

Carpark

Installation : LiDL Hoyland, Barnsley

Project number : D-442192

Customer :

Processed by : HSR / AGG

Date : 26.01.2022

Project description:

Maintenance Factor 0.79

Spill Light Maintenance Factor 1

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.

Not for construction

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.

NOT FOR CONSTRUCTION

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Installation : LiDL Hoyland, Barnsley
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1 Carpark

1.1 Description, Carpark

1.1.1 Luminaire data/Room elements

Product data:

Type No.\Make

		Philips Lighting	
3	23	Order No.	: !
		Luminaire name	: LL-E with Adjustable Bracket
		Equipment	: 1 x LED23S/840/- 22 W / 2600 lm
5	14	Order No.	: !
		Luminaire name	: LL-Canopy
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm
		PHILIPS/2019-07-08 Eulumdat/1 B-Tilt = 0.00	
6	15	Order No.	: !BGP292 T25 LED75-4S 740 DX10.ltd
		Luminaire name	: LL-C BGP292 T25 DX10 /740 (LL-C 7500lm) Side Entry
		Equipment	: 1 x LED75-4S/740 46.5 W / 7600 lm

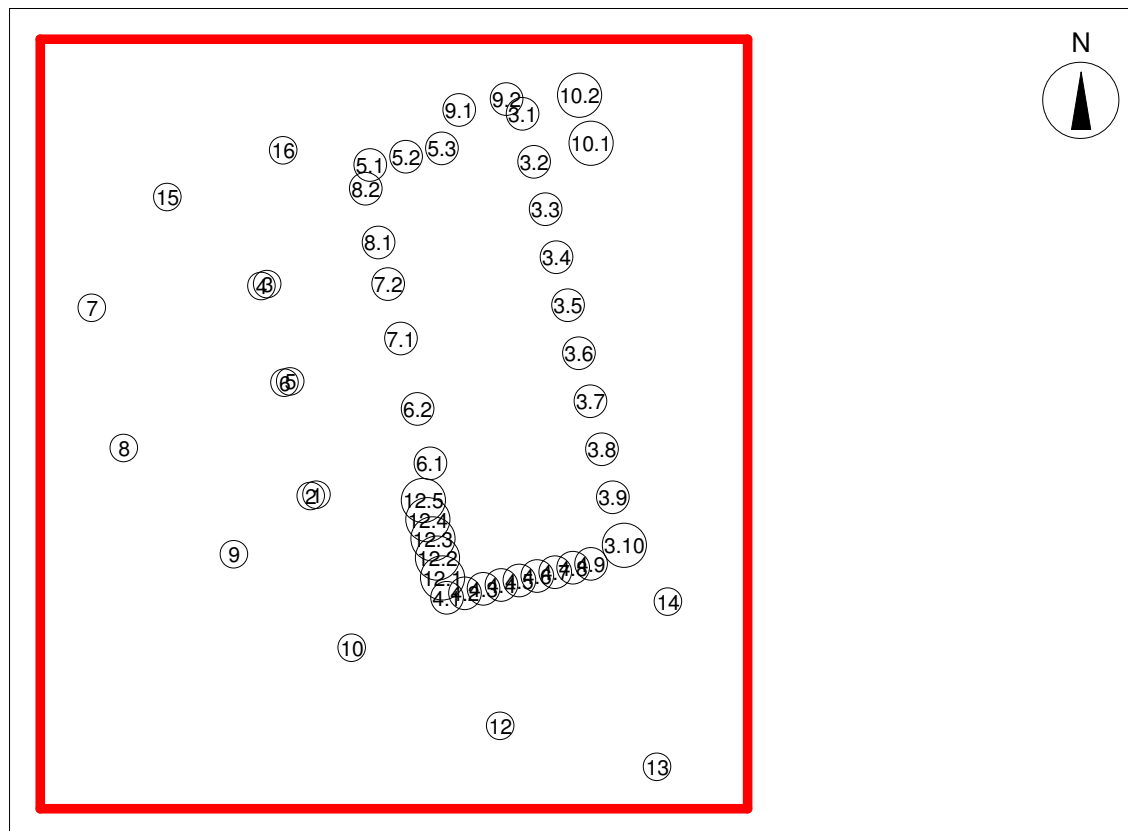
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1 Carpark

1.1 Description, Carpark

1.1.1 Luminaire data/Room elements

Floor with luminaire and sensor positions:



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1 Carpark

1.1 Description, Carpark

1.1.1 Luminaire data/Room elements

No.	Centre point			Rotation angle			Target coordinates		
	X [m]	Y [m]	Z [m]	Z [°]	C0 [°]	C90 [°]	Xa [m]	Ya [m]	Za [m]
Philips Lighting LL-E with Adjustable Bracket !									
3.1	308.52	62.87	3.05	13.24	0.00	-5.00	314.70	64.32	0.00
3.2	310.35	55.08	3.05	13.24	0.00	-5.00	316.53	56.53	0.00
3.3	312.18	47.29	3.05	13.24	0.00	-5.00	318.36	48.75	0.00
3.4	314.01	39.51	3.05	13.24	0.00	-5.00	320.19	40.96	0.00
3.5	315.85	31.72	3.05	13.24	0.00	-5.00	322.02	33.17	0.00
3.6	317.68	23.93	3.05	13.24	0.00	-5.00	323.86	25.39	0.00
3.7	319.51	16.14	3.05	13.24	0.00	-5.00	325.69	17.60	0.00
3.8	321.34	8.36	3.05	13.24	0.00	-5.00	327.52	9.81	0.00
3.9	323.18	0.57	3.05	13.24	0.00	-5.00	329.35	2.02	0.00
3.10	325.01	-7.22	3.05	13.24	0.00	-5.00	331.18	-5.76	0.00
9.1	298.12	63.45	3.05	103.24	0.00	-5.00	297.71	65.21	0.00
9.2	305.91	65.28	3.05	103.24	0.00	-5.00	305.50	67.04	0.00
10.1	319.59	58.07	1.75	193.24	0.00	-20.00	315.52	57.11	0.00
10.2	317.76	65.86	1.75	193.24	0.00	-20.00	313.68	64.90	0.00
5.1	283.72	54.51	3.05	103.24	0.00	-25.00	283.23	56.61	0.00
5.2	289.56	55.88	3.05	103.24	0.00	-25.00	289.07	57.99	0.00
5.3	295.40	57.25	3.05	103.24	0.00	-25.00	294.91	59.36	0.00
6.1	293.45	6.09	3.05	193.24	0.00	-10.00	289.30	5.12	0.00
6.2	291.39	14.85	3.05	193.24	0.00	-10.00	287.24	13.88	0.00
7.1	288.68	26.38	3.05	193.24	0.00	-10.00	284.53	25.40	0.00
7.2	286.61	35.14	3.05	193.24	0.00	-10.00	282.47	34.16	0.00
8.1	285.02	41.94	3.05	193.24	0.00	-10.00	280.87	40.97	0.00
8.2	282.96	50.70	3.05	193.24	0.00	-10.00	278.81	49.73	0.00
Philips Lighting LL-Canopy !									
4.1	296.23	-15.74	3.00	0.52	0.00	0.00	296.23	-15.74	0.00
4.2	299.15	-15.05	3.00	0.52	0.00	0.00	299.15	-15.05	0.00
4.3	302.07	-14.36	3.00	0.52	0.00	0.00	302.07	-14.36	0.00
4.4	304.99	-13.67	3.00	0.52	0.00	0.00	304.99	-13.68	0.00
4.5	307.91	-12.99	3.00	0.52	0.00	0.00	307.92	-12.99	0.00
4.6	310.83	-12.30	3.00	0.52	0.00	0.00	310.83	-12.30	0.00
4.7	313.75	-11.61	3.00	0.52	0.00	0.00	313.76	-11.61	0.00
4.8	316.67	-10.92	3.00	0.52	0.00	0.00	316.67	-10.92	0.00
4.9	319.60	-10.24	3.00	0.52	0.00	0.00	319.60	-10.24	0.00
12.1	295.45	-12.54	3.00	90.52	0.00	0.00	295.45	-12.54	0.00
12.2	294.67	-9.39	3.00	90.52	0.00	0.00	294.67	-9.39	0.00
12.3	293.88	-6.24	3.00	90.52	0.00	0.00	293.89	-6.24	0.00
12.4	293.10	-3.08	3.00	90.52	0.00	0.00	293.10	-3.08	0.00
12.5	292.31	0.07	3.00	90.52	0.00	0.00	292.32	0.07	0.00
PHILIPS/2019-07-08 Eulumdat/1 B-Tilt = 0.00 LL-C BGP292 T25 DX10 /740 (LL-C 7500lm) Side Entry !BGP292 T25 LED75-4S 740 DX10.Idt									
1	274.99	0.98	5.95	283.31	5.00	0.00	289.32	4.38	0.00
2	274.00	0.75	5.95	103.31	5.00	0.00	259.67	-2.64	0.00
3	266.94	35.14	5.95	283.31	5.00	0.00	281.28	38.53	0.00
4	265.96	34.90	5.95	103.31	5.00	0.00	251.62	31.51	0.00
5	270.71	19.38	5.95	283.31	5.00	0.00	285.05	22.78	0.00
6	269.73	19.15	5.95	103.31	5.00	0.00	255.40	15.76	0.00
7	238.41	31.31	5.95	283.31	5.00	0.00	252.74	34.70	0.00
8	243.67	8.60	5.95	283.31	5.00	0.00	258.01	11.99	0.00
9	261.55	-8.71	5.95	322.32	5.00	0.00	270.56	2.95	0.00
10	280.66	-23.89	5.95	322.32	5.00	0.00	289.67	-12.23	0.00

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1 Carpark

1.1 Description, Carpark

1.1.1 Luminaire data/Room elements

12	304.83	-36.57	5.95	339.36	10.00	0.00	310.02	-22.79	0.00
13	330.29	-43.27	5.95	342.00	5.00	0.00	334.85	-29.26	0.00
14	332.07	-16.43	5.95	104.00	10.00	0.00	317.68	-19.60	0.00
15	250.68	49.27	5.95	200.12	5.00	0.00	255.74	35.44	0.00
16	269.54	56.88	5.95	200.12	5.00	0.00	274.61	43.05	0.00

Structural elements

Measuring surface

							Rotation angle	
No.	xm[m]	ym[m]	zm[m]	Length	Width	z axis	L axis	Q axis
Carpark								
M 1	336.65	-43.63	0.00	125.59	110.28	80.75	0.00	0.00
Lorry Bay								
M 2	277.81	52.38	0.00	24.59	25.01	48.93	0.00	0.00
MOE Footpath								
M 3	296.32	62.95	0.00	38.75	81.54	13.25	0.00	0.00
Canopy Area								
M 4	294.47	-17.30	0.00	31.60	24.87	13.25	0.00	0.00
Plant Area								
M 5	310.85	54.49	0.00	9.66	12.57	13.46	0.00	0.00

Others

No.	xm[m]	ym[m]	zm[m]	Length	Width	z axis	Rotation angle		rho[%]
							L axis	Q axis	
LiDL Store									
A 1	298.37	-13.84	0.00	49.23	83.08	13.25	0.00	0.00	50
Canopy									
A 2	294.47	-17.30	3.00	32.06	25.34	13.25	0.00	0.00	50
A 3	238.08	46.77	0.00	85.87	52.50	21.09	0.00	0.00	50
A 4	292.38	-32.73	0.00	28.65	13.14	336.78	0.00	0.00	50

1.1 Description, Carpark

1.1.2 Floor plan



1

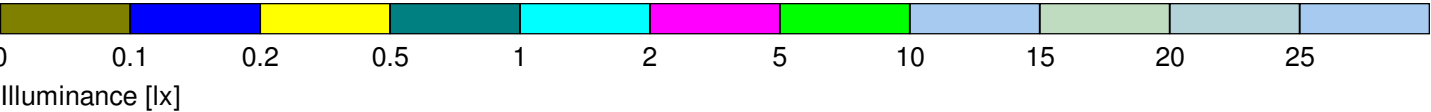
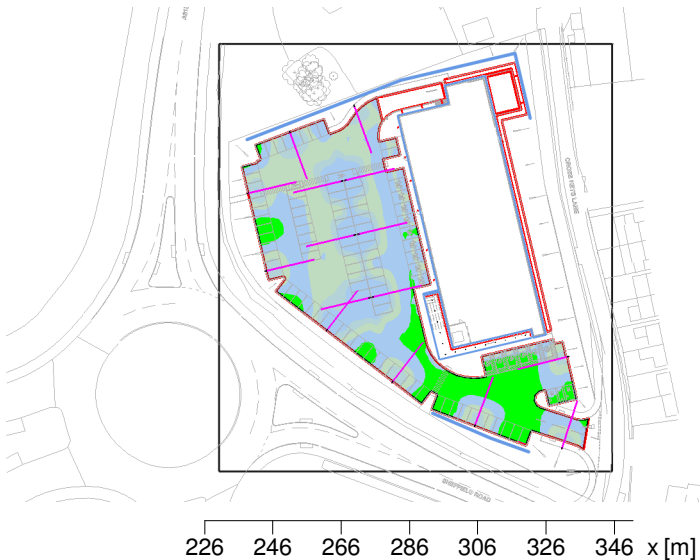
Carpark

1.2

Summary, Carpark

1.2.1

Result overview, Carpark



General	
Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79
Total luminous flux of all lamps	205440 lm
Total power	1672.5 W
Total power per area (14375.00 m²)	0.12 W/m²
Upward light ratio (ULR)	0.00

Illuminance	
Average illuminance	Em 15.9 lx
Minimum illuminance	Emin 4.6 lx
Maximum illuminance	Emax 56.1 lx
Uniformity Uo	Emin/Em 1:3.47 (0.29)
Diversity Ud	Emin/Emax 1:12.3 (0.08)

Type No.\Make

3 23		Philips Lighting
	Order No.	: !
	Luminaire name	: LL-E with Adjustable Bracket
	Equipment	: 1 x LED23S/840/- 22 W / 2600 lm
5 14		
	Order No.	: !
	Luminaire name	: LL-Canopy
	Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

The ULR value has been calculated without obstruction by other objects.

Object : Carpark
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1 Carpark

1.2 Summary, Carpark

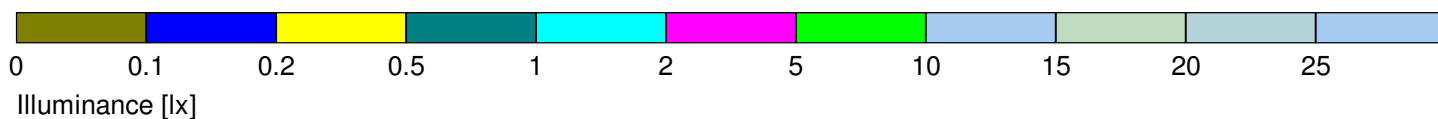
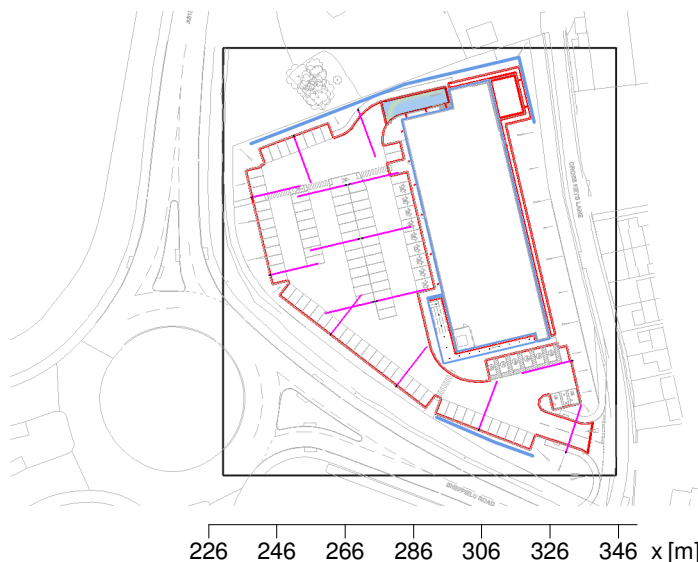
1.2.1 Result overview, Carpark

		PHILIPS/2019-07-08 Eulumdat/1 B-Tilt = 0.00
6	15	Order No. : !BGP292 T25 LED75-4S 740 DX10.Idt
		Luminaire name : LL-C BGP292 T25 DX10 /740 (LL-C 7500lm) Side Entray
		Equipment : 1 x LED75-4S/740 46.5 W / 7600 lm

Object : Carpark
 Installation : LiDL Hoyland, Barnsley
 Project number : D-442192
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1.2 Summary, Carpark

1.2.2 Result overview, Lorry Bay



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79

Total luminous flux of all lamps	205440 lm
Total power	1672.5 W
Total power per area (14375.00 m²)	0.12 W/m²
Upward light ratio (ULR)	0.00

Illuminance

Average illuminance	Em	28.2 lx
Minimum illuminance	Emin	11.4 lx
Maximum illuminance	Emax	69.7 lx
Uniformity Uo	Emin/Em	1:2.46 (0.41)
Diversity Ud	Emin/Emax	1:6.09 (0.16)

Type No.\Make

Philips Lighting	
3 23	Order No. : !
	Luminaire name : LL-E with Adjustable Bracket
	Equipment : 1 x LED23S/840/- 22 W / 2600 lm
5 14	Order No. : !
	Luminaire name : LL-Canopy
	Equipment : 1 x DLED-4000 33.5 W / 2260 lm

The ULR value has been calculated without obstruction by other objects.

NOT FOR CONSTRUCTION

Object : Carpark
Installation : LiDL Hoyland, Barnsley
Project number : D-442192
Date : 26.01.2022

1.2 Summary, Carpark

1.2.2 Result overview, Lorry Bay

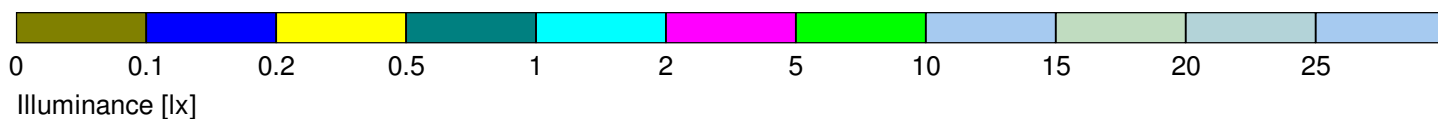
		PHILIPS/2019-07-08 Eulumdat/1 B-Tilt = 0.00
6	15	Order No. : !BGP292 T25 LED75-4S 740 DX10.Idt
		Luminaire name : LL-C BGP292 T25 DX10 /740 (LL-C 7500lm) Side Entray
		Equipment : 1 x LED75-4S/740 46.5 W / 7600 lm

Object : Carpark
 Installation : LiDL Hoyland, Barnsley
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2 MOE Eme Ltg

2.1 Summary, MOE Eme Ltg

2.1.1 Result overview, MOE Footpath



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79

Total luminous flux of all lamps	5040 lm
Total power	42 W
Total power per area (4750.00 m²)	0.01 W/m²
Upward light ratio (ULR)	0.00

Illuminance

Average illuminance	Em	5.9 lx
Minimum illuminance	Emin	0.2 lx
Maximum illuminance	Emax	30.6 lx
Uniformity Uo	Emin/Em	1:34.8 (0.03)
Diversity Ud	Emin/Emax	1:182 (0.01)

Type No.\Make

	Philips Lighting
1	Order No. : !1300mm Linear Emergency Luminaire
14	Luminaire name : LL-E EM with Adjustable Bracket
	Equipment : 1 x LED23S/840/- 3 W / 360 lm

The ULR value has been calculated without obstruction by other objects.

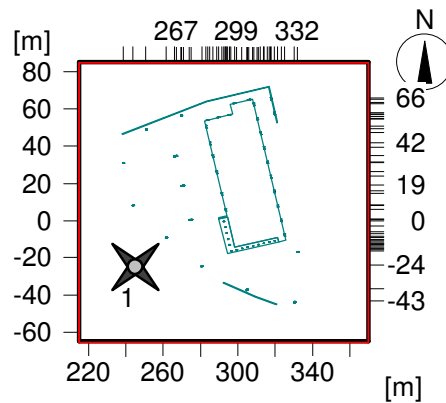
NOT FOR CONSTRUCTION

Object : Carpark
Installation : LiDL Hoyland, Barnsley
Project number : D-442192
Date : 26.01.2022

3 Carpark Spill Light

3.1 Calculation results, Carpark Spill Light

3.1.1 Luminous intensity - I(p) 1



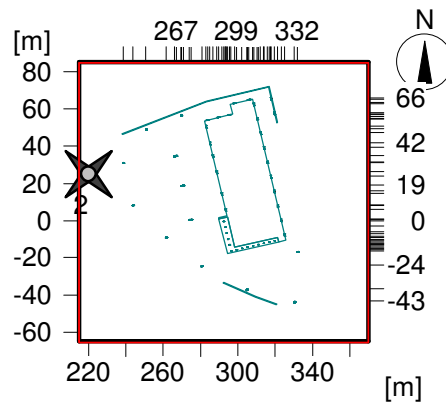
Measuring point for luminous intensity: I(p) 1

Position : x = 245.00 m, y = -25.00 m, z = 1.50 m

No luminaires with luminous intensities higher than 1 kcd found.

3.1 Calculation results, Carpark Spill Light

3.1.2 Luminous intensity - I(p) 2



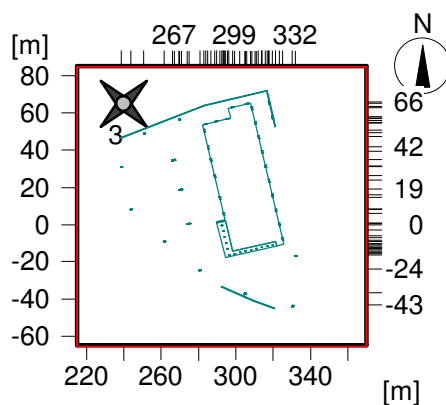
Measuring point for luminous intensity: I(p) 2

Position : x = 220.00 m, y = 25.00 m, z = 1.50 m

No luminaires with luminous intensities higher than 1 kcd found.

3.1 Calculation results, Carpark Spill Light

3.1.3 Luminous intensity - $I(p)$ 3



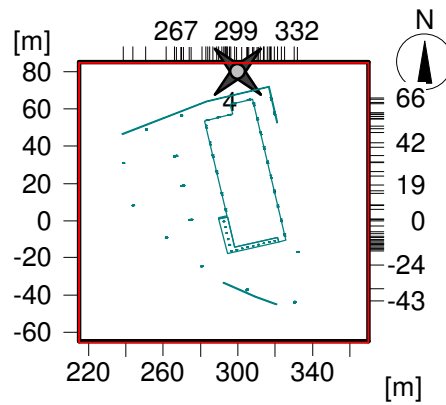
Measuring point for luminous intensity: $I(p)$ 3

Position : $x = 240.00$ m, $y = 65.00$ m, $z = 1.50$ m

No luminaires with luminous intensities higher than 1 kcd found.

3.1 Calculation results, Carpark Spill Light

3.1.4 Luminous intensity - I(p) 4



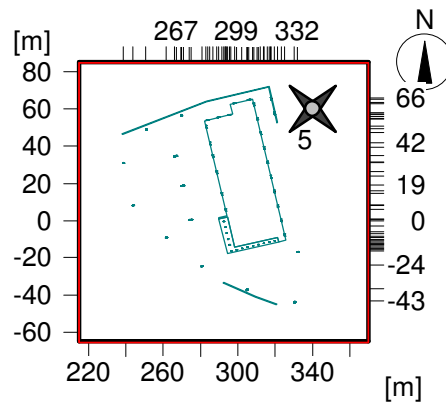
Measuring point for luminous intensity: I(p) 4

Position : x = 300.00 m, y = 80.00 m, z = 1.50 m

No luminaires with luminous intensities higher than 1 kcd found.

3.1 Calculation results, Carpark Spill Light

3.1.5 Luminous intensity - $I(p)$ 5



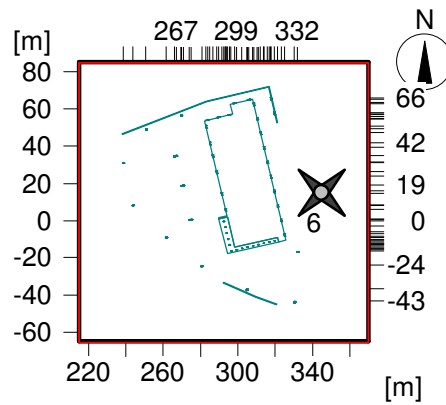
Measuring point for luminous intensity: $I(p)$ 5

Position : $x = 340.00$ m, $y = 60.00$ m, $z = 1.50$ m

No luminaires with luminous intensities higher than 1 kcd found.

3.1 Calculation results, Carpark Spill Light

3.1.6 Luminous intensity - $I(p)$ 6



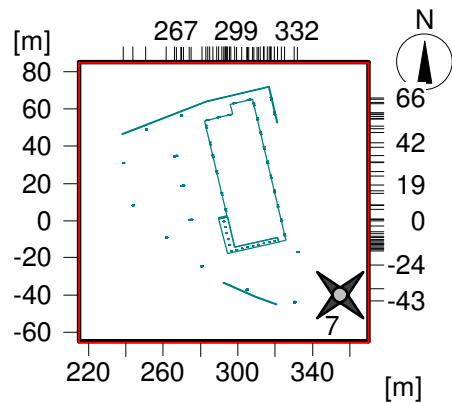
Measuring point for luminous intensity: $I(p)$ 6

Position : $x = 345.00$ m, $y = 15.00$ m, $z = 1.50$ m

No luminaires with luminous intensities higher than 1 kcd found.

3.1 Calculation results, Carpark Spill Light

3.1.7 Luminous intensity - I(p) 7



Measuring point for luminous intensity: I(p) 7
Position : x = 355.00 m, y = -40.00 m, z = 1.50 m

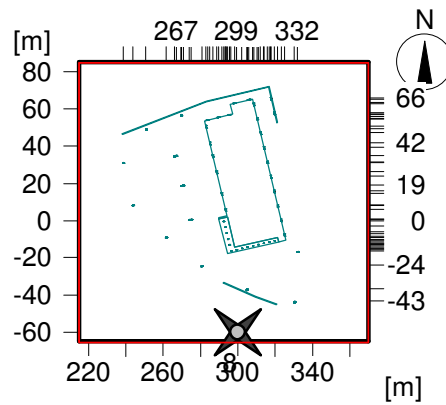
Output criteria:

- 1. Luminaires with luminous intensities higher than 1 kcd
- 2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity
		x[m]	y[m]	z[m]	
1	LL-C BGP292 T25 DX10 /740 (LL-C ..., !BGP292 T25 LED75-4S..	330.29	-43.27	5.95	1.068

3.1 Calculation results, Carpark Spill Light

3.1.8 Luminous intensity - I(p) 8



Measuring point for luminous intensity: I(p) 8

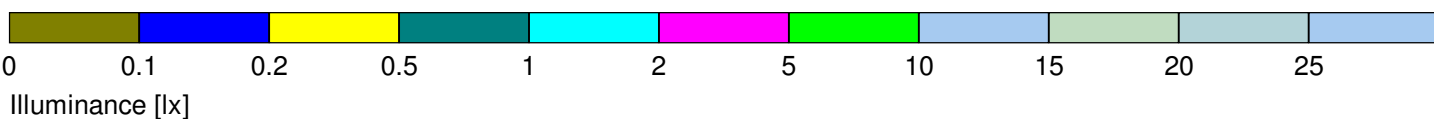
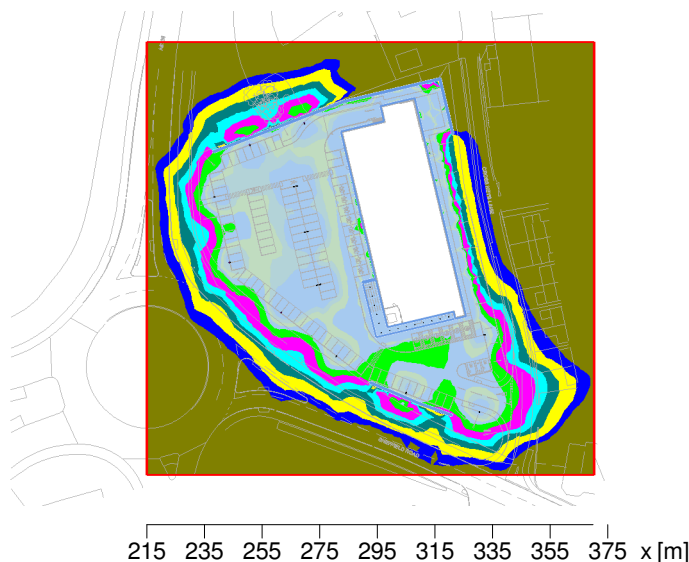
Position : x = 300.00 m, y = -60.00 m, z = 1.50 m

No luminaires with luminous intensities higher than 1 kcd found.

Object : Carpark
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3.1 Summary, Carpark Spill Light

3.1.9 Result overview, Horizontal Spill Light @0M



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	1.00
Total luminous flux of all lamps	205440 lm
Total power	1672.5 W
Total power per area (23250.00 m²)	0.07 W/m² (1.02 W/m²/100lx)
Upward light ratio (ULR)	0.00

Illuminance

Average illuminance	Em	7 lx
Minimum illuminance	Emin	0 lx
Maximum illuminance	Emax	200 lx
Uniformity Uo	Emin/Em	1:--- (---)
Diversity Ud	Emin/Emax	1:--- (---)

Type No.\Make

Philips Lighting			
3	23	Order No.	: !
		Luminaire name	: LL-E with Adjustable Bracket
		Equipment	: 1 x LED23S/840/- 22 W / 2600 lm
5	14	Order No.	: !
		Luminaire name	: LL-Canopy
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

The ULR value has been calculated without obstruction by other objects.

Object : Carpark
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3.1 Summary, Carpark Spill Light

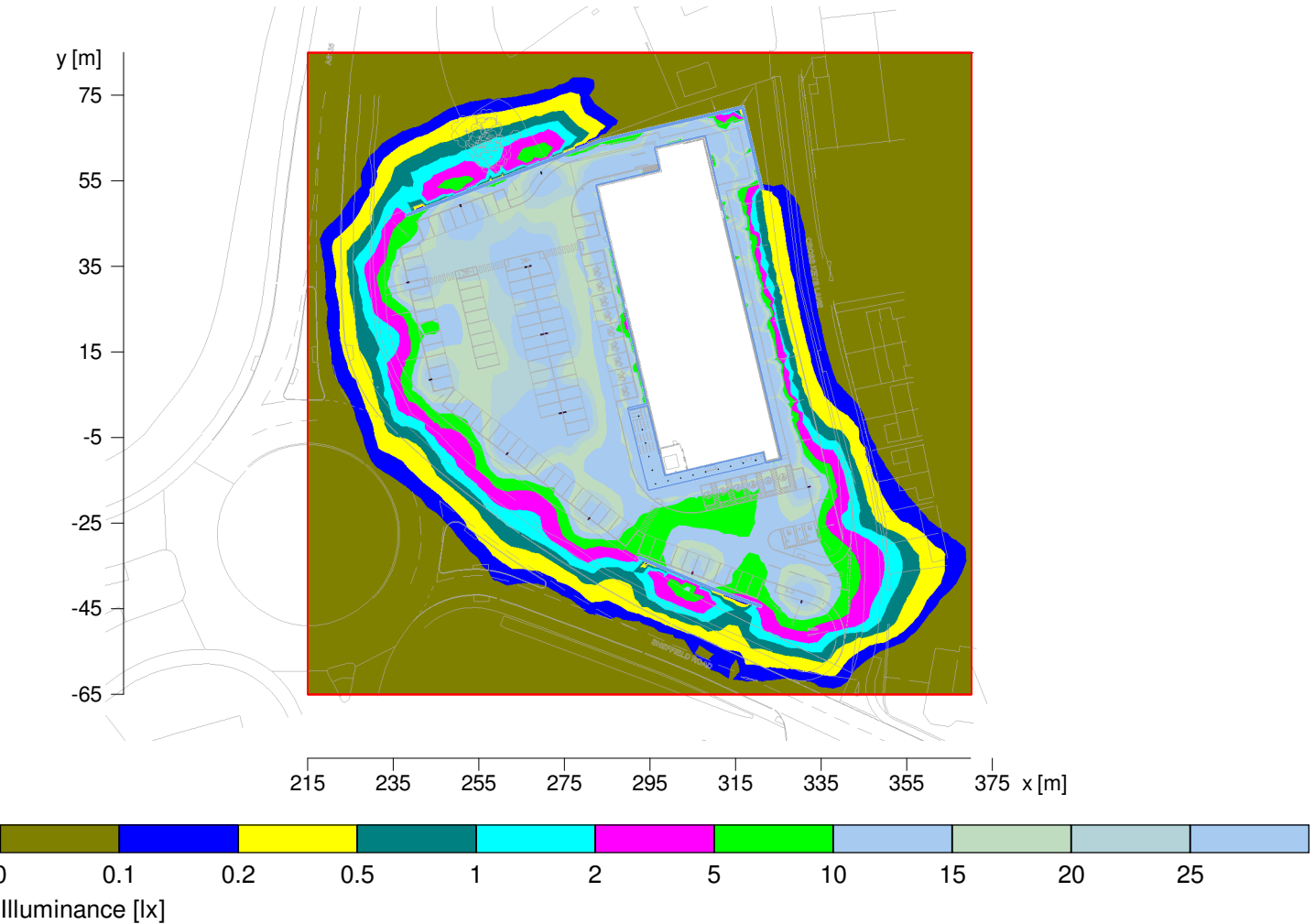
3.1.9 Result overview, Horizontal Spill Light @0M

		PHILIPS/2019-07-08 Eulumdat/1 B-Tilt = 0.00	
6	15	Order No.	: !BGP292 T25 LED75-4S 740 DX10.Idt
		Luminaire name	: LL-C BGP292 T25 DX10 /740 (LL-C 7500lm) Side Entray
		Equipment	: 1 x LED75-4S/740 46.5 W / 7600 lm

3 Carpark Spill Light

3.2 Calculation results, Carpark Spill Light

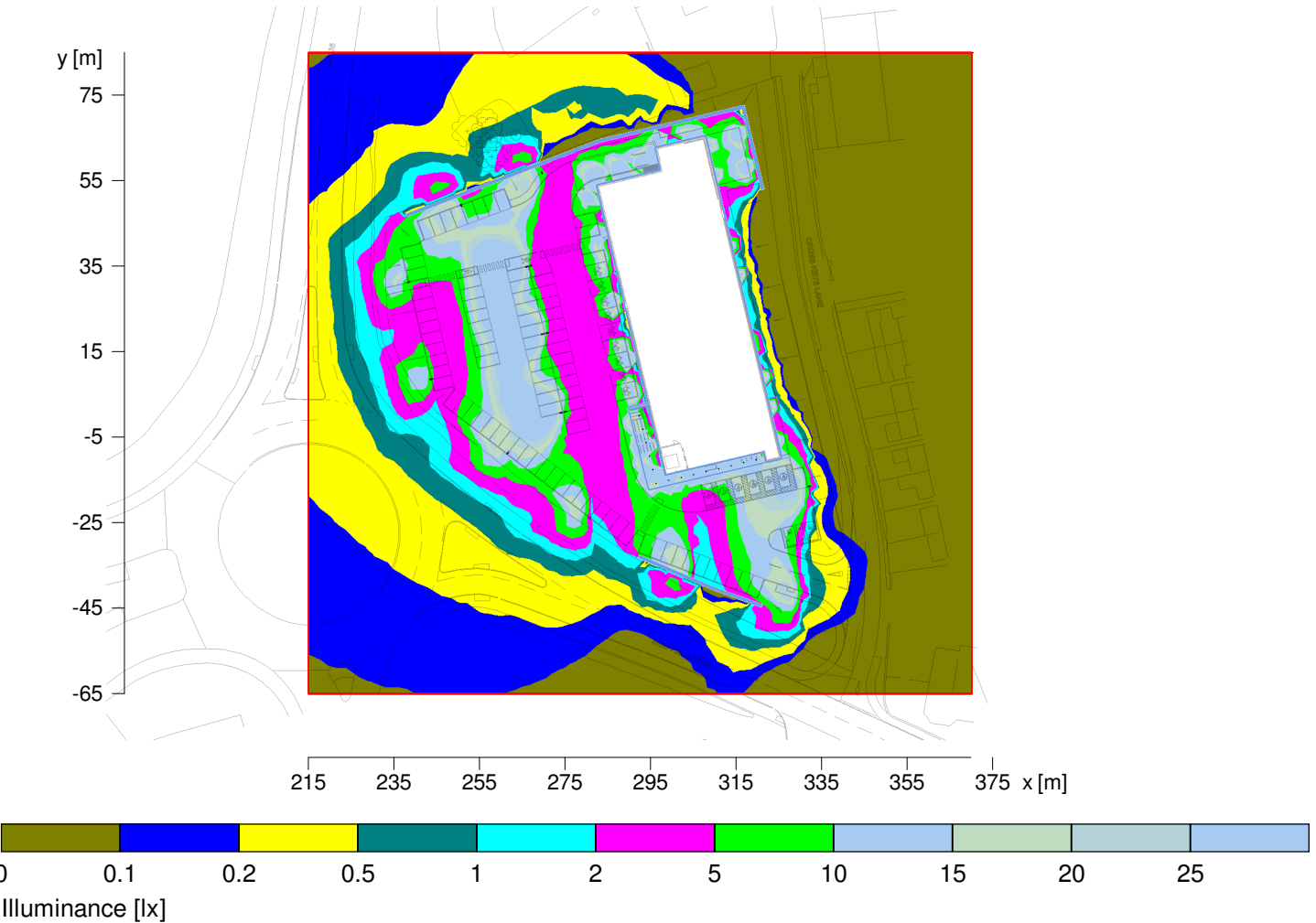
3.2.1 Pseudo colours, Horizontal Spill Light @0M (E)



Height reference plane		: 0.00 m
Average illuminance	Em	: 7 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 200 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

3.2 Calculation results, Carpark Spill Light

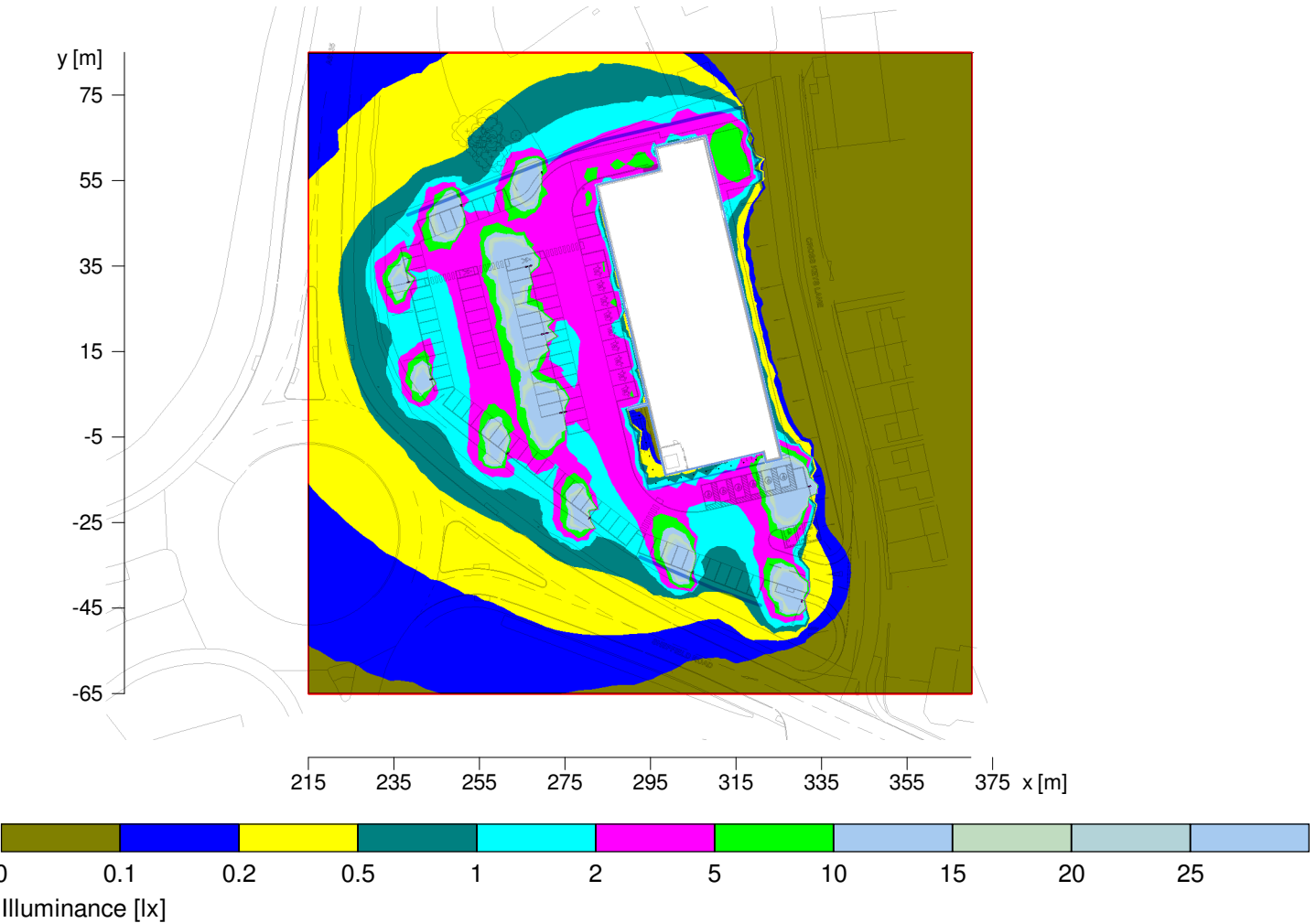
3.2.2 Pseudo colours, Vertical Spill Light @1.5M East Facing Receptors (Ev, 90°)



Vertical illuminance		
Height reference plane		: 1.50 m
from direction		: 90°
Average illuminance	Em	: 3.3 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 87.4 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

3.2 Calculation results, Carpark Spill Light

3.2.3 Pseudo colours, Vertical Spill Light @4M East Facing Receptors (Ev, 90°)

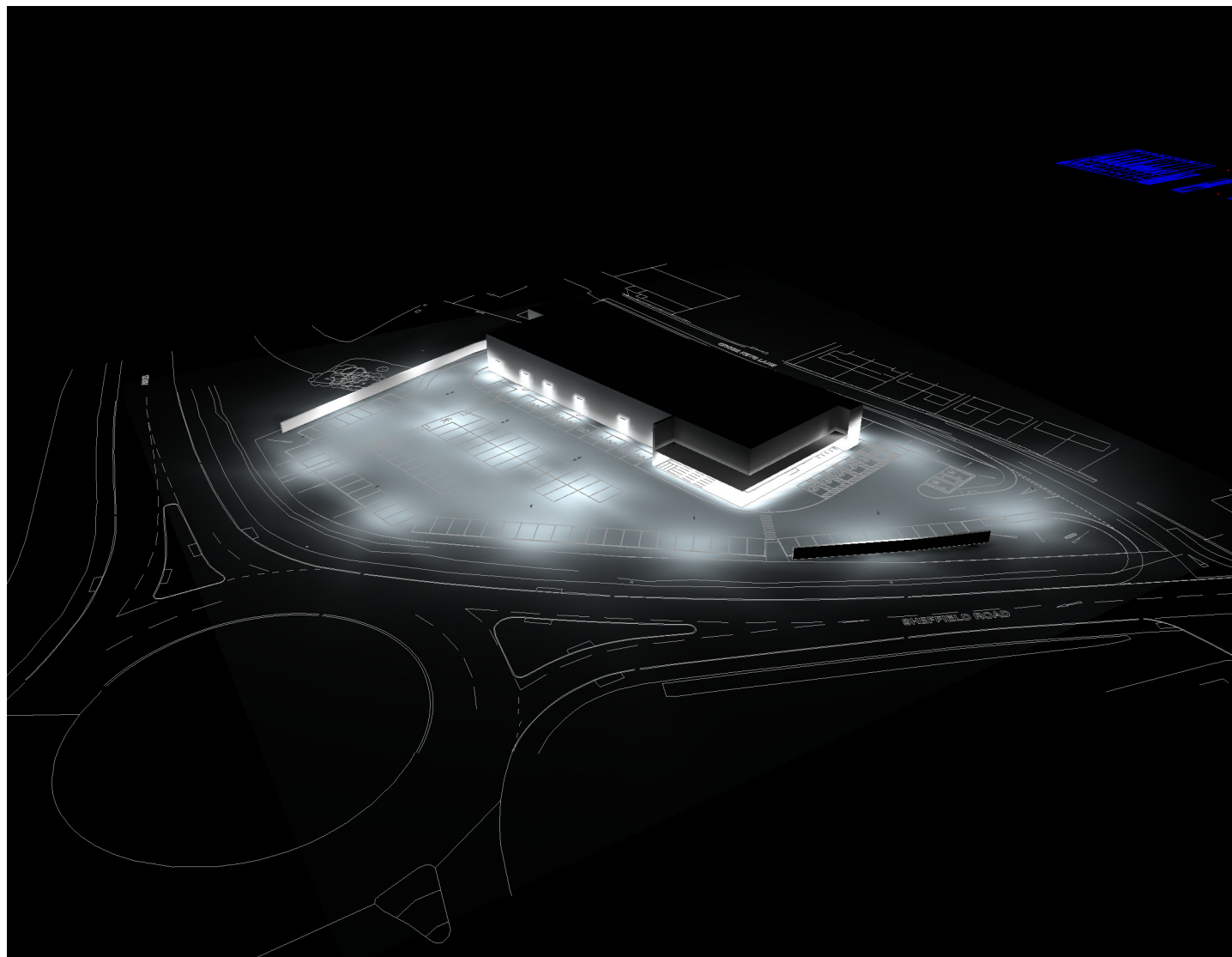


Vertical illuminance		
Height reference plane		: 4.00 m
from direction		: 90°
Average illuminance	Em	: 3 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 151 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

Object : Carpark
Installation : LiDL Hoyland, Barnsley
Project number : D-442192
Date : 26.01.2022

3.2 Calculation results, Carpark Spill Light

3.2.4 3D luminance, View 1



3.2 Calculation results, Carpark Spill Light

3.2.5 3D pseudo colours, View 1 (E)

