Seven Dials, Covent Garden

Calculation to show lighting levels

Project code:	08-658
Date:	23-10-2008
Customer:	Seven Dials - David Bieda
Customer Representative:	Alastair Aiken
Designer:	Steve Johnston
Description:	Design to show lighting levels and spread if lighting using New recessed Decoscene & Column Mounted LED Beamer luminaire MF 0.8 Best Results: 4 No Decoscene DBP522 70w CDM-T/940 NB HMG-FR luminaires with Half Moon Frosted Glass 3 No Led Beamers with 2 deg beam mounted on 10m cols aiming up at Sundial Faces up to Sundials BCP725 1xLED LXN III-LB/WH 2-RND. 1st 1m of Column will not be lit due to shadow of Plinth.

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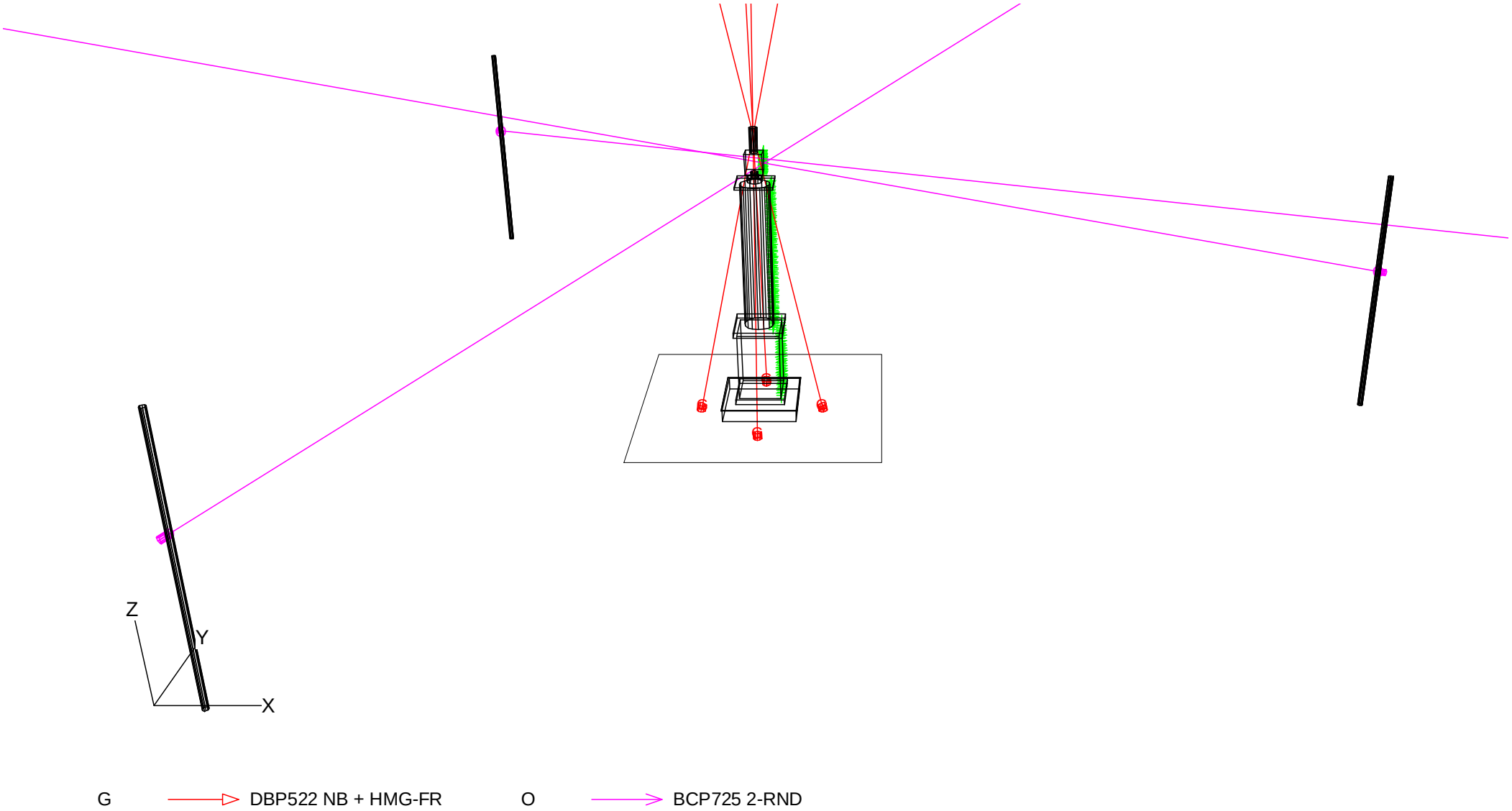
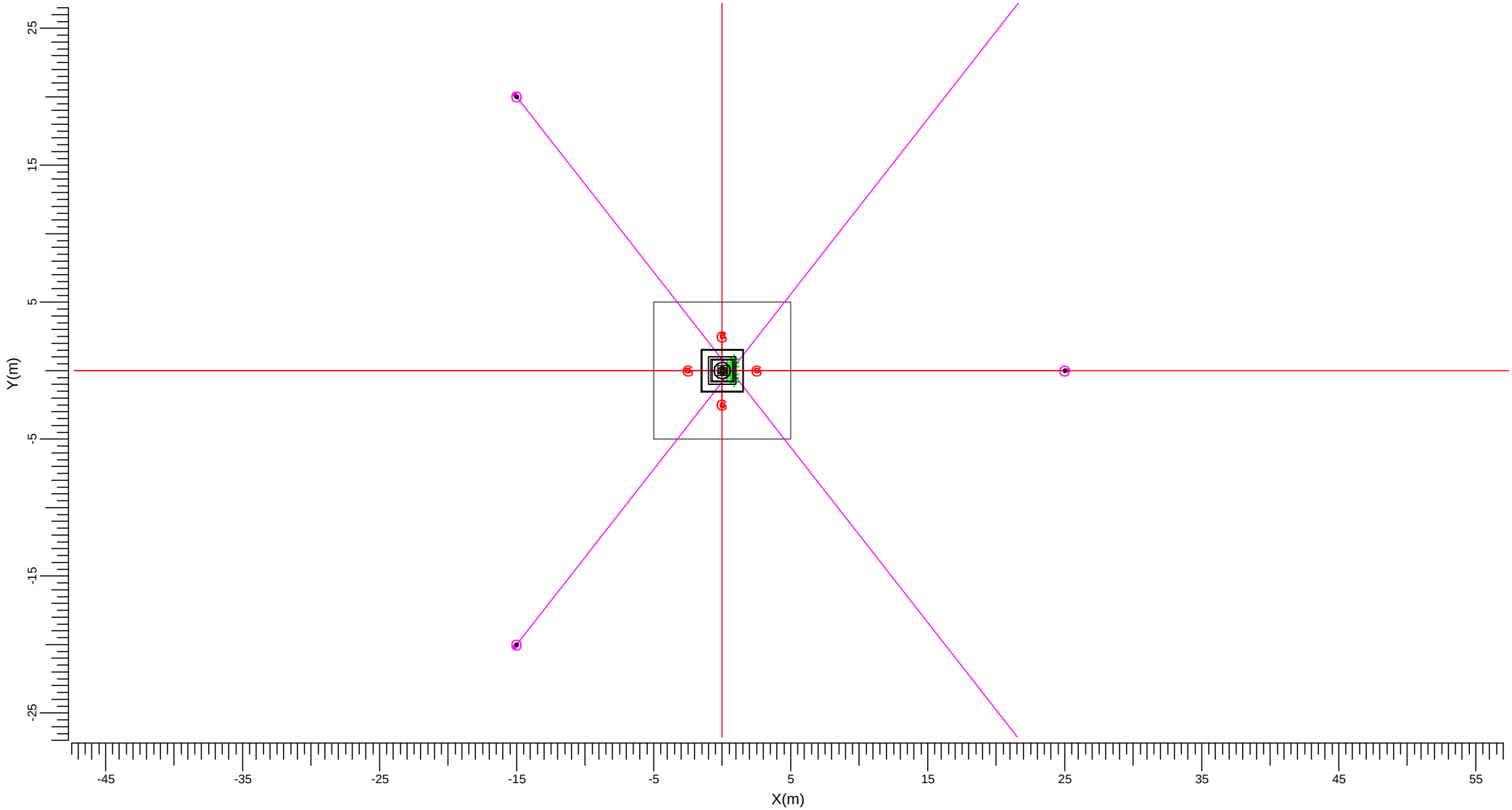
Table of Contents

1. Project Description

1.1 3-D Project Overview



1.2 Top Project Overview



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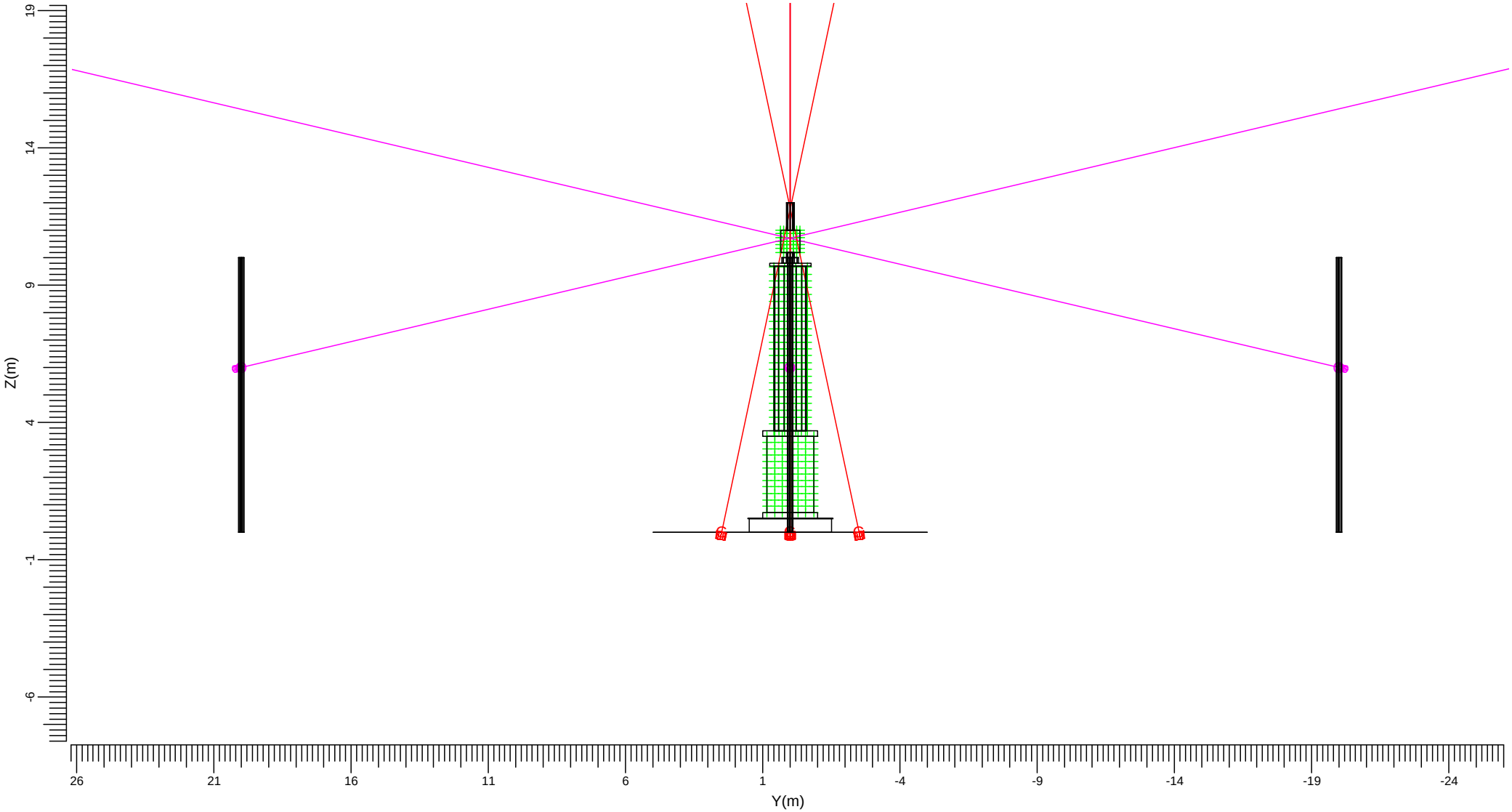
1.3 Left Project Overview



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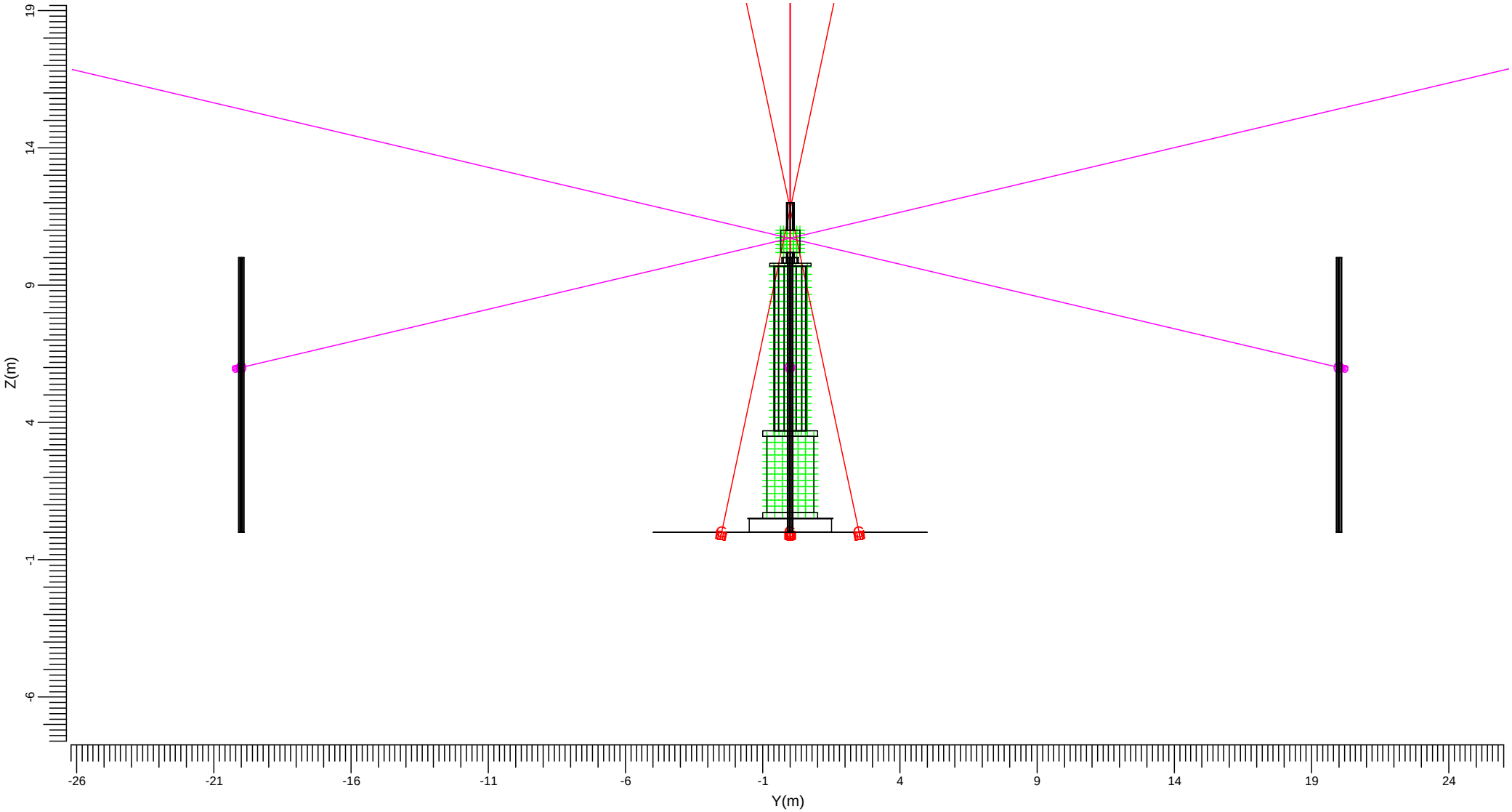
1.4 Right Project Overview



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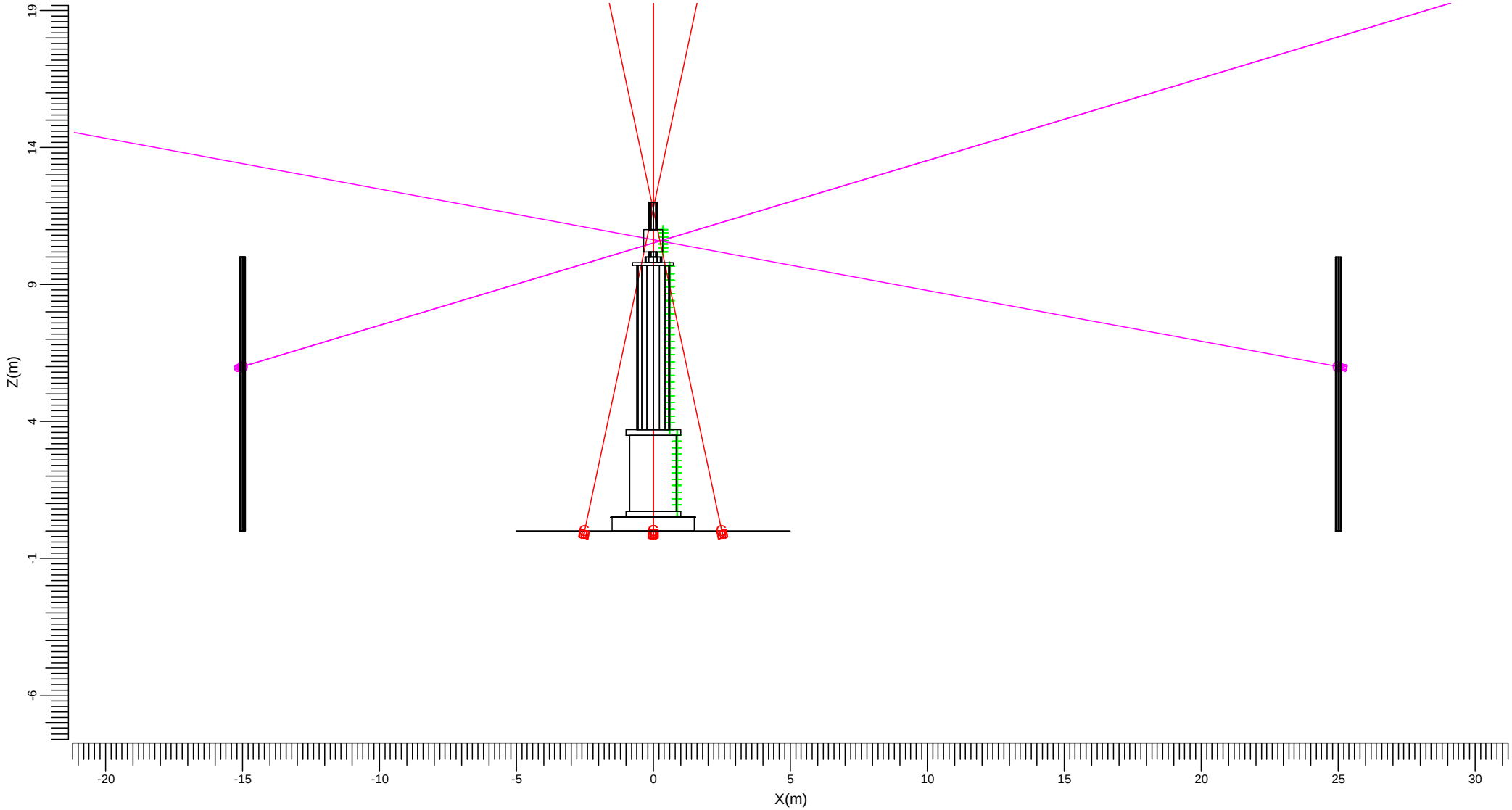
1.5 Front Project Overview



Scale
1:200

2. Summary

2.1 General Information

The overall maintenance factor used for this project is 0.80.

2.2 Obstacle Information

Obstacle	Transparency (%)	Position		
		X (m)	Y (m)	Z (m)
Base Plinth	0	-1.50	-1.50	0.00
Base plinth edge	0	-1.55	-1.55	0.50
Plinth above base edge	0	-1.00	-1.00	0.52
Pinth below Pillar	0	-0.85	-0.85	0.72
Column	0	0.00	0.00	3.70
Edge below Pillar	0	-1.00	-1.00	3.50
Edge above pillar	0	-0.75	-0.75	9.70
Column below Sundial	0	0.00	0.00	10.00
Column above top edge	0	0.00	0.00	9.80
Sundial	0	-0.35	-0.35	10.20
Top Spike	0	0.00	0.00	11.00
Column 1	0	-15.00	20.00	0.00
Column 2	0	-15.00	-20.00	0.00
Column 3	0	25.00	0.00	0.00

2.3 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
G	4	DBP522 NB + HMG-FR	1 * CDM-T70W	86.2	1 * 6600
O	3	BCP725 2-RND	1 * LED-LXHL-III-LB/WH	3.0	1 * 65

The total installed power: 0.35 (kWatt)

2.4 Calculation Results

(Il)luminance Calculations:

Calculation	Type	Unit	Ave	Min	Min/Ave
Vert Plinth Grid	Surface Illuminance	lux	52.1	0.0	0.00
Column	Surface Illuminance	lux	97.2	0.0	0.00
Sundial	Surface Illuminance	lux	14.1	7.6	0.54

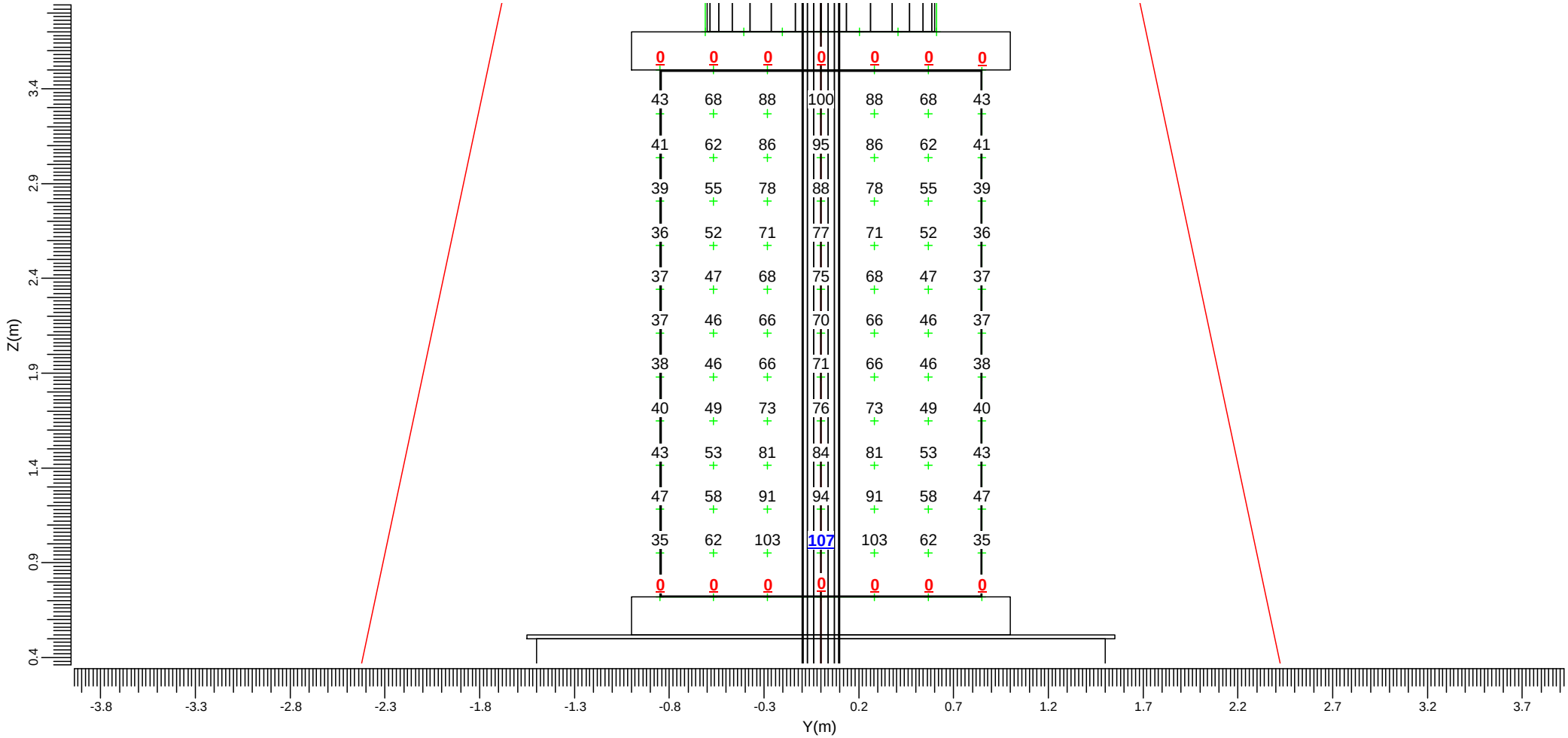
Obtrusive Light Calculations:

The upward light ratio (ULR) is 1.00.

3. Calculation Results

3.1 Vert Plinth Grid: Graphical Table

Grid : Vert Plinth Grid at X = 0.86 m
Calculation : Surface Illuminance (lux)

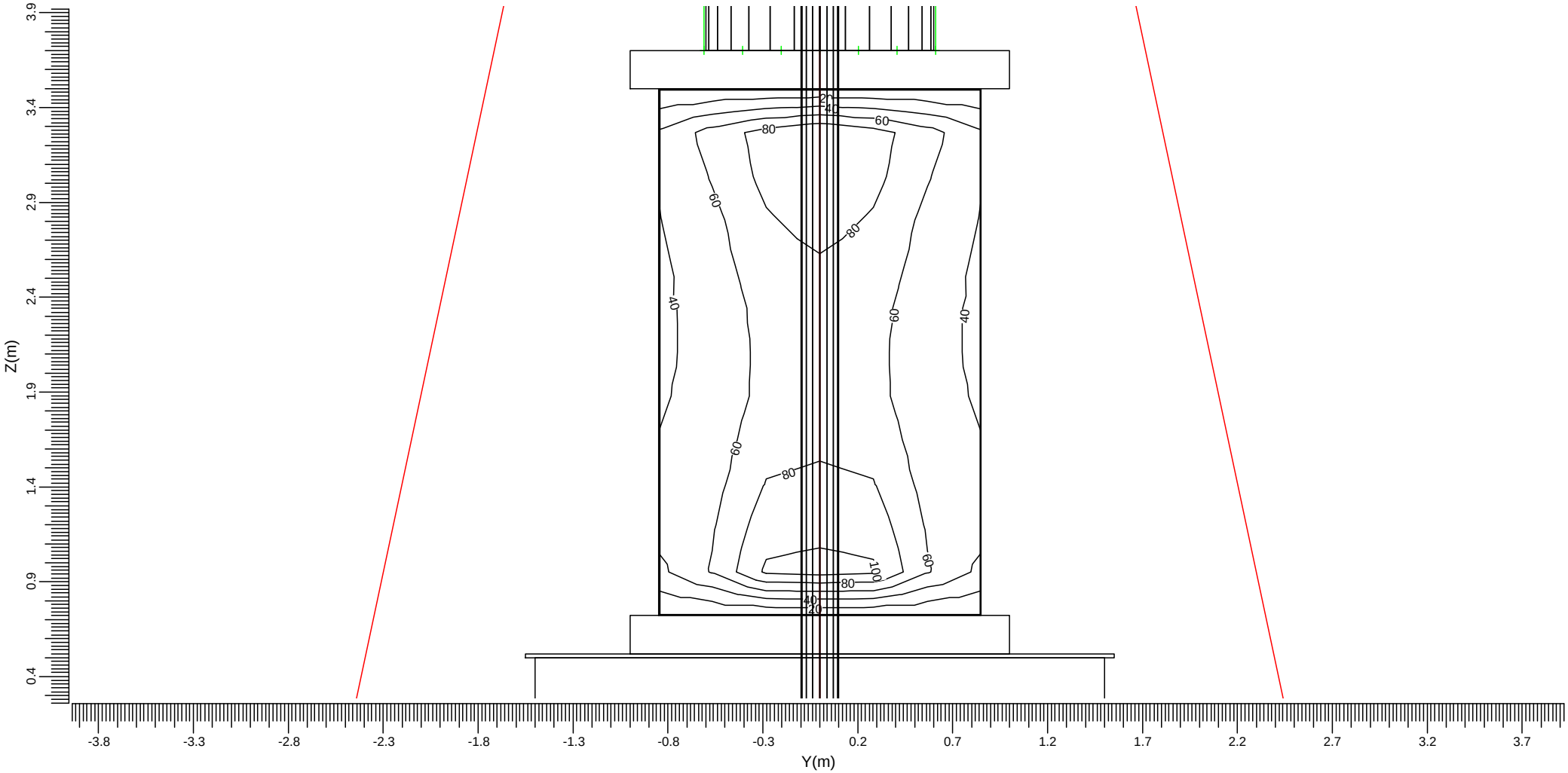


G DBP522 NB + HMG-FR O BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
52.1	0.0	0.00	0.80	1:30

3.2 Vert Plinth Grid: Iso Contour

Grid : Vert Plinth Grid at X = 0.86 m
Calculation : Surface Illuminance (lux)

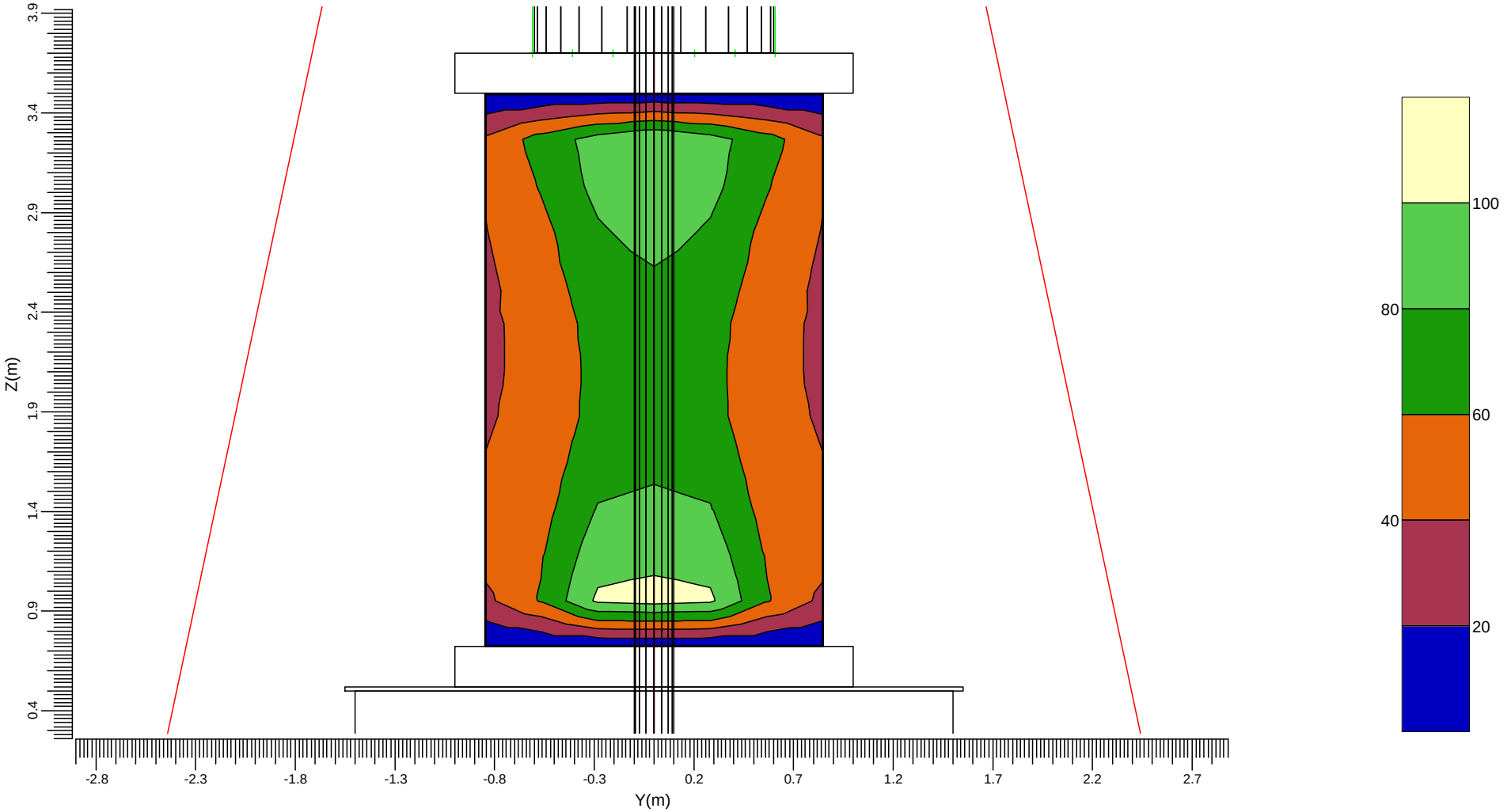


G → DBP522 NB + HMG-FR O → BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
52.1	0.0	0.00	0.80	1:30

3.3 Vert Plinth Grid: Filled Iso Contour

Grid : Vert Plinth Grid at X = 0.86 m
Calculation : Surface Illuminance (lux)

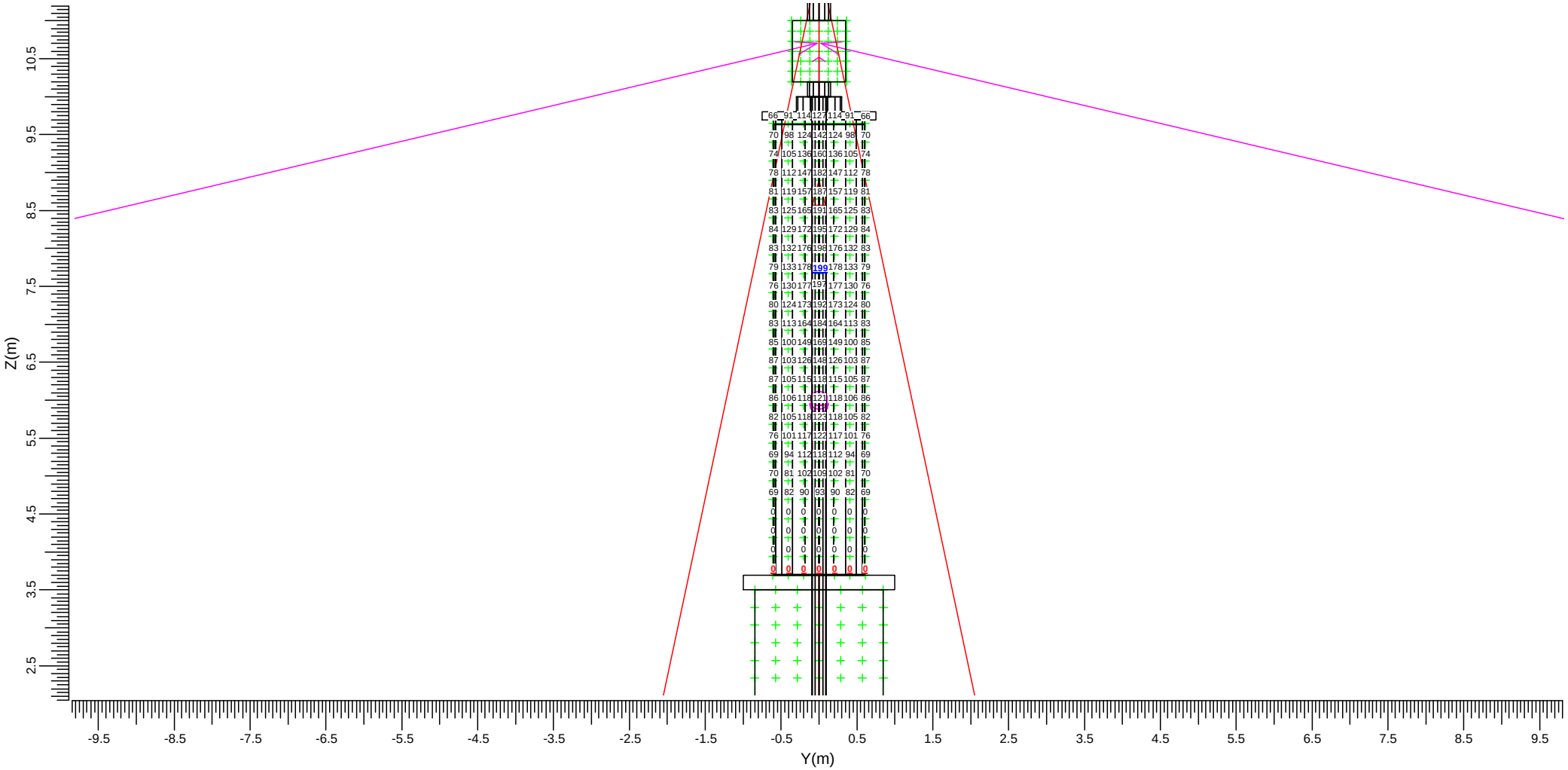


G → DBP522 NB + HMG-FR O → BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
52.1	0.0	0.00	0.80	1:30

3.4 Column: Graphical Table

Grid : Column at X = 0.61 m
Calculation : Surface Illuminance (lux)

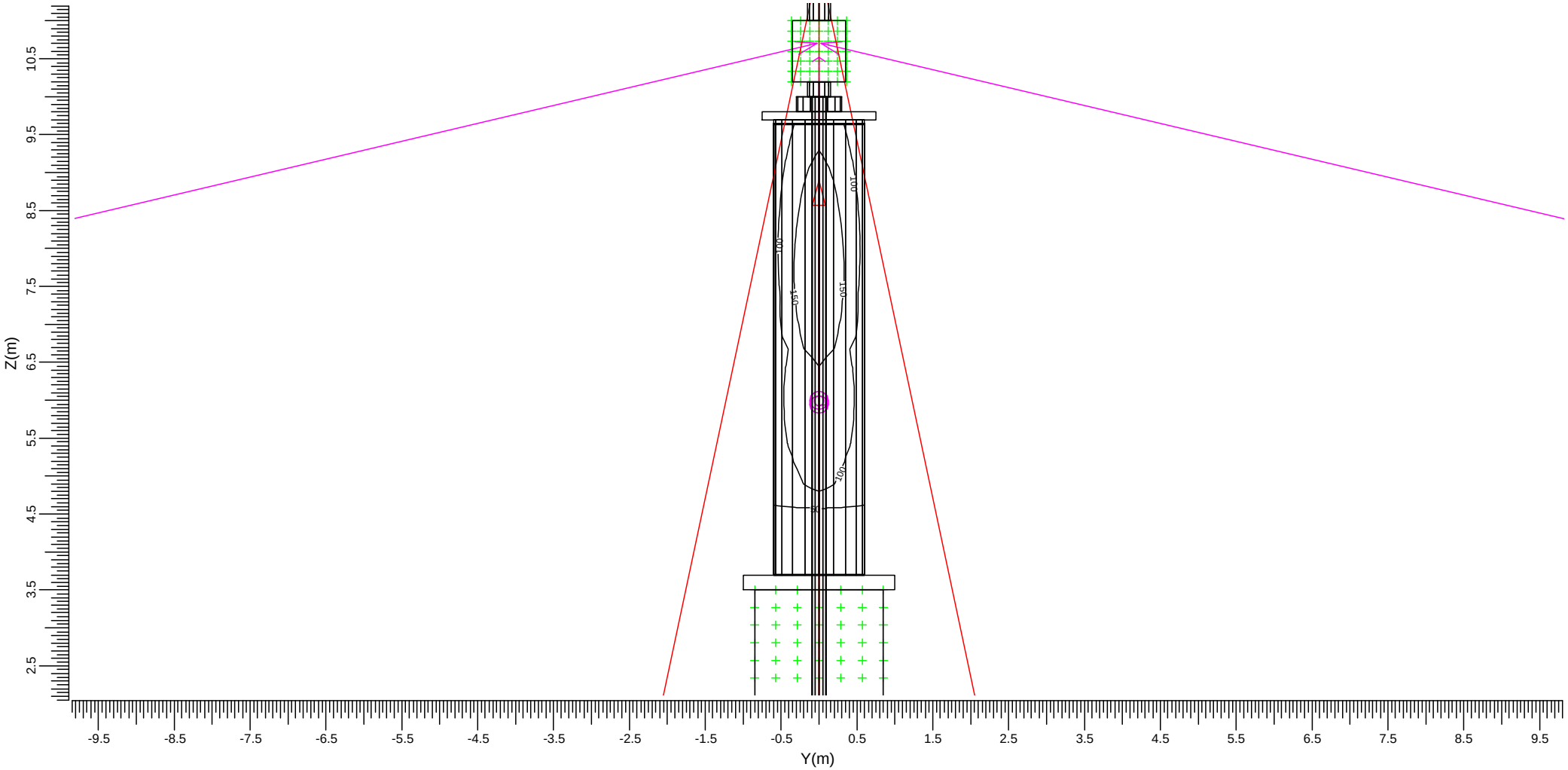


G → DBP522 NB + HMG-FR O → BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
97.2	0.0	0.00	0.80	1:75

3.5 Column: Iso Contour

Grid : Column at X = 0.61 m
Calculation : Surface Illuminance (lux)

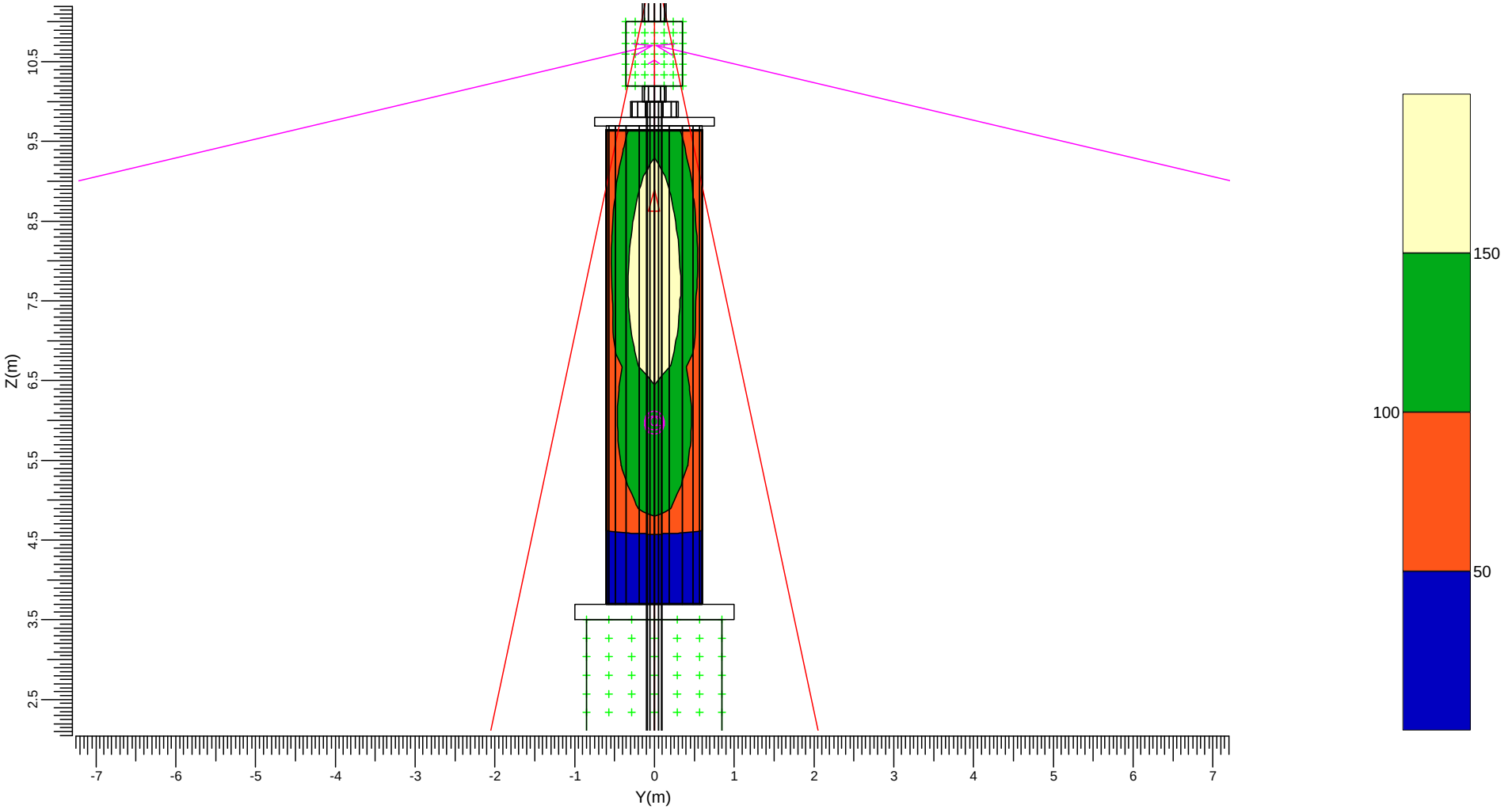


G → DBP522 NB + HMG-FR O → BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
97.2	0.0	0.00	0.80	1:75

3.6 Column: Filled Iso Contour

Grid : Column at X = 0.61 m
Calculation : Surface Illuminance (lux)

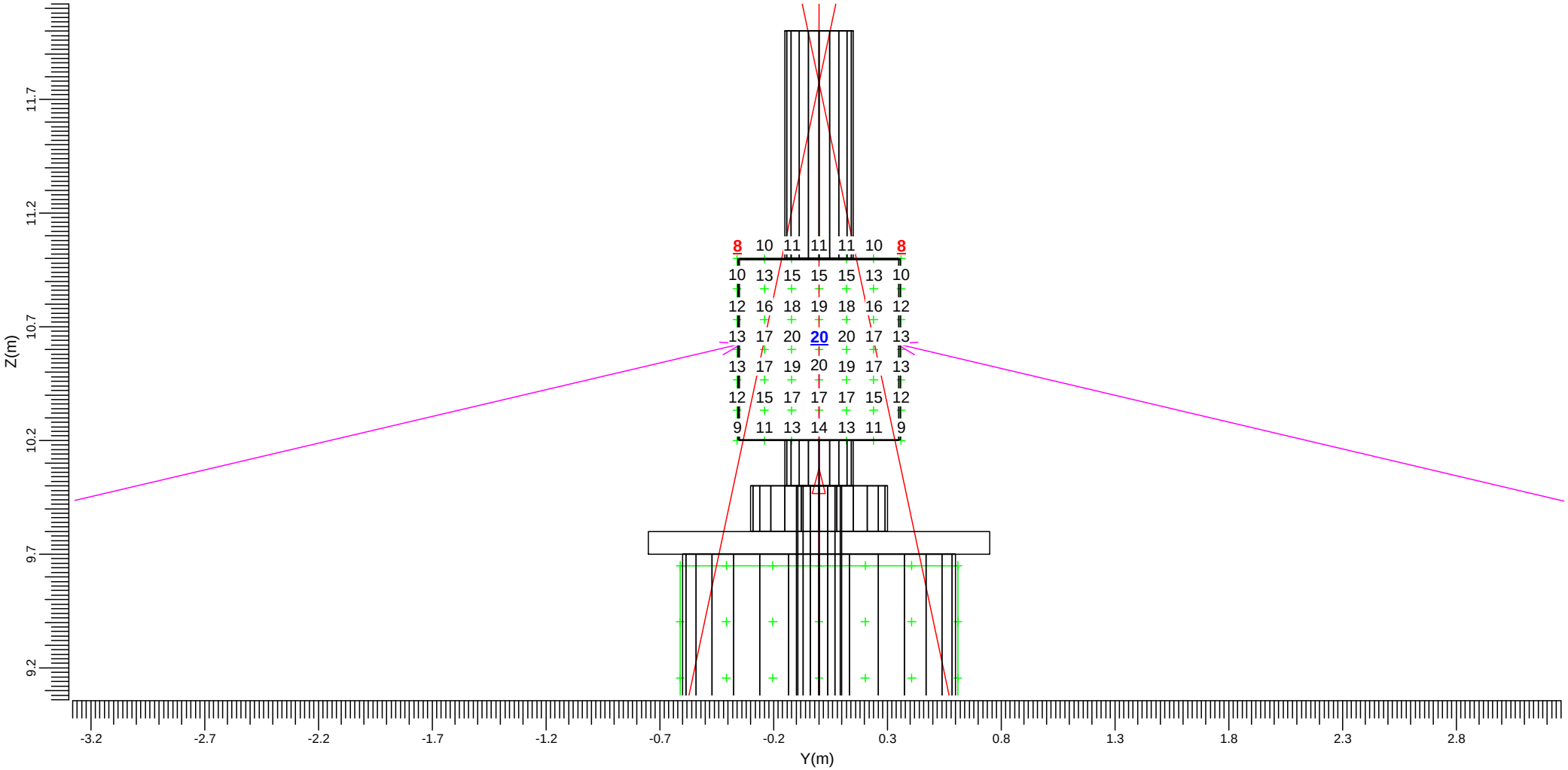


G DBP522 NB + HMG-FR O BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
97.2	0.0	0.00	0.80	1:75

3.7 Sundial: Graphical Table

Grid : Sundial at X = 0.36 m
Calculation : Surface Illuminance (lux)

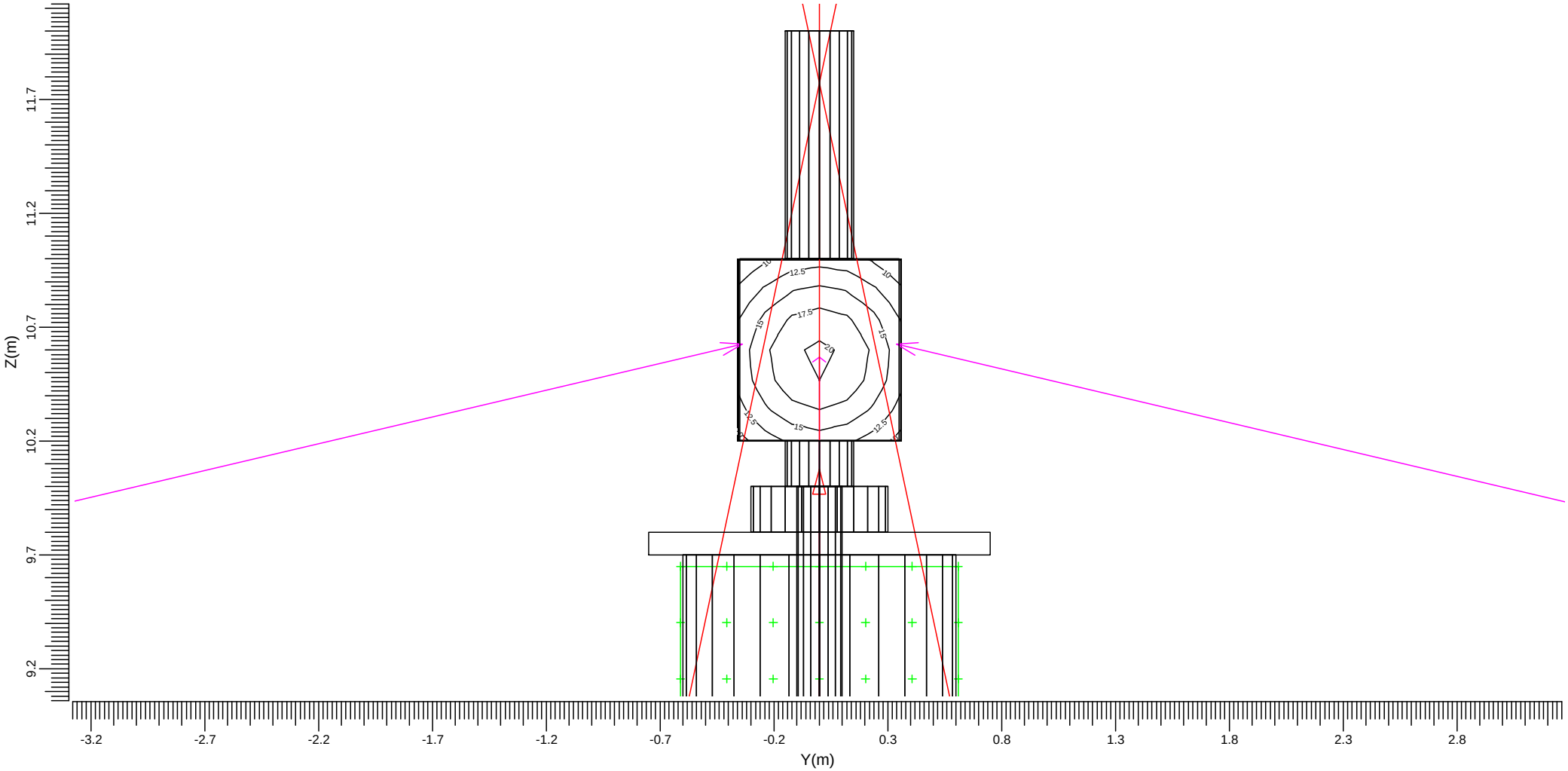


G DBP522 NB + HMG-FR O BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
14.1	7.6	0.54	0.80	1:25

3.8 Sundial: Iso Contour

Grid : Sundial at X = 0.36 m
Calculation : Surface Illuminance (lux)

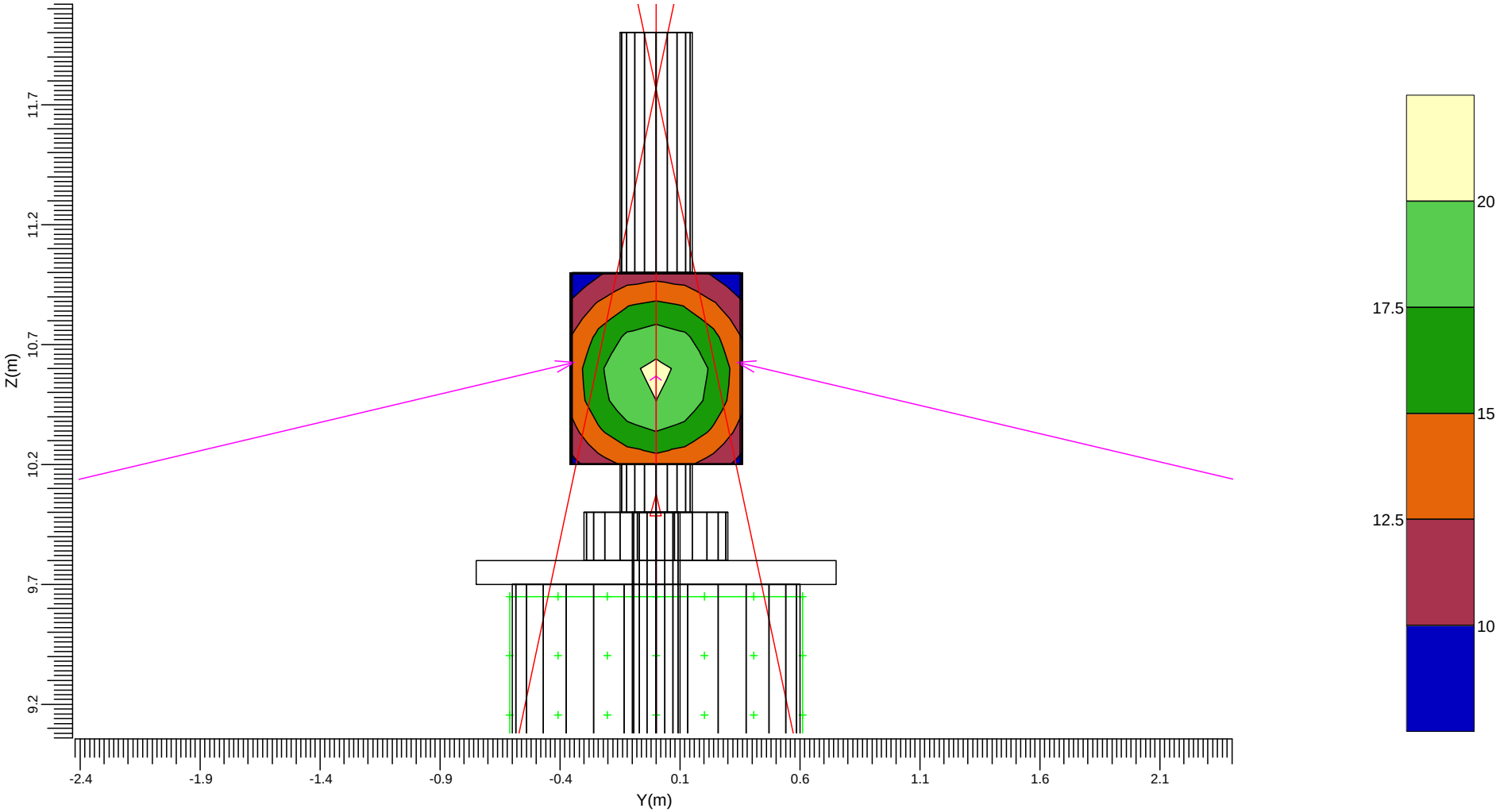


G DBP522 NB + HMG-FR O BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
14.1	7.6	0.54	0.80	1:25

3.9 Sundial: Filled Iso Contour

Grid : Sundial at X = 0.36 m
Calculation : Surface Illuminance (lux)



G DBP522 NB + HMG-FR O BCP725 2-RND

Average	Minimum	Min/Ave	Project maintenance factor	Scale
14.1	7.6	0.54	0.80	1:25

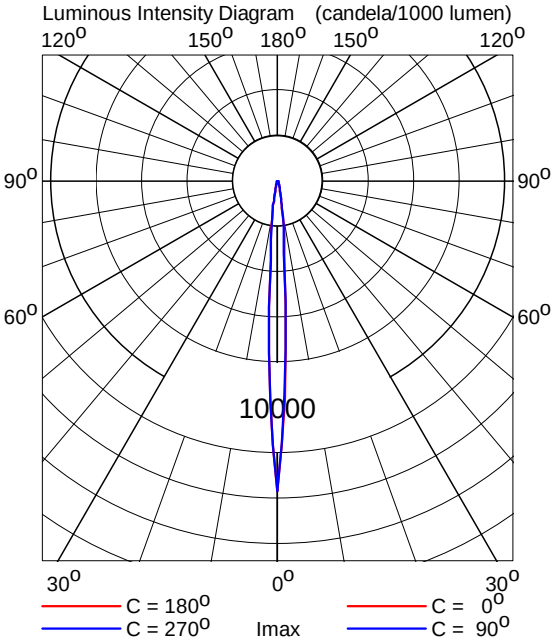
4. Luminaire Details

4.1 Project Luminaires

DecoScene DBP522 1xCDM-T70W/830 NB + HMG-FR

Light output ratios

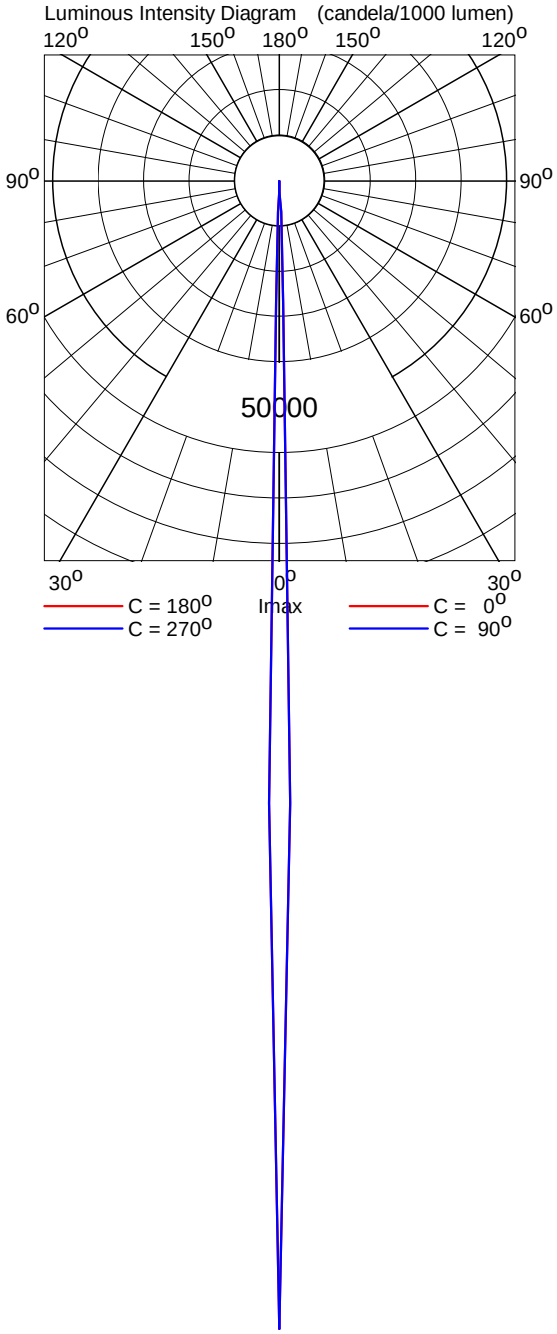
DLOR	:	0.69
ULOR	:	0.00
TLOR	:	0.69
Ballast	:	Standard
Lamp flux	:	6600 lm
Luminaire wattage	:	86.2 W
Measurement code	:	LVM0729500



BeamerLED BCP725 1xLED-LXHL-III-LB/WH 2-RND

Light output ratios

DLOR	:	0.50
ULOR	:	0.00
TLOR	:	0.50
Ballast	:	N/A
Lamp flux	:	65 lm
Luminaire wattage	:	3.0 W
Measurement code	:	LVMA633500



5. Installation Data

5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
G	4	DBP522 NB + HMG-FR	1 * CDM-T70W	1 * 6600
O	3	BCP725 2-RND	1 * LED-LXHL-III-LB/WH	1 * 65

5.2 Luminaire Positioning and Orientation

Qty and Code	Position			Aiming Angles			ULR
	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0	
1 * O	-15.00	-20.00	6.00	52.0	100.5	0.0	0.99
1 * O	-15.00	20.00	6.00	-52.0	100.5	0.0	0.99
1 * G	-2.50	-0.00	0.01	180.0	-168.0	-0.0	1.00
1 * G	-0.00	-2.50	0.01	-90.0	-168.0	0.0	1.00
1 * G	-0.00	2.50	0.01	90.0	-168.0	-0.0	1.00
1 * G	2.50	-0.00	0.01	0.0	-168.0	0.0	1.00
1 * O	25.00	-0.00	6.00	180.0	100.5	0.0	0.99