

ΦΩΤΟΤΕΧΝΙΚΟΙ ΥΠΟΛΟΓΙΣΜΟΙ

Μελέτη φωτισμού κόμβου ΔΕΥΑ ΝΕΣΤΟΥ

Date: 16-05-2011

Designer: Παπαδόπουλος Κίμων

Description: Φωτοτεχνικοί υπολογισμοί κεντρικού τμήματος του κόμβου καθώς και τμημάτων του ποδηλατοδρόμου που διέρχονται παράλληλα ή κάθετα των οδών που συμβάλλουν στη διασταύρωση.

The nominal values shown in this report are the results of precision calculation, based upon precisely positioned 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.

ΔΗΜΟΣ ΝΕΣΤΟΥ

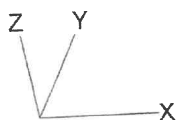
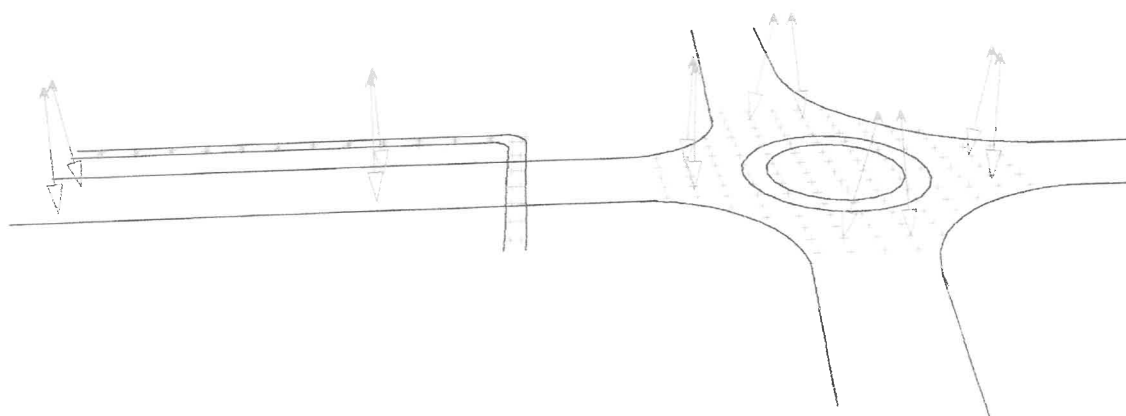
CalcuLux Area 6.2.1

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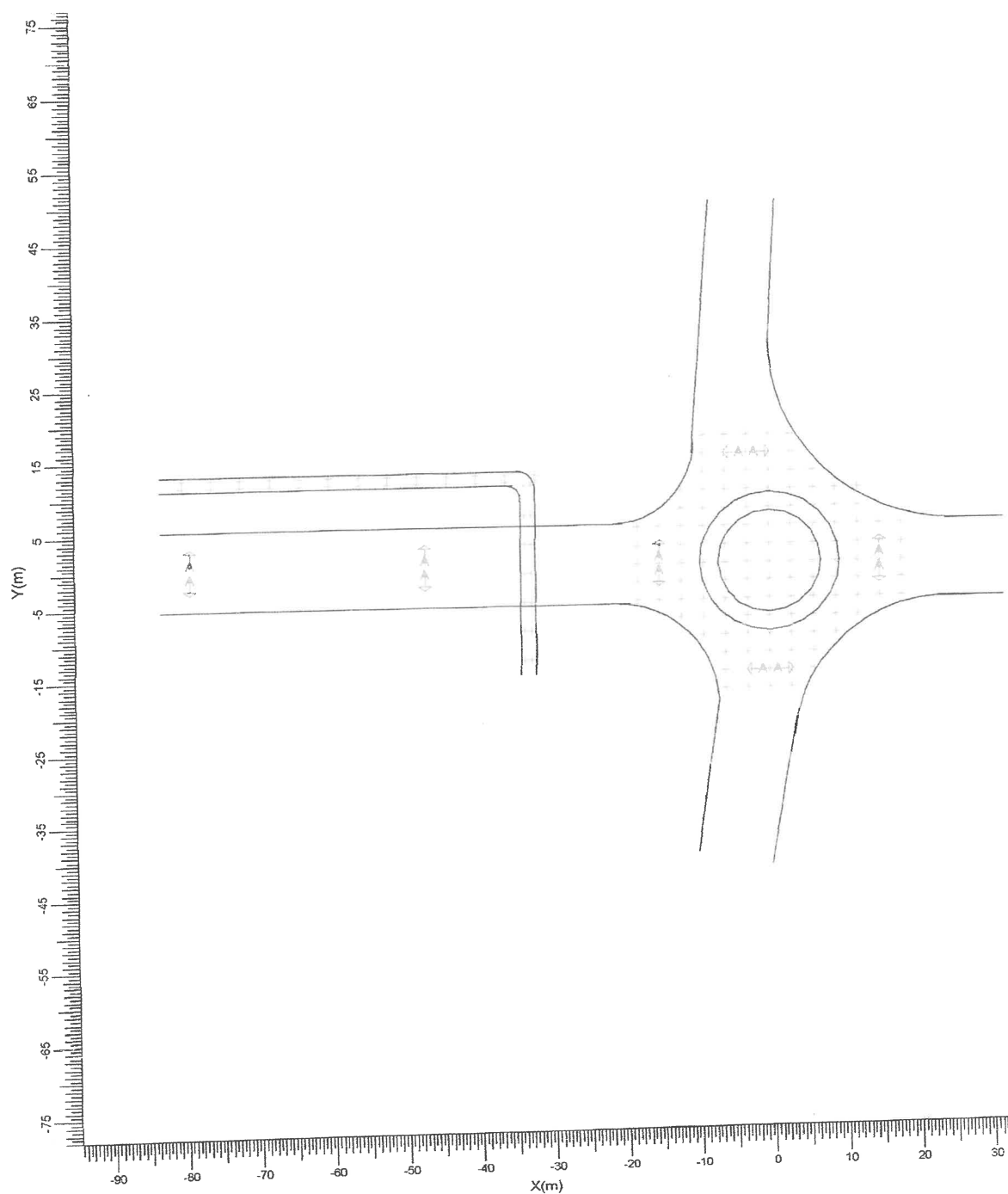
1. Project Description

1.1 3-D Project Overview



A ———> SRP832/400T BOWL

1.2 Top Project Overview



A → SRP832/400T BOWL

Scale
1:750

2. Summary

2.1 General Information

The overall maintenance factor used for this project is 0.60.

2.2 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	12	SRP832/400T BOWL	1 * SONT 400W	431.0	1 * 48000

The total installed power: 5.17 (kWatt)

2.3 Calculation Results

(II) Luminance Calculations:

Calculation	Type	Unit	Ave	Min	Max	Min/Ave	Min/Max
Κεντρικό Τμήμα	Horizontal Illuminance	lux	78.2	56.0	99.0	0.72	0.57
Ποδηλατόδρομος	Horizontal Illuminance	lux	31.7	25.7	37.9	0.81	0.68
Παράλληλος Ποδηλατόδρομος κάθετος	Horizontal Illuminance	lux	35.3	26.8	56.0	0.76	0.48

3. Calculation Results**3.1 Κεντρικό Τμήμα: Textual Table**

Grid : Κεντρικό τμήμα
Calculation : Horizontal Illuminance (lux)

UI-3	UI-4	UI-5	UI-6	UI-3	UI-4	UI-5	UI-6
-6.00	-15.00	0.00	74	6.00	-5.00	0.00	89
-3.00	-15.00	0.00	76	9.00	-5.00	0.00	90
0.00	-15.00	0.00	74	12.00	-5.00	0.00	81
3.00	-15.00	0.00	77	15.00	-5.00	0.00	73
6.00	-15.00	0.00	74	18.00	-5.00	0.00	62
-6.00	-12.50	0.00	82	-18.00	-2.50	0.00	72
-3.00	-12.50	0.00	84	-15.00	-2.50	0.00	82
0.00	-12.50	0.00	80	-12.00	-2.50	0.00	89
3.00	-12.50	0.00	85	-9.00	-2.50	0.00	87
6.00	-12.50	0.00	81	-6.00	-2.50	0.00	78
-9.00	-10.00	0.00	89	-3.00	-2.50	0.00	64
-6.00	-10.00	0.00	89	0.00	-2.50	0.00	61
-3.00	-10.00	0.00	86	3.00	-2.50	0.00	68
0.00	-10.00	0.00	80	6.00	-2.50	0.00	79
3.00	-10.00	0.00	88	9.00	-2.50	0.00	81
6.00	-10.00	0.00	89	12.00	-2.50	0.00	80
9.00	-10.00	0.00	86	15.00	-2.50	0.00	72
-12.00	-7.50	0.00	86	18.00	-2.50	0.00	62
-9.00	-7.50	0.00	94	-18.00	0.00	0.00	70
-6.00	-7.50	0.00	92	-15.00	0.00	0.00	80
-3.00	-7.50	0.00	84	-12.00	0.00	0.00	86
0.00	-7.50	0.00	79	-9.00	0.00	0.00	81
3.00	-7.50	0.00	86	-6.00	0.00	0.00	72
6.00	-7.50	0.00	93	-3.00	0.00	0.00	58
9.00	-7.50	0.00	90	0.00	0.00	0.00	56<
12.00	-7.50	0.00	80	3.00	0.00	0.00	63
-18.00	-5.00	0.00	71	6.00	0.00	0.00	72
-15.00	-5.00	0.00	82	9.00	0.00	0.00	74
-12.00	-5.00	0.00	89	12.00	0.00	0.00	76
-9.00	-5.00	0.00	94	15.00	0.00	0.00	69
-6.00	-5.00	0.00	88	18.00	0.00	0.00	60
-3.00	-5.00	0.00	77	-18.00	2.50	0.00	73
0.00	-5.00	0.00	73	-15.00	2.50	0.00	84
3.00	-5.00	0.00	81	-12.00	2.50	0.00	91

Continue >

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor
78.2	56.0	99.0	0.72	0.57	0.60

< Continue

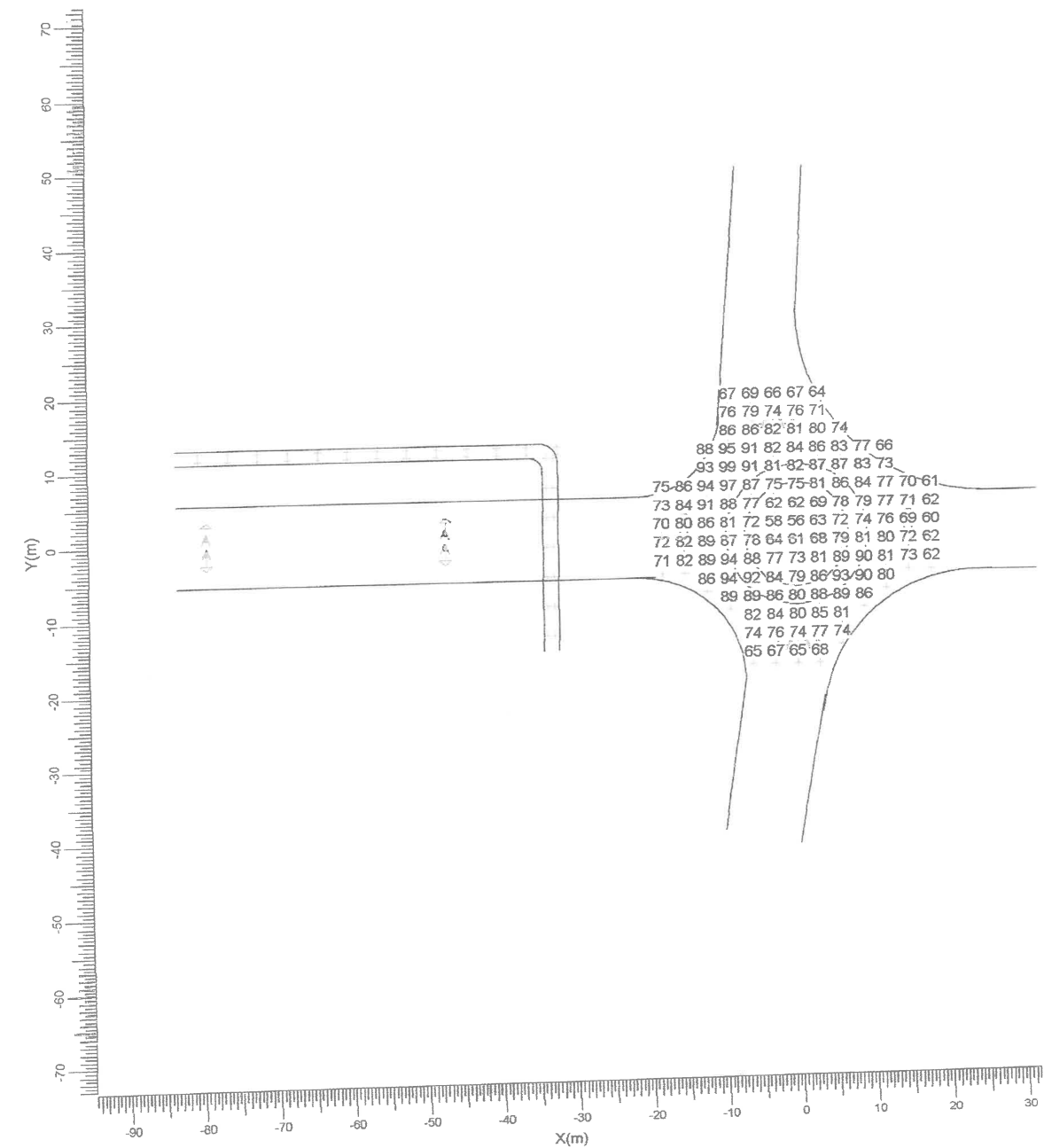
Grid
Calculation: Κεντρικό τμήμα
: Horizontal Illuminance (lux)

UI-3	UI-4	UI-5	UI-6	UI-3	UI-4	UI-5	UI-6
-9.00	2.50	0.00	88	3.00	10.00	0.00	86
-6.00	2.50	0.00	77	6.00	10.00	0.00	83
-3.00	2.50	0.00	62	9.00	10.00	0.00	77
0.00	2.50	0.00	62	12.00	10.00	0.00	66
3.00	2.50	0.00	69	-9.00	12.50	0.00	86
6.00	2.50	0.00	78	-6.00	12.50	0.00	86
9.00	2.50	0.00	79	-3.00	12.50	0.00	82
12.00	2.50	0.00	77	0.00	12.50	0.00	81
15.00	2.50	0.00	71	3.00	12.50	0.00	80
18.00	2.50	0.00	62	6.00	12.50	0.00	74
-18.00	5.00	0.00	75	-9.00	15.00	0.00	76
-15.00	5.00	0.00	86	-6.00	15.00	0.00	79
-12.00	5.00	0.00	94	-3.00	15.00	0.00	74
-9.00	5.00	0.00	97	0.00	15.00	0.00	76
-6.00	5.00	0.00	87	3.00	15.00	0.00	71
-3.00	5.00	0.00	75	0.00	-17.50	0.00	65
0.00	5.00	0.00	75	-3.00	-17.50	0.00	67
3.00	5.00	0.00	81	-6.00	-17.50	0.00	65
6.00	5.00	0.00	86	3.00	-17.50	0.00	68
9.00	5.00	0.00	84	0.00	17.50	0.00	67
12.00	5.00	0.00	77	-3.00	17.50	0.00	66
15.00	5.00	0.00	70	-6.00	17.50	0.00	69
18.00	5.00	0.00	61	-9.00	17.50	0.00	67
-12.00	7.50	0.00	93	3.00	17.50	0.00	64
-9.00	7.50	0.00	99>	0.00	0.00	0.00	56<
-6.00	7.50	0.00	91	0.00	0.00	0.00	56<
-3.00	7.50	0.00	81				
0.00	7.50	0.00	82				
3.00	7.50	0.00	87				
6.00	7.50	0.00	87				
9.00	7.50	0.00	83				
12.00	7.50	0.00	73				
-12.00	10.00	0.00	88				
-9.00	10.00	0.00	95				
-6.00	10.00	0.00	91				
-3.00	10.00	0.00	82				
0.00	10.00	0.00	84				

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor
78.2	56.0	99.0	0.72	0.57	0.60

3.2 Κεντρικό Τμήμα: Graphical Table

Grid : Κεντρικό τμήμα
Calculation : Horizontal Illuminance (lux)



3.3 Ποδηλατόδρομος Παράλληλος: Textual Table

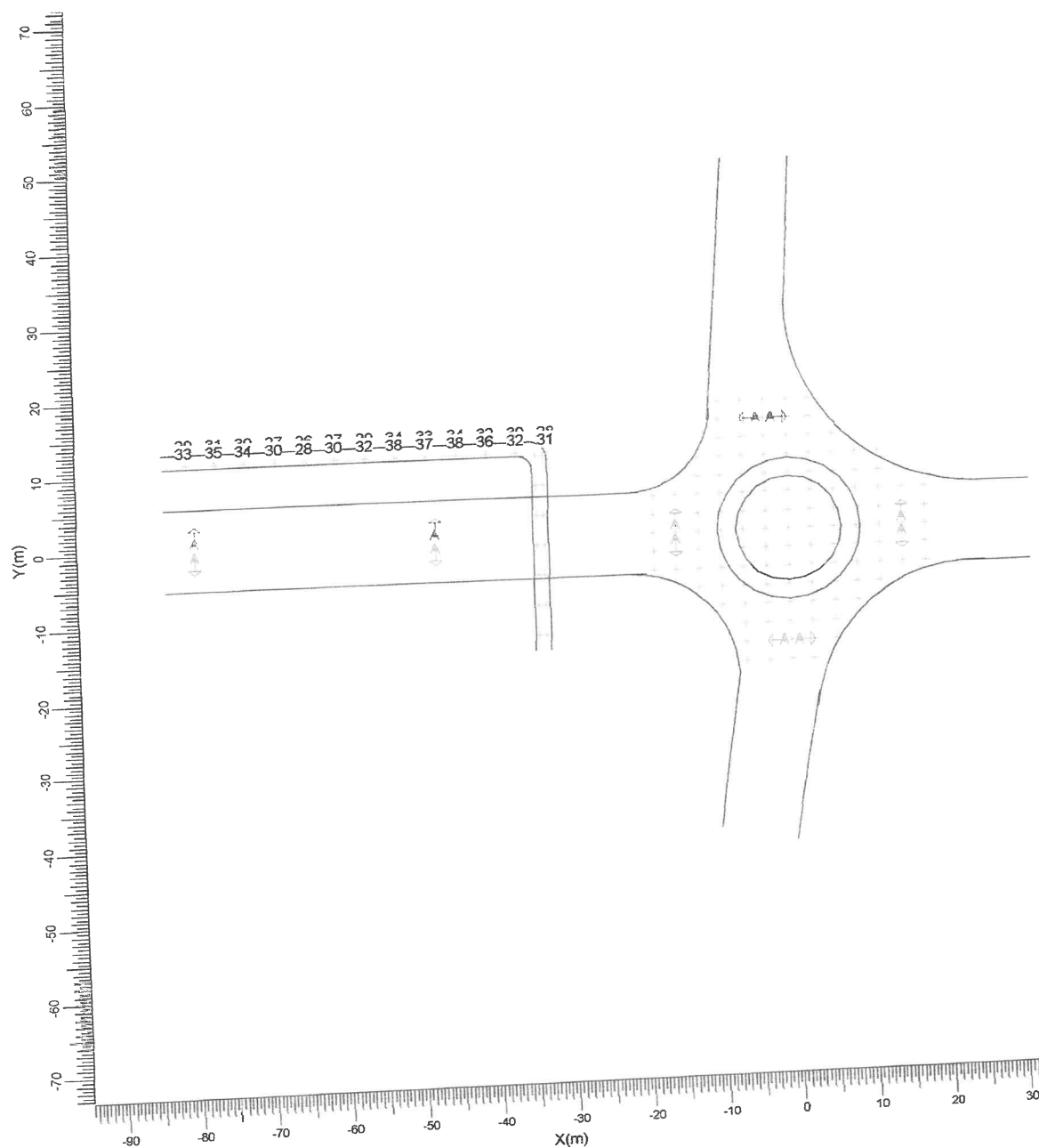
Grid : Ποδηλατόδρομος παράλληλο
Calculation : Horizontal Illuminance (lux)

UI-3	UI-4	UI-5	UI-6	UI-3	UI-4	UI-5	UI-6
-80.00	12.50	0.00	29				
-76.00	12.50	0.00	31				
-72.00	12.50	0.00	30				
-68.00	12.50	0.00	27				
-64.00	12.50	0.00	26<				
-60.00	12.50	0.00	27				
-56.00	12.50	0.00	29				
-52.00	12.50	0.00	34				
-48.00	12.50	0.00	33				
-44.00	12.50	0.00	34				
-40.00	12.50	0.00	32				
-36.00	12.50	0.00	30				
-32.00	12.50	0.00	28				
-80.00	11.50	0.00	33				
-76.00	11.50	0.00	35				
-72.00	11.50	0.00	34				
-68.00	11.50	0.00	30				
-64.00	11.50	0.00	28				
-60.00	11.50	0.00	30				
-56.00	11.50	0.00	32				
-52.00	11.50	0.00	38				
-48.00	11.50	0.00	37				
-44.00	11.50	0.00	38>				
-40.00	11.50	0.00	36				
-36.00	11.50	0.00	32				
-32.00	11.50	0.00	31				

Average 31.7	Minimum 25.7	Maximum 37.9	Min/Ave 0.81	Min/Max 0.68	Project maintenance factor 0.60
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3.4 Ποδηλατόδρομος Παράλληλος: Graphical Table

Grid : Ποδηλατόδρομος παράλληλο
Calculation : Horizontal Illuminance (lux)



A					SRP832/400T BOWL		
Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale	
31.7	25.7	37.9	0.81	0.68	0.60	1:750	

3.5 Ποδηλατόδρομος κάθετος: Textual Table

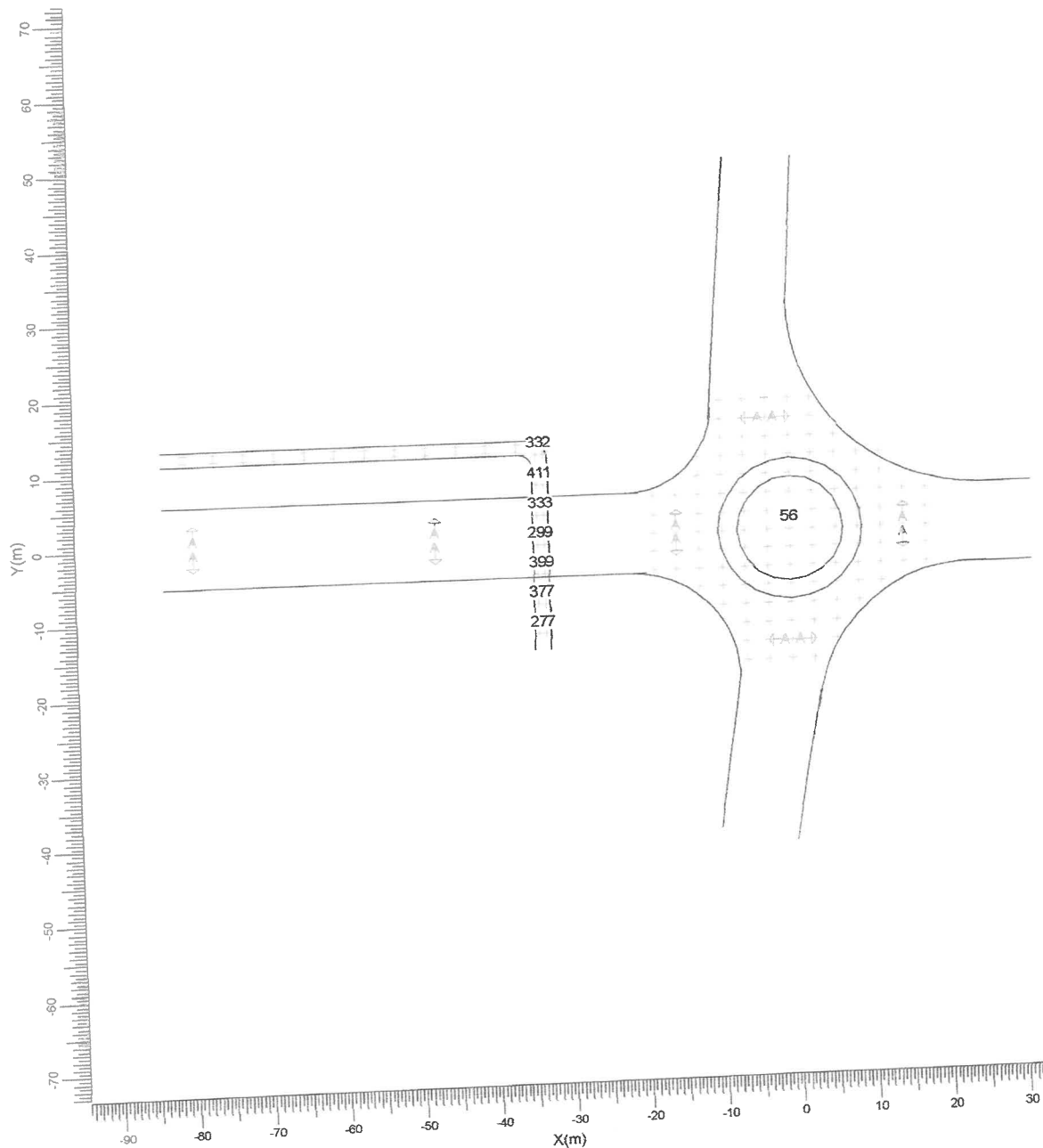
Grid : Ποδηλατόδρομος κάθετος
Calculation : Horizontal Illuminance (lux)

UI-3	UI-4	UI-5	UI-6	UI-3	UI-4	UI-5	UI-6
-32.50	11.00	0.00	32				
-32.50	7.00	0.00	41				
-32.50	3.00	0.00	33				
-32.50	-1.00	0.00	29				
-32.50	-5.00	0.00	39				
-32.50	-9.00	0.00	37				
-32.50	-13.00	0.00	27<				
-33.50	11.00	0.00	33				
-33.50	7.00	0.00	41				
-33.50	3.00	0.00	33				
-33.50	-1.00	0.00	29				
-33.50	-5.00	0.00	39				
-33.50	-9.00	0.00	37				
-33.50	-13.00	0.00	27				
0.00	0.00	0.00	56>				

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor
35.3	26.8	56.0	0.76	0.48	0.60

3.6 Ποδηλατόδρομος κάθετος: Graphical Table

Grid : Ποδηλατόδρομος κάθετος
Calculation : Horizontal Illuminance (lux)



A	SRP832/400T BOWL					
Average 35.3	Minimum 26.8	Maximum 56.0	Min/Ave 0.76	Min/Max 0.48	Project maintenance factor 0.60	Scale 1:750

4. Luminaire Details

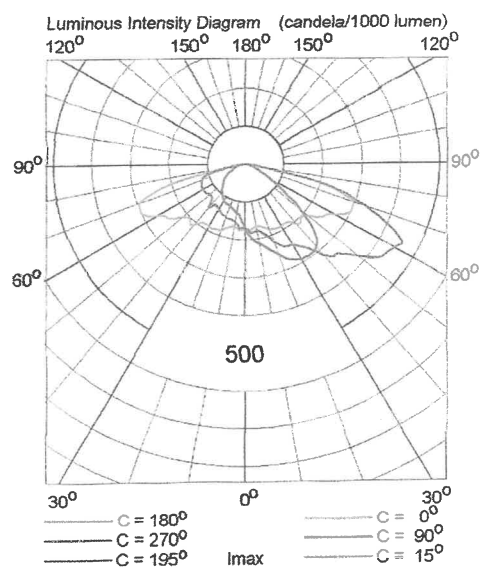
4.1 Project Luminaires

SRP832/400T BOWL 1xSONT 400W

Light output ratios

DLOR	: 0.85
ULOR	: 0.00
TLOR	: 0.85
Lamp flux	: 48000 lm
Luminaire wattage	: 431.0 W
Measurement code	: MIR6435000

Note: Luminaire data not from database.



Μελέτη φωτισμού κόμβου ΔΕΥΑ ΝΕΣΤΟΥ

Date: 16-05-2011

Designer: Παπαδόπουλος Κίμων

Description: Φωτοτεχνικοί υπολογισμοί προσβάσεων κύριας οδού
στο κόμβο ΔΕΥΑ Νέστου.

The nominal values shown in this report are the results of precision calculation, based upon precisely positioned 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.

ΔΗΜΟΣ ΝΕΣΤΟΥ

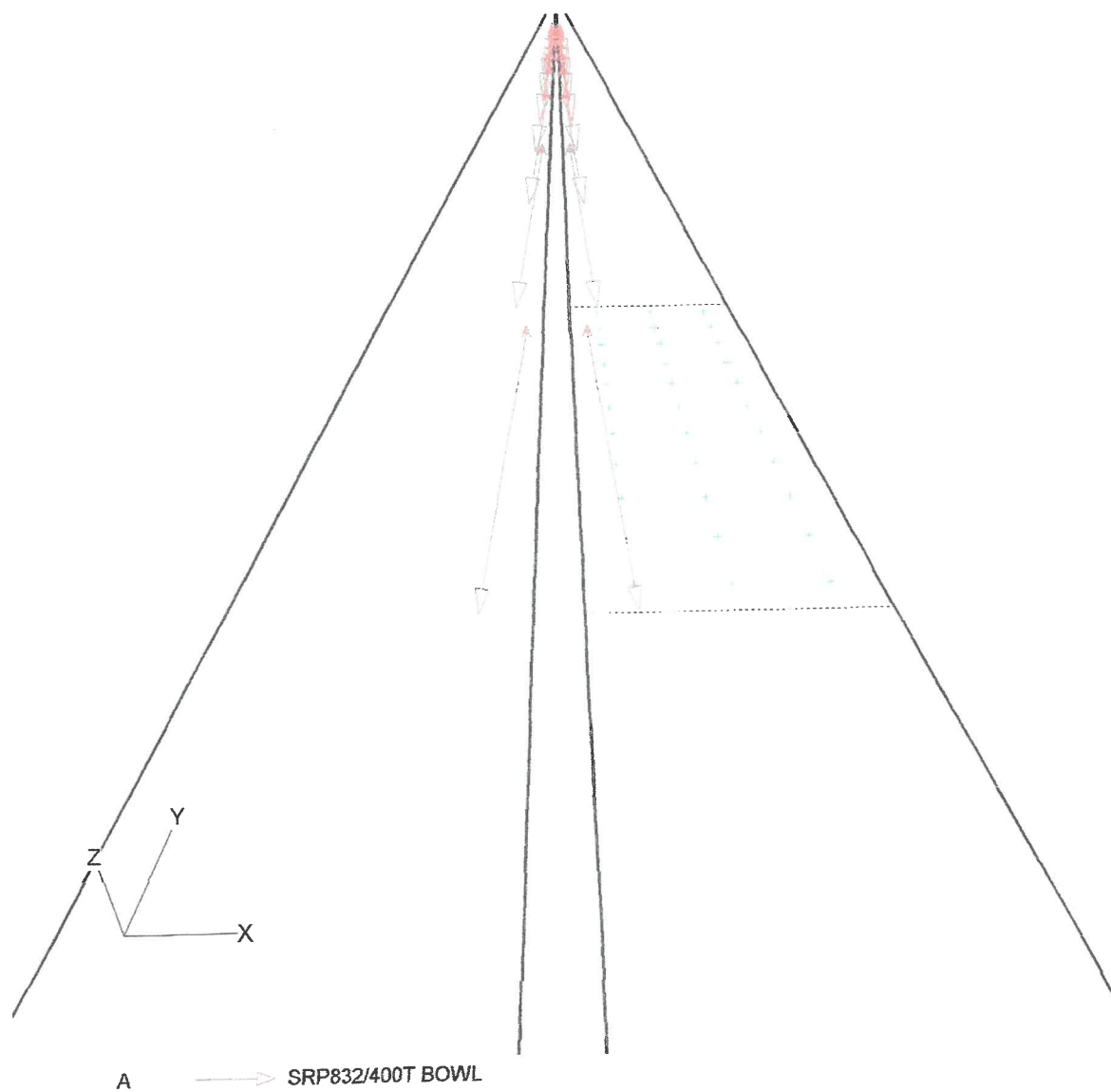
CalcuLux Area 6.2.1

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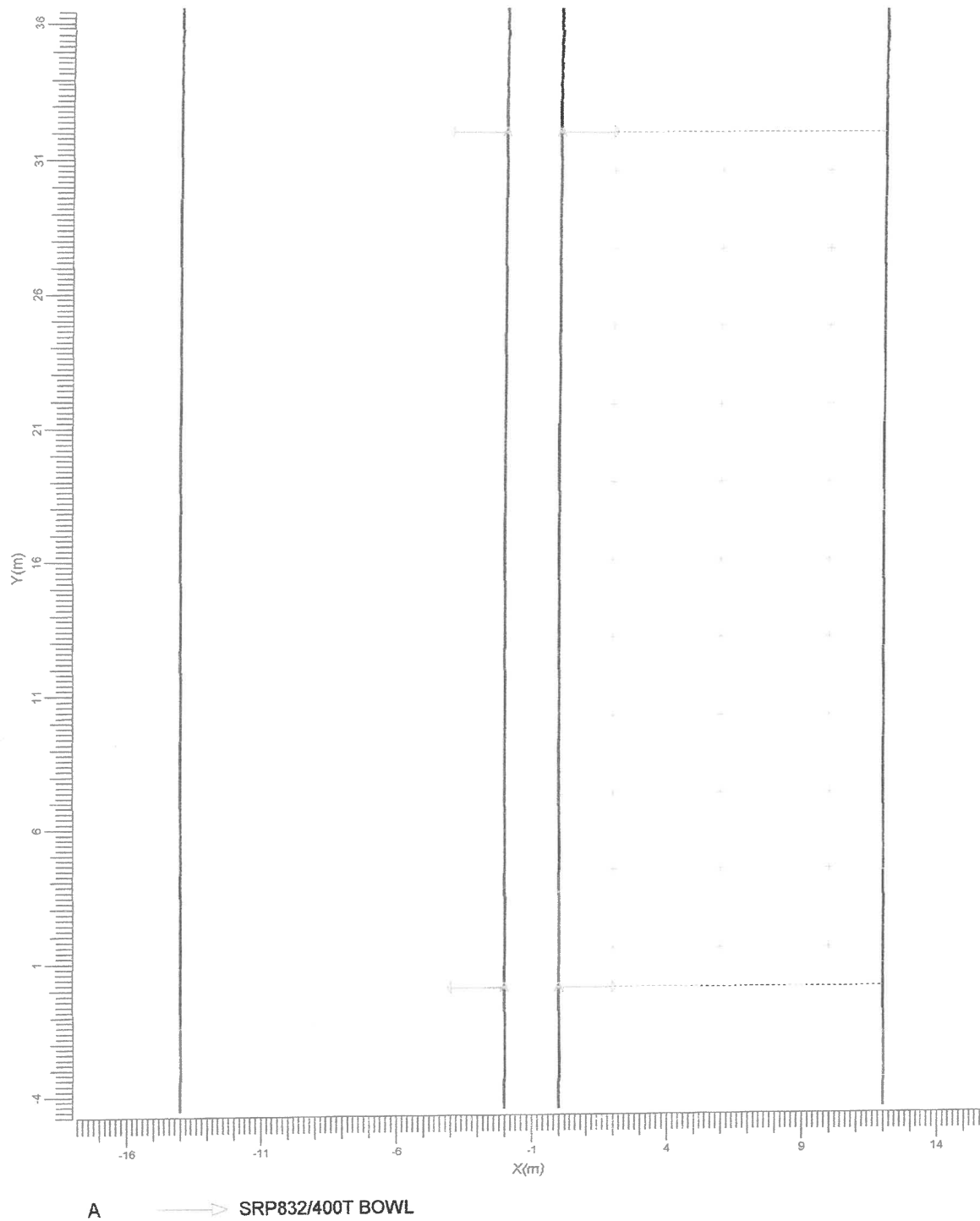
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1. Project Description

1.1 3-D Project Overview



1.2 Top Project Overview



Scale
1:200

2. Overview of Schemes

The overall maintenance factor used for this project is 0.60.

UI-2

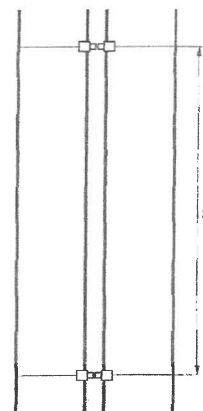
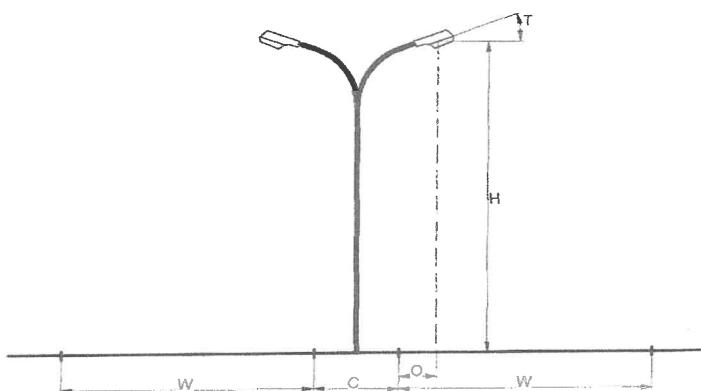
Code	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	SRP832/400T BOWL	1 * SONT 400W	431.0	1 * 48000

	Unit	Scheme 1
Carriageway		Dual Carriageway
Central Reserve	m	2.00
Road Width	m	12.00
Number of Lanes		1
Reflection Table		Asphalt CIE R3
Q0 of Table		0.070
Luminaire Code		A
Installation		Twin Central
Height	m	12.00
Spacing	m	32.00
Overhang	m	0.00
Tilt90	deg	10.0
L ave	cd/m2	2.77
L min	cd/m2	1.56
L max	cd/m2	4.21
L min/ave		0.56
UI		0.92
TI	%	8.9
		0.58

3. Summary

3.1 Main Road

Luminaire Type	:	SRP832/400T BOWL
Lamp Type	:	1 * SONT 400W
Lamp Flux	:	48000 lumen
Tilt90	(T) :	10.0 deg
Project Maintenance Factor	:	0.60



Carriageway	:	Dual Carriageway
Central Reserve	(C) :	2.00 m
Road Width	(W) :	12.00 m
Number of Lanes	:	1
Reflection Table	:	Asphalt CIE R3
Q0 of Table	:	0.070
Installation	:	Twin Central
Height	(H) :	12.00 m
Spacing	(S) :	32.00 m
Overhang	(O) :	0.00 m

UI-5

Luminance	
Average	= 2.77 cd/m ²
Minimum	= 1.56 cd/m ²
Maximum	= 4.21 cd/m ²
Minimum/Average	= 0.56
UI	= 0.92

Glare	
TI	= 8.9 %
Surround Ratios	= 0.58

4. Calculation Results

4.1 Main L: Textual Table

Grid : Main at Z = 0.00 m TI (6.00,-28.88, 1.50) = 8.9%
 Calculation : Luminance towards CEN Observer (6.00, -60.00, 1.50) (cd/m2)
 Road Surface : Asphalt CIE R3 with Q0 = 0.070

X (m)	2.00	6.00	10.00
Y (m)			
30.55	4.1	2.6	1.6
27.64	4.1	2.6	1.6
24.73	4.1	2.8	1.6
21.82	4.0	2.7	1.6<
18.91	3.7	2.7	1.6
16.00	3.8	2.8	1.6
13.09	3.7	2.8	1.6
10.18	3.9	2.7	1.7
7.27	4.0	2.8	1.7
4.36	4.2	2.8	1.7
1.45	4.2>	2.7	1.6

Average
2.77

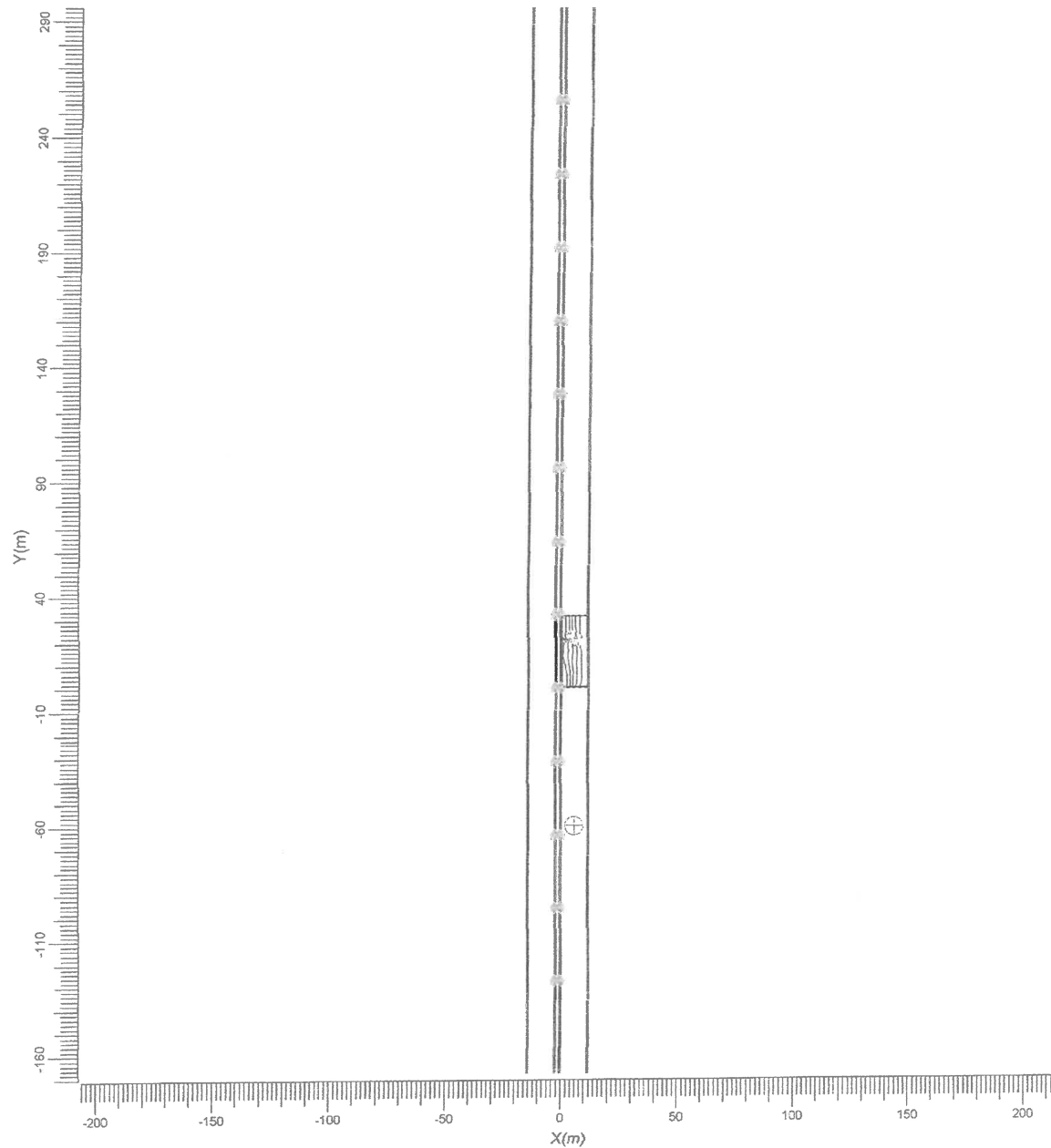
Min/Ave
0.56

Min/Max
0.37

Project maintenance factor
0.60

4.2 Main L: Iso Contour

Grid : Main at Z = 0.00 m TI (6.00,-28.88, 1.50) = 8.9%
Calculation : Luminance towards CEN Observer (6.00, -60.00, 1.50) (cd/m²)
Road Surface : Asphalt CIE R3 with Q0 = 0.070



Average	Min/Ave	Min/Max	Project maintenance factor	Scale
2.77	0.56	0.37	0.60	1:2500

5. Luminaire Details

5.1 Project Luminaires

SRP832/400T BOWL 1xSONT 400W

Light output ratios	
DLOR	: 0.85
ULOR	: 0.00
TLOR	: 0.85
Lamp flux	: 48000 lm
Luminaire wattage	: 431.0 W
Measurement code	: MIR6435000

Note: Luminaire data not from database.

