

Cranbrook MUGA

Installation : 4 x 6mt Columns, 8 x BELL LEDs.

Project number : LD4148

Customer : Play Innovation

Processed by : Kim Prestwood. Sports Lighting. 01803 844 833. www.sportslighting.co.uk

Date : 23.07.2024

Project description:

Design based on the information provided and aimed to achieve 180lx utilising 4nos of 6m columns as requested.

We have utilised 4nos of Skyline Virtus 150W-300W 4000K Asymmetric Floodlight (type EX1, magenta arrow) and 4nos of Skyline Virtus 100W-200W 4000K Asymmetric Floodlight (type EX2, orange arrow) mounted on top of 6m columns, resulting: 188lx / 0.53 Uo/ 0.27 Ud/ 0%ULR / 45.4 max GR.

We have also shown day 1 resulting glare, upward light and horizontal spillage figures for your consideration and approval.

Full installation, vertical tilt angles and aiming coordinates guidance drawings can be provided on request when an order has been placed.

Aiming coordinates and tilt angles for all floodlights must be confirmed with lighting design department prior to on-site installation day.

Engineer assessment of column capabilities required to understand if it is possible to mount proposed floodlights on the installed columns.

Suitable columns or any additional brackets (if required) are excluded and to be provided by others.

If our proposals are based on Google Maps, photographs or unscaled drawings, results are indicative only and full site survey will be required prior to placing an order.

Please verify usage and target lux levels (specified on results overview page), dimensions, heights and if all areas requiring lighting design are included. Any assumptions made at design stage should be verified prior to ordering and please do not hesitate to contact us if any alterations or additional details required.

Any additional luminaires for the above will be subject to an additional cost.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

Luminaire data

BELL Lighting Limited, Skyline Virtus 150W-300W 4000... (!EX1 11491)

Data sheet

Manufacturer: BELL Lighting Limited

!EX1 11491 Skyline Virtus 150W-300W 4000K Asymmetric Floodlight

Luminaire data

Luminaire efficiency

Luminaire efficacy

Classification

CIE Flux Codes

UGR 4H 8H

Power

Luminous flux

: 100%

: 153.63 lm/W

: A40 ↓100.0% ↑0.0%

: 41 84 99 100 100

: 39.2 / 33.1

: 300 W

: 46090 lm

Equipped with

Quantity

Designation

Colour

Luminous flux

Colour reproduction

: 1

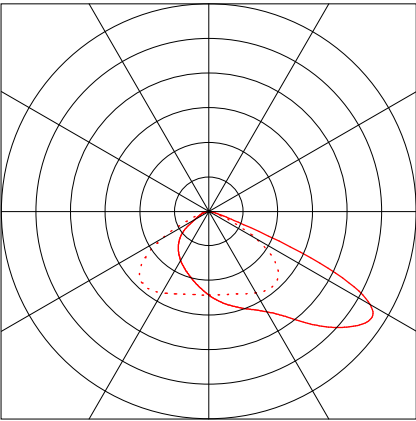
: LED 840

: 4000K

: 46090 lm

: 80

Dimensions : 380 mm x 380 mm x 75 mm



Luminaire data

BELL Lighting Limited, Skyline Virtus 100W-200W 4000... (!EX2 11489)

Data sheet

Manufacturer: BELL Lighting Limited

!EX2 11489

Skyline Virtus 100W-200W 4000K Asymmetric Floodlight

Luminaire data

Luminaire efficiency

Luminaire efficacy

Classification

CIE Flux Codes

UGR 4H 8H

Power

Luminous flux

: 100%

: 152.12 lm/W

: A40 ↓100.0% ↑0.0%

: 41 82 99 100 100

: 39.5 / 33.1

: 200 W

: 30424 lm

Equipped with

Quantity

Designation

Colour

Luminous flux

Colour reproduction

: 1

: LED 840

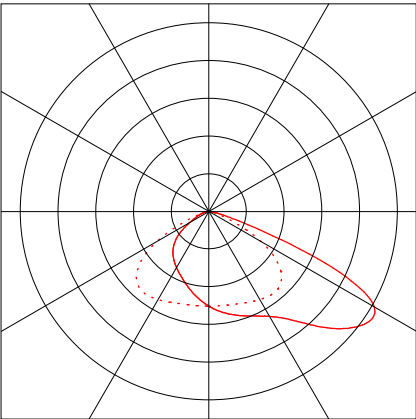
: 4000K

: 30424 lm

: 80

Dimensions

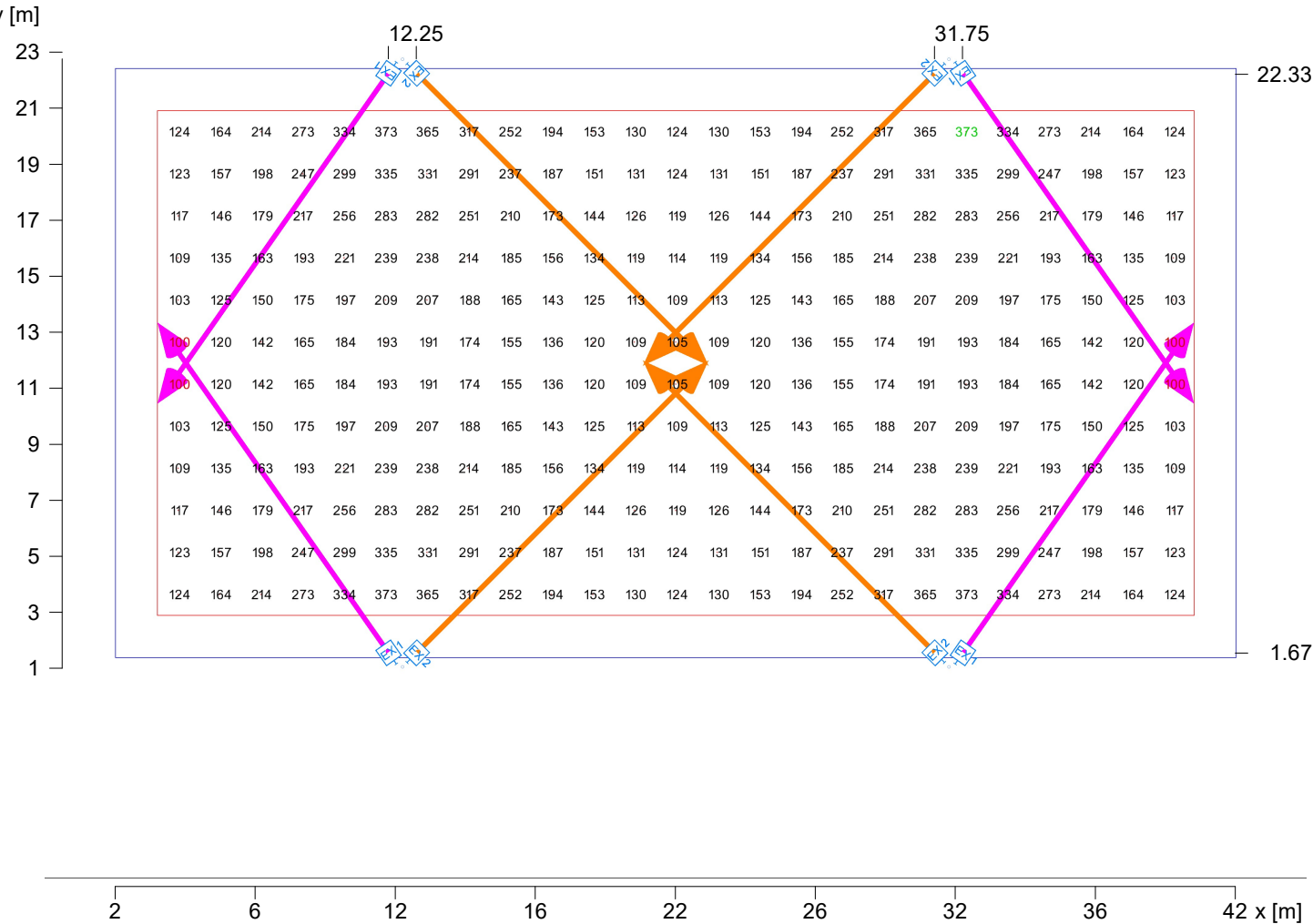
: 320 mm x 350 mm x 75 mm





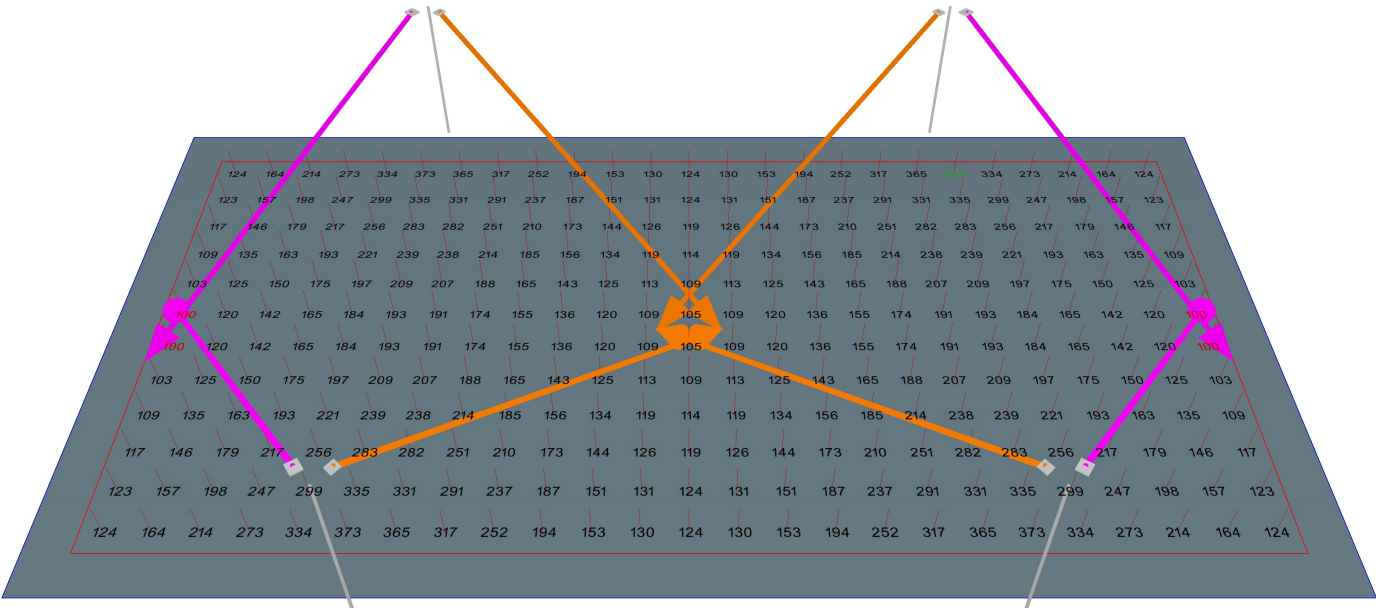
Cranbrook MUGA

Description, Cranbrook MUGA Floor plan

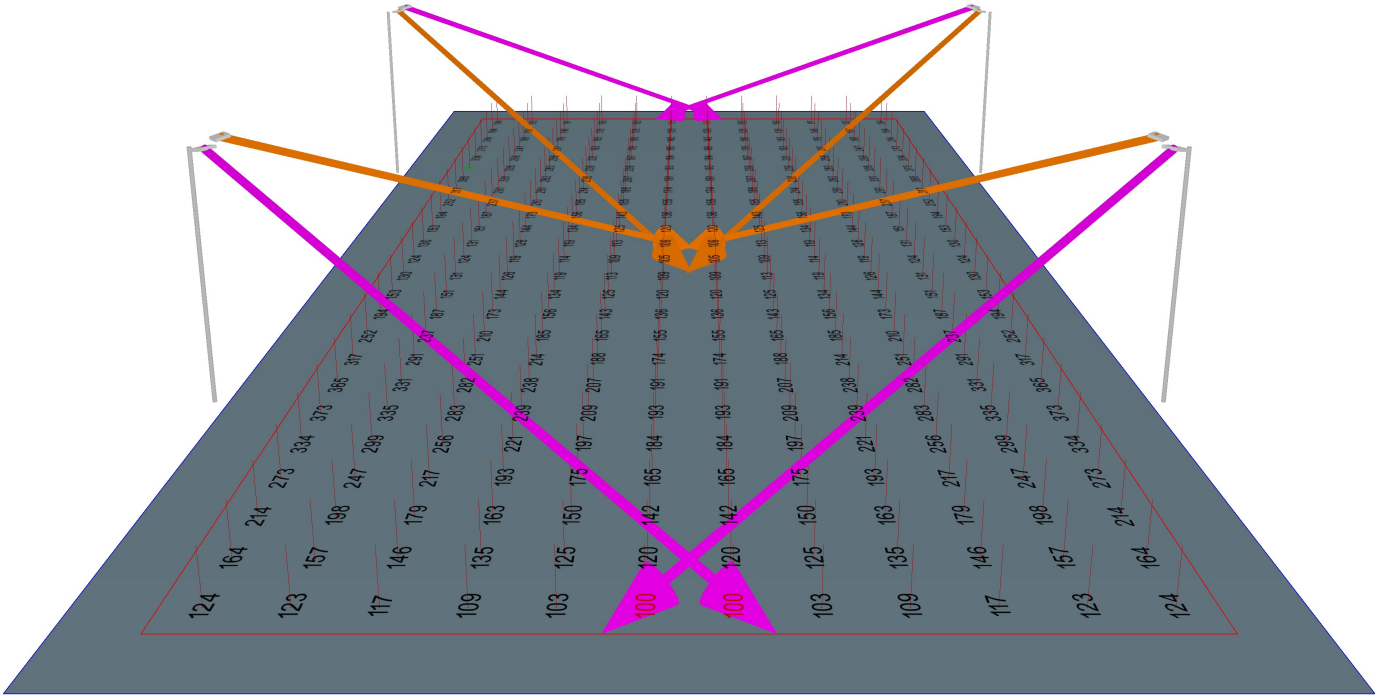


Description, Cranbrook MUGA 3D view,

Visualisation 1



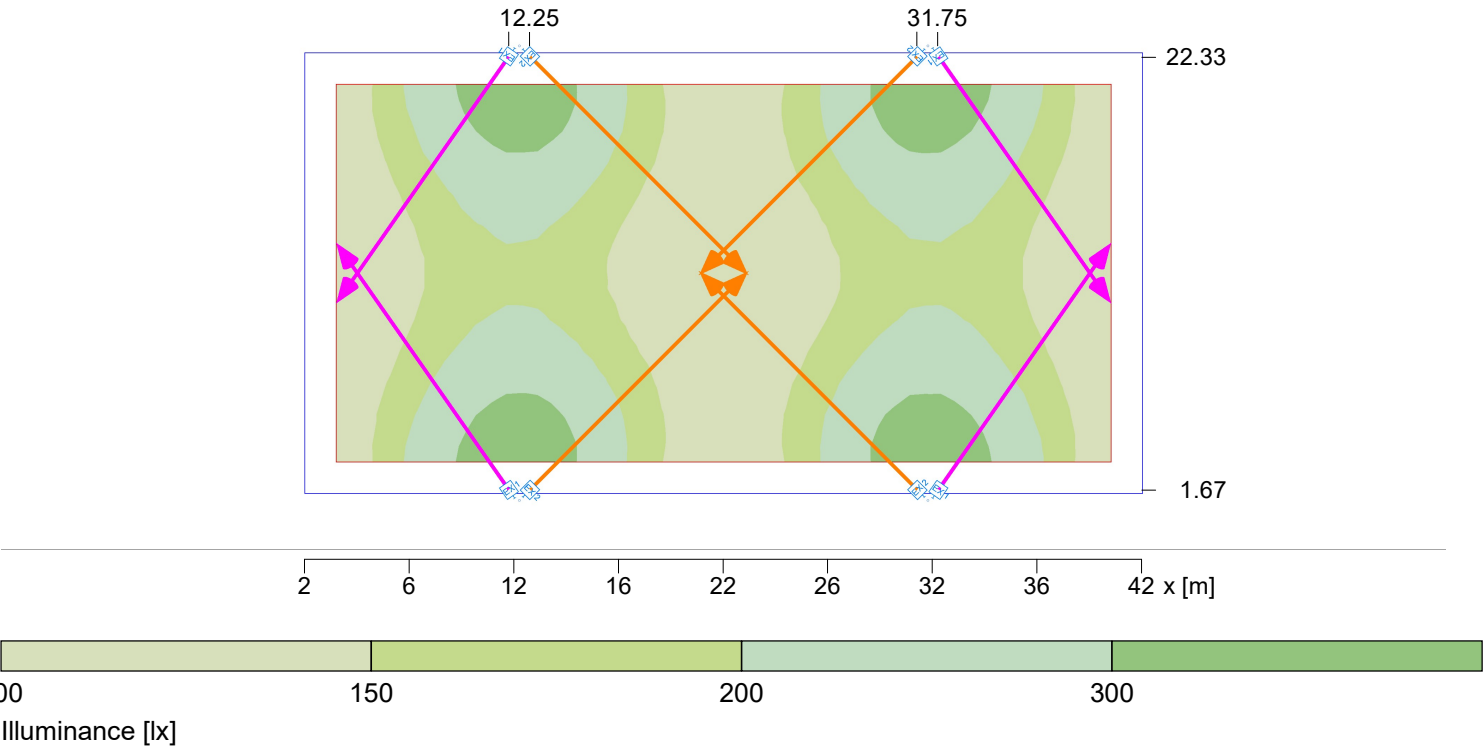
Description, Cranbrook MUGA 3D view,
Visualisation 2



Cranbrook College MUGA

Summary, Cranbrook MUGA

Result overview, Evaluation area 1



General	
Calculation algorithm used	Average indirect fraction
Height (phot centre)	6.10 m
Maintenance factor	0.80
Total luminous flux	306056.00 lm
Total power	2000.0 W
Total power per area (840.00 m²)	2.38 W/m² (1.27 W/m²/100lx)
Upward light ratio (R _{UL})	0.00

Evaluation area 1	37mx18m MUGA
	Horizontal
$\bar{E}_m$	188 lx
E_{min}	100 lx
$E_{min}/\bar{E}_m (U_o)$	0.53
$E_{min}/E_{max} (U_d)$	0.27
Position	0.00 m

RG Table	
0.52 cd/m², 240 lx, $\rho = 0\%$ (-2°)	
R _{G,max}	45.4 (h=1.60m)



Cranbrook MUGA

Summary, Cranbrook MUGA

Result overview, Evaluation area 1

Type No.\Make

		BELL Lighting Limited	
1	4 x	Order No.	: IEX1 11491
		Luminaire name	: Skyline Virtus 150W-300W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 300 W / 46090 lm
2	4 x	Order No.	: IEX2 11489
		Luminaire name	: Skyline Virtus 100W-200W 4000K Asymmetric Floodlight
		Equipment	: 1 x LED 840 200 W / 30424 lm



Cranbrook MUGA

Calculation results, Cranbrook MUGA

Table, 37mx18m MUGA (RG)

[m]	42.1	41.9	40.1	37.2	35.5	34.4	33.3	(32.4)	37.0	38.0	38.5	38.7	38.2	38.7	38.5	38.0	37.0	(32.4)	33.3	34.4	35.5	37.2	40.1	41.9	42.1
20	43.4	43.0	41.7	40.0	38.5	37.7	38.1	38.9	39.5	39.7	39.5	39.5	39.2	39.5	39.5	39.7	39.5	38.9	38.1	37.7	38.5	40.0	41.7	43.0	43.4
18	44.1	43.8	43.2	42.6	42.1	42.1	42.1	41.8	41.5	41.0	40.3	39.9	39.5	39.9	40.3	41.0	41.5	41.8	42.1	42.1	42.1	42.6	43.2	43.8	44.1
16	44.4	44.4	44.3	44.3	44.4	44.4	44.2	43.4	42.6	41.6	40.7	40.2	39.7	40.2	40.7	41.6	42.6	43.4	44.2	44.4	44.4	44.3	44.3	44.4	44.4
14	44.5	44.7	44.8	45.1	[45.4]	45.2	44.8	43.7	42.8	41.7	40.7	40.1	39.6	40.1	40.6	41.7	42.8	43.7	44.8	45.2	[45.4]	45.1	44.8	44.7	44.5
	44.3	44.7	44.8	45.1	45.3	44.9	44.1	43.2	42.3	41.3	40.3	39.7	39.1	39.7	40.3	41.3	42.3	43.2	44.1	44.9	45.3	45.1	44.8	44.7	44.3
12	44.3	44.7	44.8	45.1	45.3	44.9	44.1	43.2	42.3	41.3	40.3	39.7	39.1	39.7	40.3	41.3	42.3	43.2	44.1	44.9	45.3	45.1	44.8	44.7	44.3
10	44.5	44.7	44.8	45.1	[45.4]	45.2	44.8	43.7	42.8	41.7	40.6	40.1	39.6	40.1	40.7	41.7	42.8	43.7	44.8	45.2	[45.4]	45.1	44.8	44.7	44.5
8	44.4	44.4	44.3	44.3	44.4	44.4	44.2	43.4	42.6	41.6	40.7	40.2	39.7	40.2	40.7	41.6	42.6	43.4	44.2	44.4	44.4	44.3	44.3	44.4	44.4
	44.1	43.8	43.2	42.6	42.1	42.1	42.1	41.8	41.5	41.0	40.3	39.9	39.5	39.9	40.3	41.0	41.5	41.8	42.1	42.1	42.1	42.6	43.2	43.8	44.1
6	43.4	43.0	41.7	40.0	38.5	37.7	38.1	38.9	39.5	39.7	39.5	39.5	39.2	39.5	39.5	39.7	39.5	38.9	38.1	37.7	38.5	40.0	41.7	43.0	43.4
4	42.1	41.9	40.1	37.2	35.5	34.4	33.3	(32.4)	37.0	38.0	38.5	38.7	38.2	38.7	38.5	38.0	37.0	(32.4)	33.3	34.4	35.5	37.2	40.1	41.9	42.1
	5		10		15		20		25		30		35	[m]											



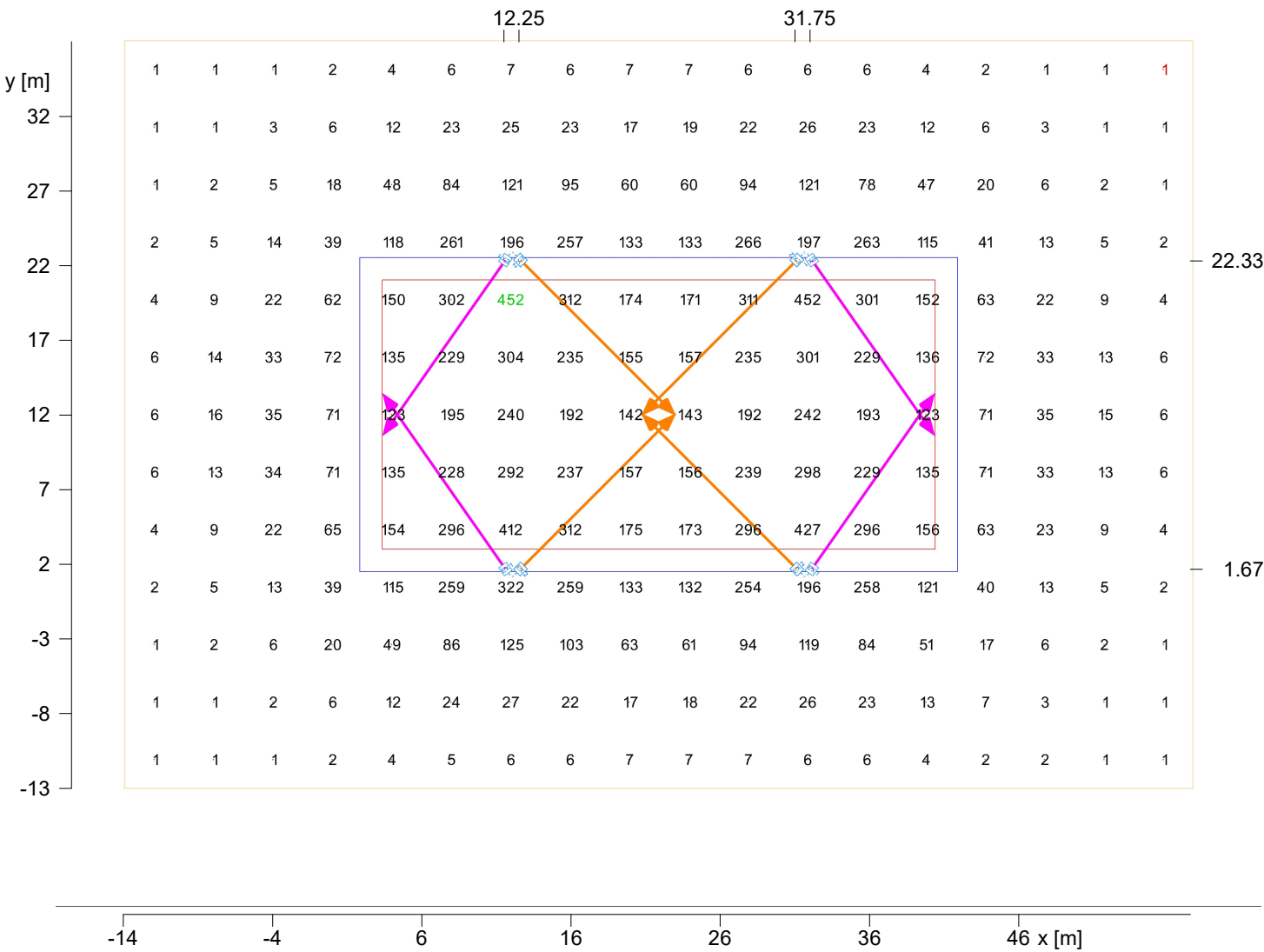
Observer Rg

$L_{ve} = 0.52 \text{ cd/m}^2$, $\bar{E}_i = 240 \text{ lx}$, $p = 20 \text{ \%}$ (-2°)

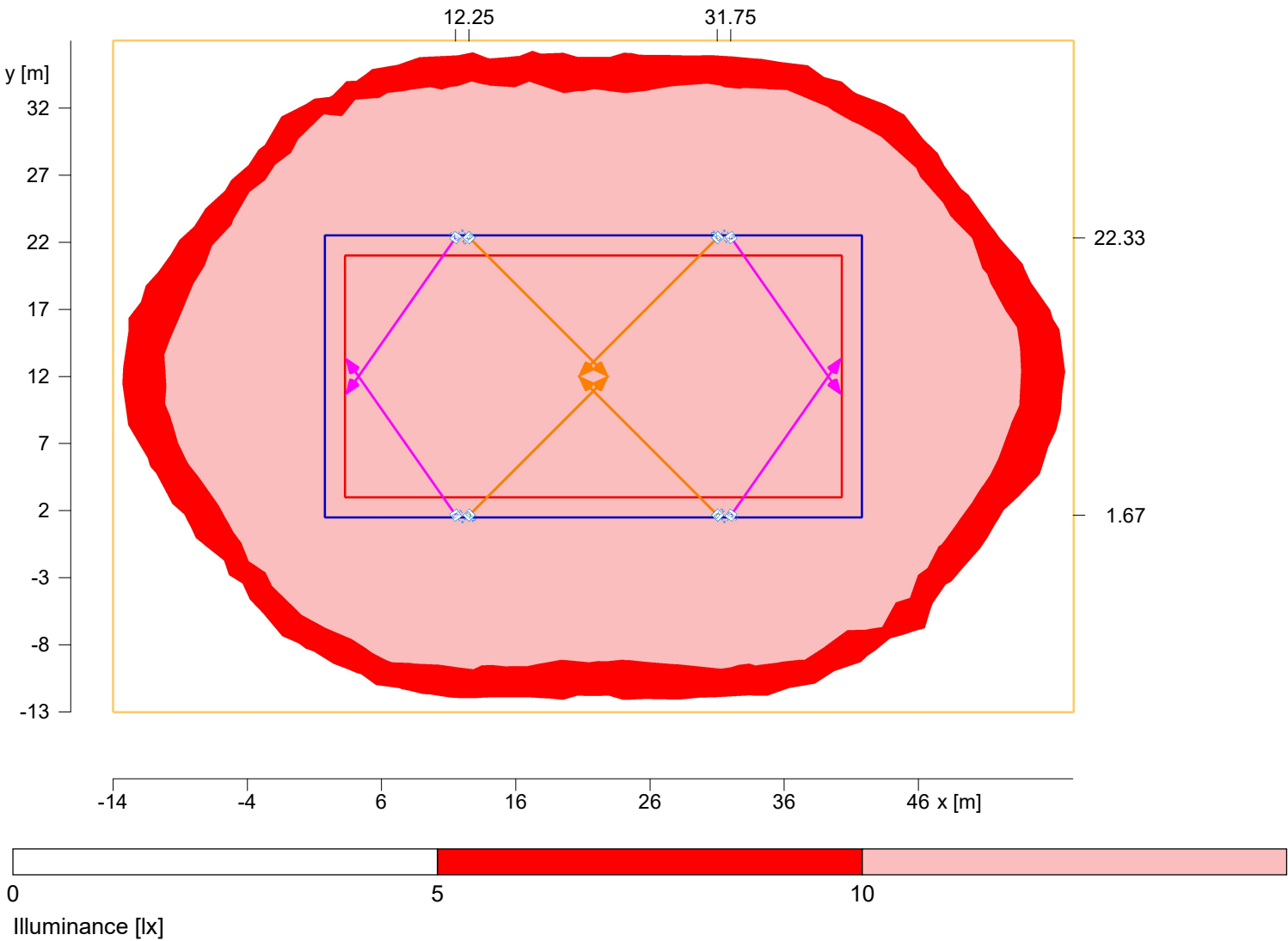
Height reference plane : 1.60 m
Minimum : 32
Maximum : 45

Cranbrook MUGA (Horizontal Spillage)

Description, Cranbrook MUGA (Horizontal Spillage) Floor plan



Cranbrook MUGA (Horizontal Spillage)
Calculation results, Cranbrook MUGA (Horizontal Spillage)
Boundary line, Horizontal Spillage (E)



Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 82 lx
Minimum illuminance	E_{min}	: 0.5 lx
Maximum illuminance	E_{max}	: 452 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	: 1 : 155.18 (0.01)
Diversity U_d	E_{min}/E_{max}	: 1 : 855.45 (0.00)