	1.05	1.03	1.00	1.00	1.03	1.04	1.06	1.11

Average
0.83

Min/Ave
0.56

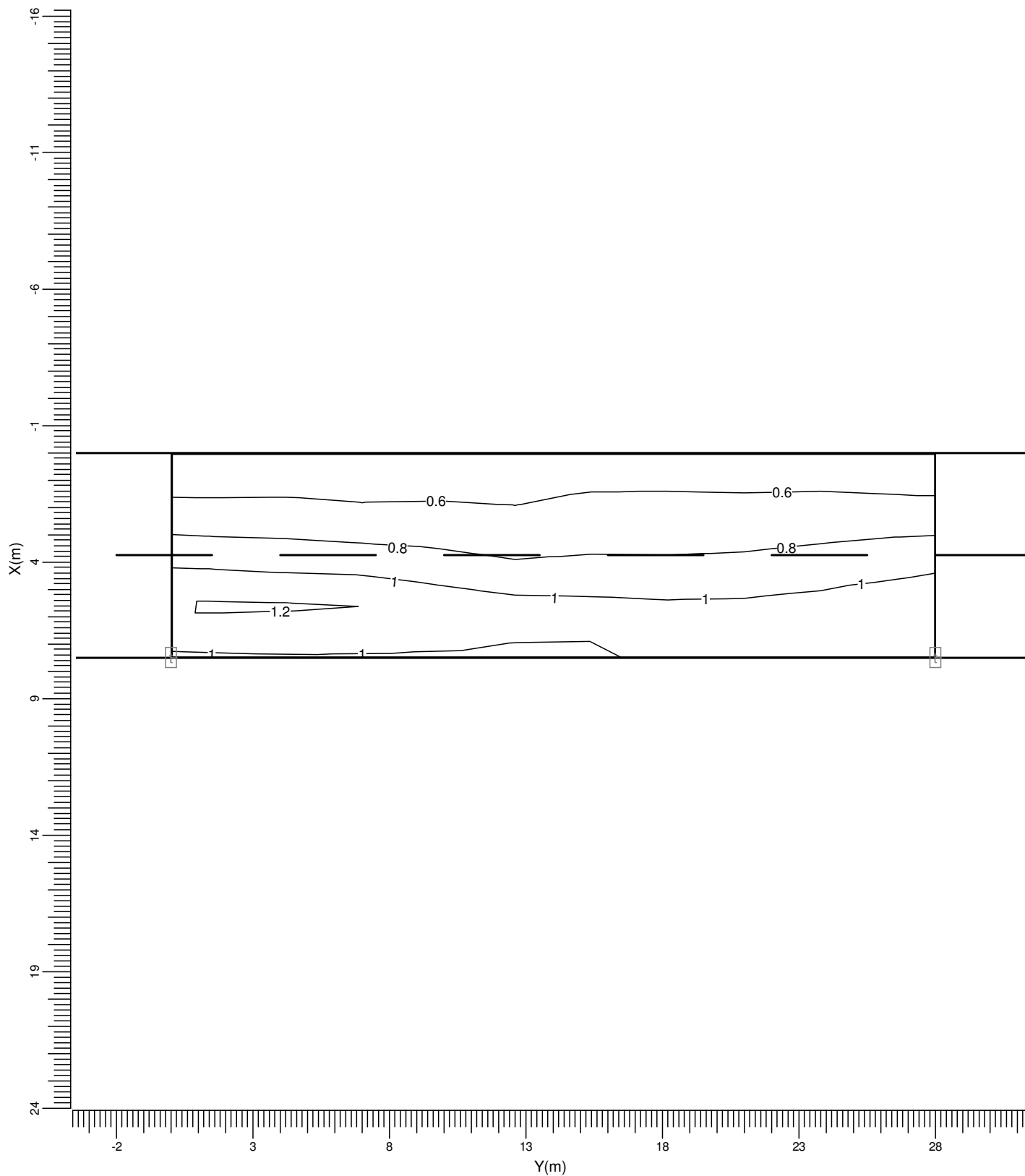
Min/Max
0.37

Project maintenance factor
0.80

4.2 Main L (O1): Iso Contour

Grid : Main at Z = -0.00 m
 Calculation : Luminance towards CEN Observer (O1) (1.88, -60.00, 1.50) (cd/m²)
 Road Surface : CIE C2 with Q0 = 0.070

TI (1.88,-17.88, 1.50) = 7.3%



t —> BGP322 T35 DM

Average
0.83

Min/Ave
0.56

Min/Max
0.37

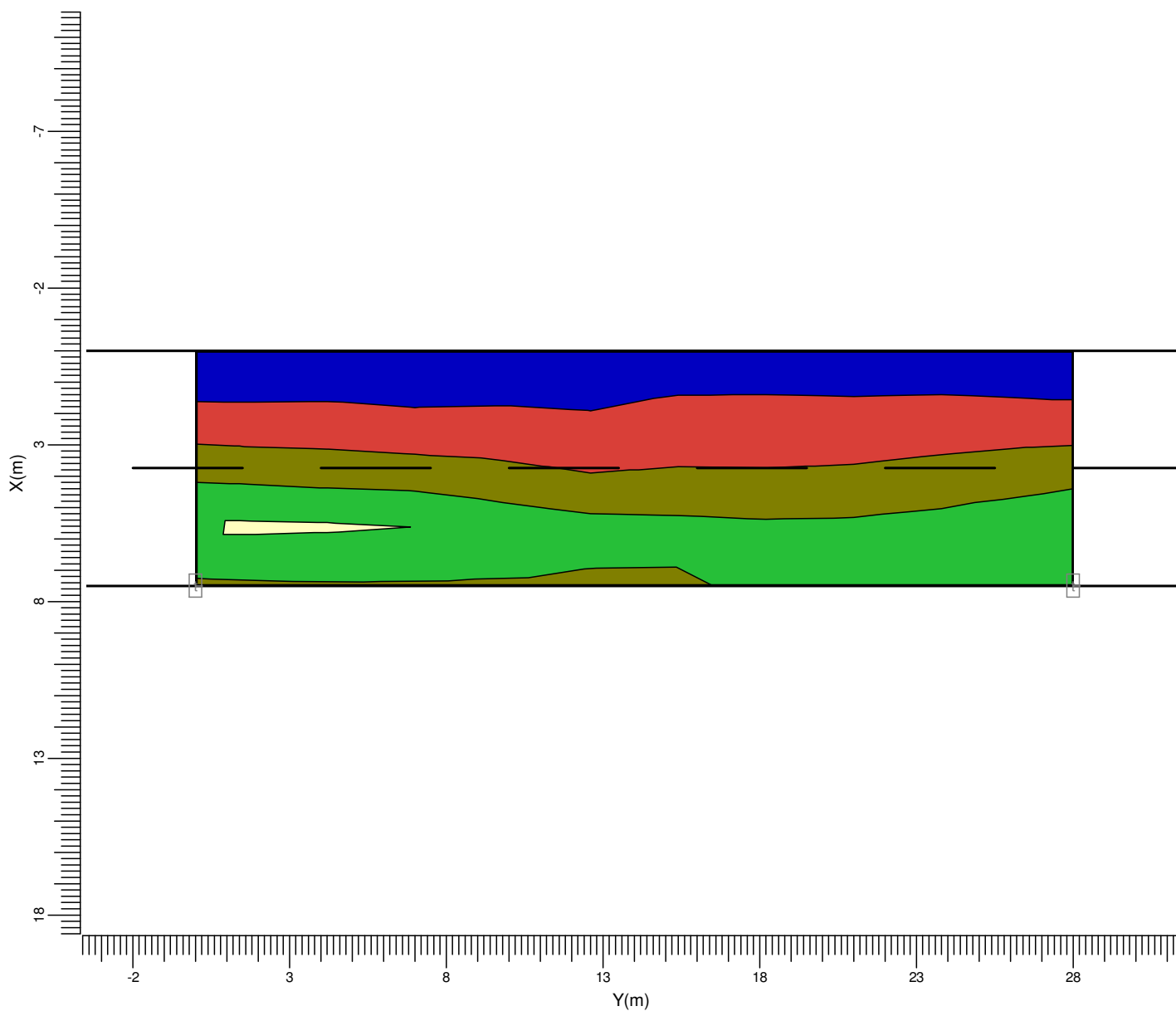
Project maintenance factor
0.80

Scale
1:200

4.3 Main L (O1): Filled Iso Contour

Grid : Main at Z = -0.00 m
Calculation : Luminance towards CEN Observer (O1) (1.88, -60.00, 1.50) (cd/m²)
Road Surface : CIE C2 with Q0 = 0.070

TI (1.88, -17.88, 1.50) = 7.3%



t → BGP322 T35 DM

Average
0.83

Min/Ave
0.56

Min/Max
0.37

Project maintenance factor
0.80

Scale
1:200

4.4 Main L (O2): Textual Table

Grid : Main at Z = -0.00 m TI (5.63,-17.88, 1.50) = 10.2%
 Calculation : Luminance towards CEN Observer (O2) (5.63,
 -60.00, 1.50) (cd/m2)
 Road Surface : CIE C2 with Q0 = 0.070

Y (m)	1.40	4.20	7.00	9.80	12.60	15.40	18.20	21.00	23.80	26.60
X (m)										
0.63	0.45	0.44<	0.44	0.45	0.47	0.49	0.49	0.49	0.48	0.47
1.88	0.58	0.57	0.56	0.55	0.56	0.60	0.62	0.62	0.63	0.61
3.13	0.69	0.68	0.66	0.63	0.62	0.67	0.68	0.70	0.73	0.72
4.38	0.84	0.81	0.78	0.75	0.73	0.76	0.77	0.79	0.83	0.86
5.63	1.05	1.02	0.99	0.96	0.92	0.93	0.96	0.96	0.99	1.04
6.88	1.19>	1.16	1.11	1.05	1.01	1.01	1.03	1.07	1.11	1.16

Average
0.77

Min/Ave
0.57

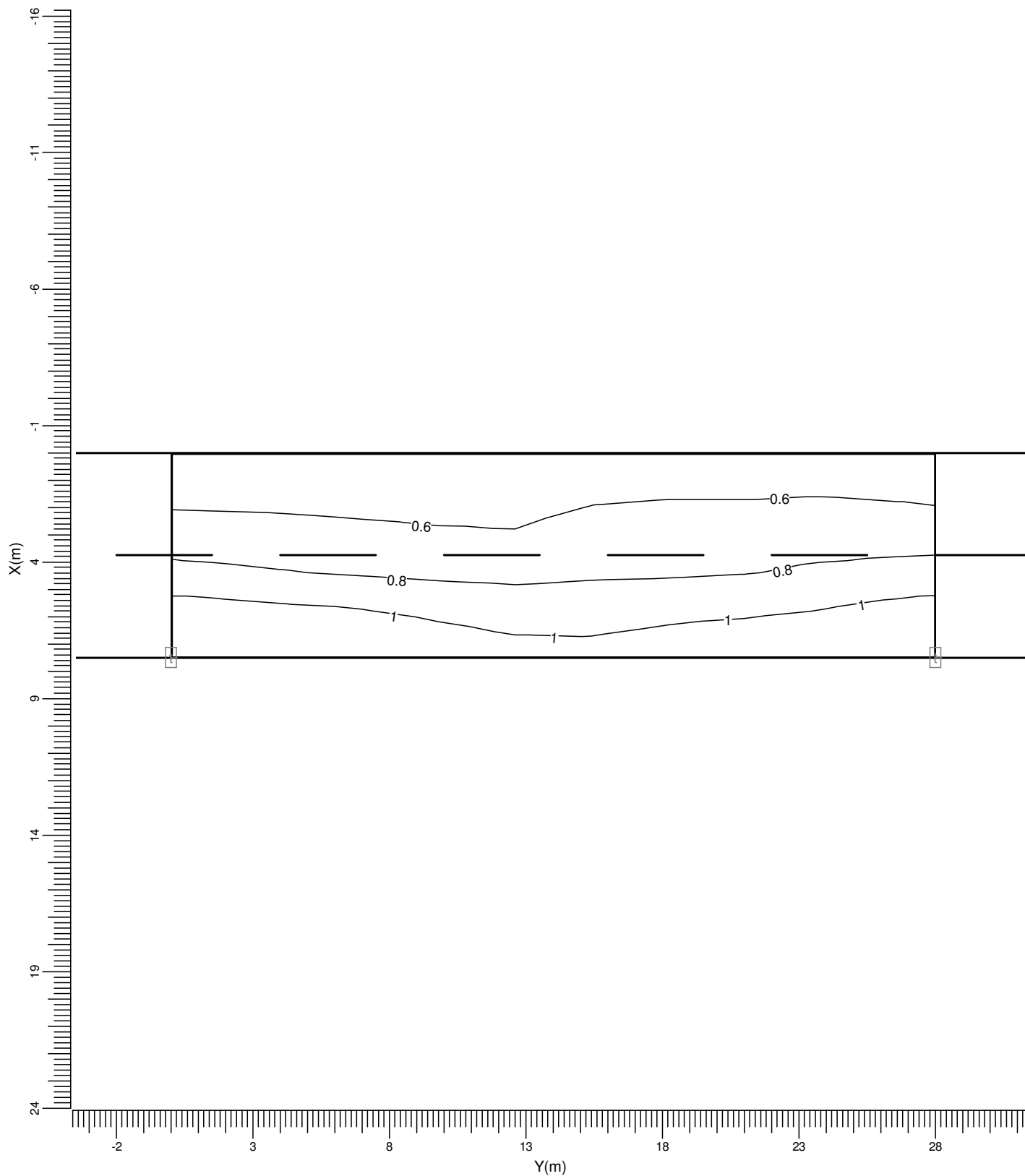
Min/Max
0.37

Project maintenance factor
0.80

4.5 Main L (O2): Iso Contour

Grid : Main at Z = -0.00 m
 Calculation : Luminance towards CEN Observer (O2) (5.63, -60.00, 1.50) (cd/m²)
 Road Surface : CIE C2 with Q0 = 0.070

TI (5.63, -17.88, 1.50) = 10.2%



t —> BGP322 T35 DM

Average
0.77

Min/Ave
0.57

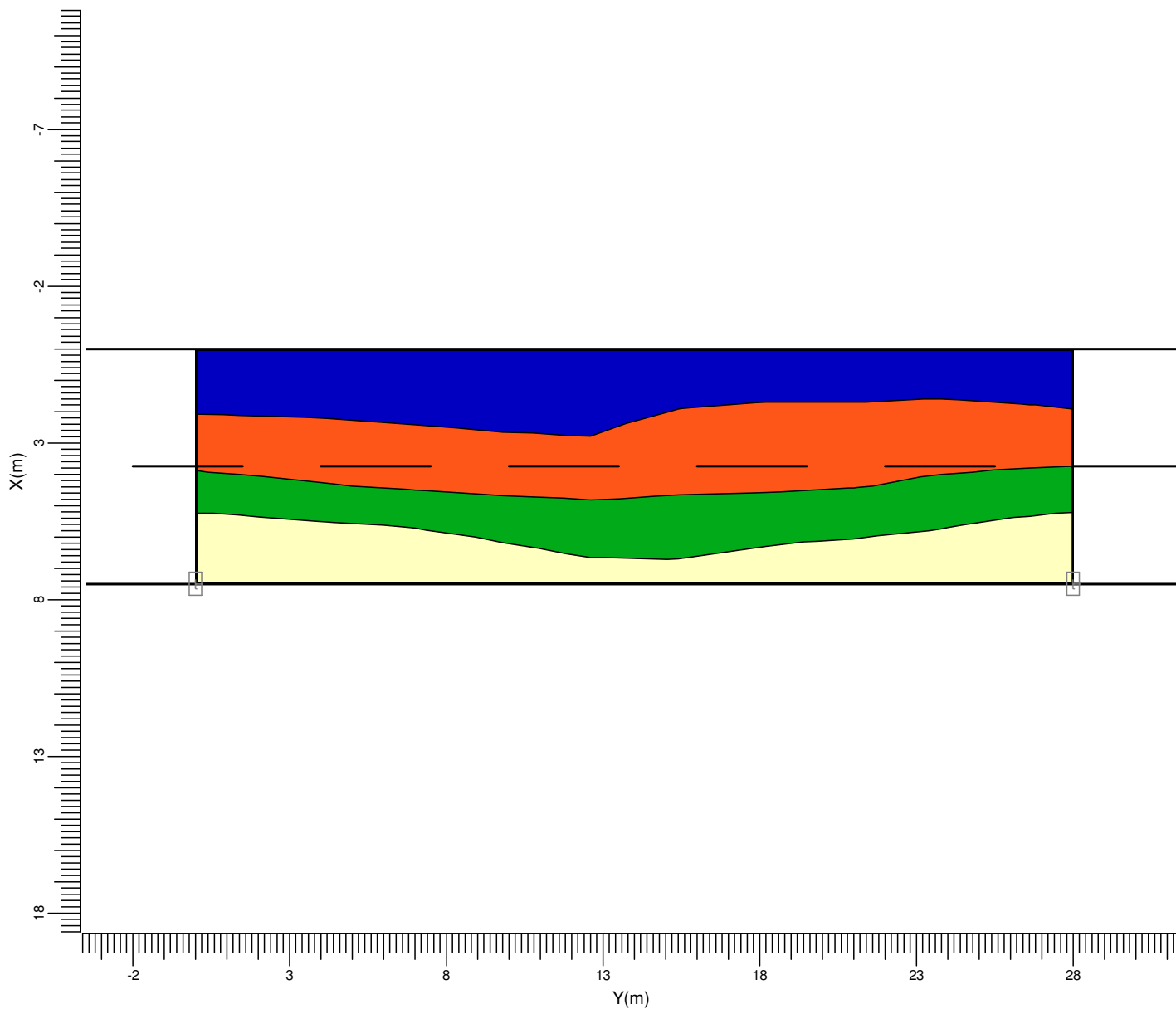
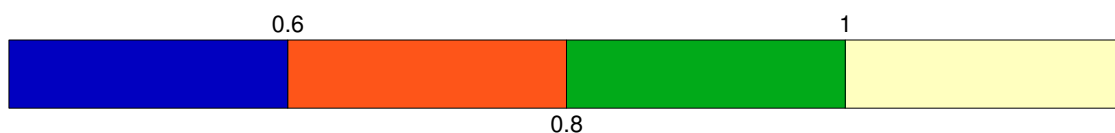
Min/Max
0.37

Project maintenance factor
0.80

Scale
1:200

4.6 Main L (O2): Filled Iso Contour

Grid : Main at Z = -0.00 m TI (5.63,-17.88, 1.50) = 10.2%
 Calculation : Luminance towards CEN Observer (O2) (5.63,
 -60.00, 1.50) (cd/m2)
 Road Surface : CIE C2 with Q0 = 0.070



t ———> BGP322 T35 DM

Average
0.77

Min/Ave
0.57

Min/Max
0.37

Project maintenance factor
0.80

Scale
1:200

4.7 Main Eh: Textual Table

Grid : Main at Z = -0.00 m
Calculation : Horizontal Illuminance (lux)

Y (m)	1.40	4.20	7.00	9.80	12.60	15.40	18.20	21.00	23.80	26.60
X (m)										
0.63	10	10	9	8	8	8	8	9	10	10
1.88	13	12	11	9	9	9	9	11	12	13
3.13	16	14	11	9	8	8	9	11	14	16
4.38	17	14	11	9	8	8	9	11	14	17
5.63	19	15	11	8	7	7	8	11	15	19
6.88	21	16	11	8	6<	6	8	11	16	21>

Average
11.4

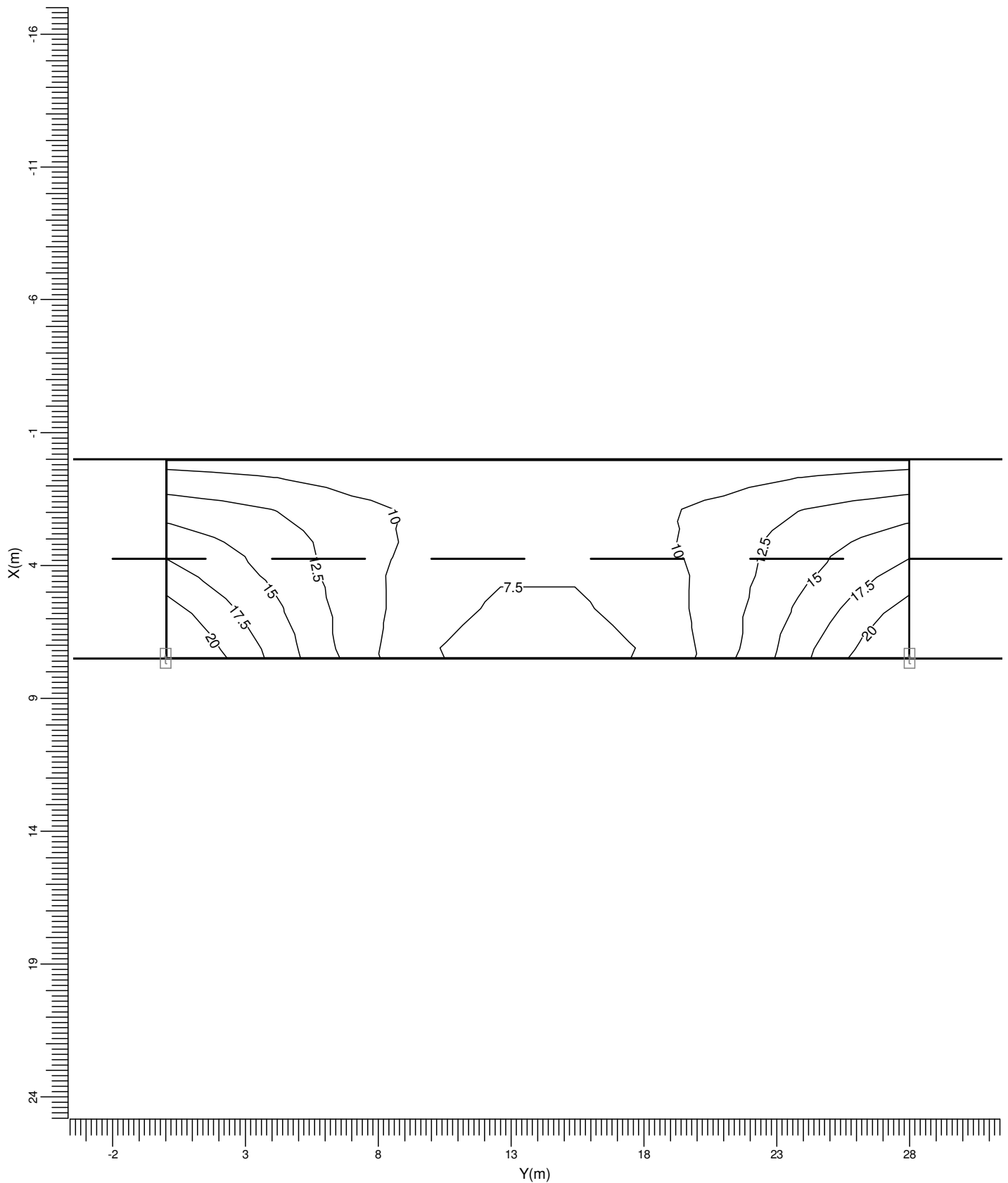
Min/Ave
0.56

Min/Max
0.31

Project maintenance factor
0.80

4.8 Main Eh: Iso Contour

Grid : Main at Z = -0.00 m
Calculation : Horizontal Illuminance (lux)



Average
11.4

Min/Ave
0.56

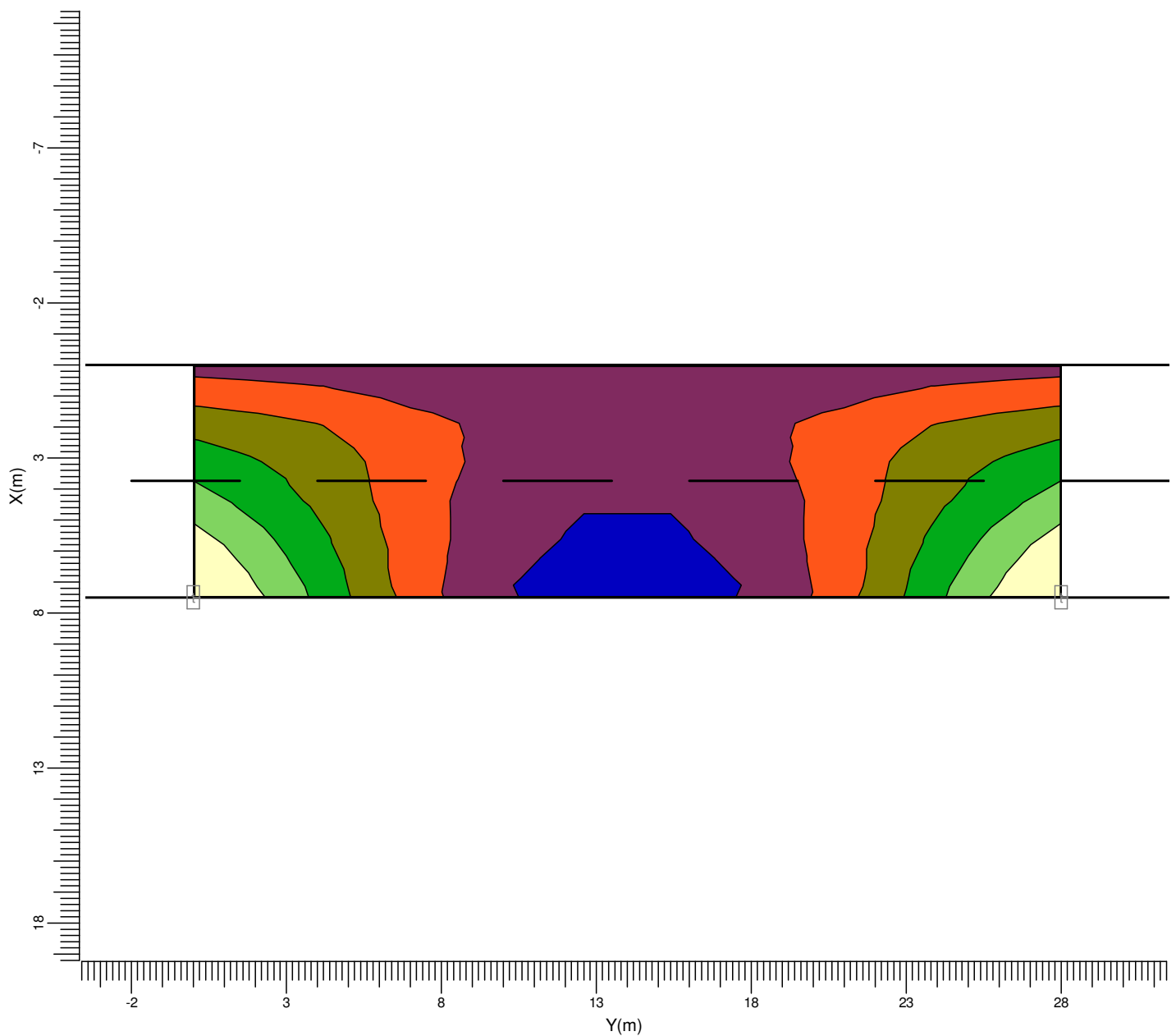
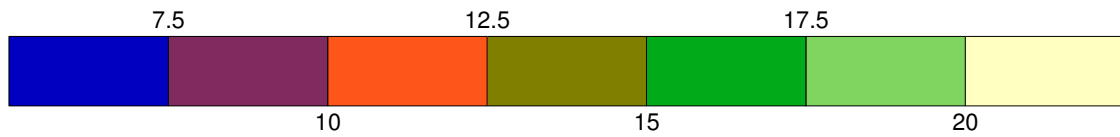
Min/Max
0.31

Project maintenance factor
0.80

Scale
1:200

4.9 Main Eh: Filled Iso Contour

Grid : Main at Z = -0.00 m
Calculation : Horizontal Illuminance (lux)



t —> BGP322 T35 DM

Average
11.4

Min/Ave
0.56

Min/Max
0.31

Project maintenance factor
0.80

Scale
1:200