

LiDL Brookside Road, Uttoxeter

Installation : Carpark

Project number :

Customer : LiDL

Processed by : HSR / AGG

Date : 06.06.2018

Project description:

Maintenance Factor 0.79

No obstructions are considered in these lighting calculations.

Lighting levels take into account approximated spill light from the stores sales area.

Lighting levels 15 Lux Ave with 25% uniformity.

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.

Lighting Proposal. See attached Appendix A.

The following values are based on exact calculations on calibrated lamps, luminaires and their arrangement. In practice, gradual divergences can occur.

Guarantee claims for luminaire data are excluded.

Relux and the luminaire manufacturers accept no liability for consequential damage and damage which is occasioned to the user or to third parties.

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018

Table of contents

First Page	1
Table of contents	2
1 Carpark	
1.1 Description, Carpark	
1.1.1 Luminaire data/Room elements	4
1.1.2 Floor plan	9
1.2 Summary, Carpark	
1.2.1 Result overview, Carpark	10
1.2.2 Result overview, Delivery Area	12
1.2.3 Result overview, Lorry Bay	14
1.2.4 Result overview, Pedestrian Access	16
2 RoH Footpath Eme Ltg	
2.1 Summary, RoH Footpath Eme Ltg	
2.1.1 Result overview, Between Units Footpath	18
2.1.2 Result overview, RoH Footpath	19
3 Carpark Spill Light	
3.1 Calculation results, Carpark Spill Light	
3.1.1 Luminous intensity: Luminous intensity 1	20
3.1.2 Luminous intensity: Luminous intensity 2	21
3.1.3 Luminous intensity: Luminous intensity 3	22
3.1.4 Luminous intensity: Luminous intensity 4	23
3.1.5 Luminous intensity: Luminous intensity 5	24
3.1.6 Luminous intensity: Luminous intensity 6	25
3.1.7 Luminous intensity: Luminous intensity 7	26
3.1.8 Luminous intensity: Luminous intensity 8	27
3.2 Summary, Carpark Spill Light	
3.2.1 Result overview, Horizontal Spill Light @0M	28
3.3 Calculation results, Carpark Spill Light	
3.3.1 Pseudo colours, Horizontal Spill Light @0M (E)	30
3.3.2 Pseudo colours, Vertical Spill Light @1.5M East Facing Receptors (Ev, East (90°))	31
3.3.3 Pseudo colours, Vertical Spill Light @4M East Facing Receptors (Ev, East (90°))	32

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018



Table of contents

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018





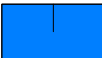

1 Carpark

1.1 Description, Carpark

1.1.1 Luminaire data/Room elements

Product data:

Type No.\Make

		Philips Lighting	
1	30	Order No.	: !Luminaire Ref: LL-E
		Luminaire name	: WT460C L1300 1xLED23S/840 WB
		Equipment	: 1 x LED23S/840/- 22 W / 2600 lm
2	11	Order No.	: !
		Luminaire name	: TMS122 1xTL5-35W HFP
		Equipment	: 1 x TL5-35W/840 39 W / 1000 lm
3	27	Order No.	: !910770202405
		Luminaire name	: LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm
4	6	Order No.	: !910770202407
		Luminaire name	: LumiStreet BGP213 LED75-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 7500 lm
6	2	Order No.	:
		Luminaire name	: BGP212 T25 1 xLED49-4S/740 DW50
		Equipment	: 1 x LED49-4S/740 35 W / 4900 lm
7	29	Order No.	: !Luminaire Ref: LL-CANOPY
		Luminaire name	: BBS490 1xDLED-4000 PG
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018



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 WT460C L1300 1xLED23S/840 WB !Luminaire Ref: LL-E									
8.1	119.37	127.65	3.06	12.37	0.00	-25.00	120.76	127.95	0.00
8.2	121.40	118.37	3.06	12.37	0.00	-25.00	122.79	118.67	0.00
8.3	123.44	109.09	3.06	12.37	0.00	-25.00	124.83	109.39	0.00
9.1	119.54	106.59	3.05	282.37	0.00	-5.00	119.60	106.33	0.00
9.2	113.68	105.30	3.05	282.37	0.00	-5.00	113.74	105.04	0.00
10.1	106.07	103.63	3.05	282.37	0.00	-5.00	106.13	103.37	0.00
10.2	98.35	101.94	3.05	282.37	0.00	-5.00	98.41	101.68	0.00
10.3	90.63	100.25	3.05	282.37	0.00	-5.00	90.69	99.99	0.00
11.1	79.48	97.81	3.05	282.37	0.00	-5.00	79.54	97.55	0.00
14.1	128.75	134.05	1.75	192.37	0.00	-5.00	128.60	134.01	0.00
14.2	127.57	139.42	1.75	192.37	0.00	-5.00	127.42	139.39	0.00
1.1	46.86	122.37	3.05	102.37	0.00	-5.00	46.80	122.63	0.00
1.2	54.67	124.08	3.05	102.37	0.00	-5.00	54.61	124.34	0.00
1.3	62.48	125.79	3.05	102.37	0.00	-5.00	62.43	126.05	0.00
1.4	70.30	127.51	3.05	102.37	0.00	-5.00	70.24	127.77	0.00
1.5	78.11	129.22	3.05	102.37	0.00	-5.00	78.06	129.48	0.00
1.6	85.93	130.94	3.05	102.37	0.00	-5.00	85.87	131.20	0.00
1.7	93.74	132.65	3.05	102.37	0.00	-5.00	93.68	132.91	0.00
1.8	101.56	134.36	3.05	102.37	0.00	-5.00	101.50	134.62	0.00
1.9	109.37	136.08	3.05	102.37	0.00	-5.00	109.31	136.34	0.00
1.10	117.18	137.79	3.05	102.37	0.00	-5.00	117.13	138.05	0.00
7.1	122.59	137.63	3.05	12.37	0.00	-5.00	122.85	137.69	0.00
7.2	123.77	132.26	3.05	12.37	0.00	-5.00	124.03	132.31	0.00
13.1	45.99	120.06	3.05	192.37	0.00	-5.00	45.73	120.00	0.00
15.1	97.69	44.50	3.05	282.37	0.00	-5.00	97.75	44.24	0.00
16.1	86.27	96.28	3.05	102.37	0.00	-5.00	86.21	96.54	0.00
17.1	121.38	97.45	3.05	12.37	0.00	-5.00	121.64	97.51	0.00
18.1	123.61	87.27	3.05	12.37	0.00	-5.00	123.87	87.33	0.00
19.1	112.29	78.23	3.05	12.37	0.00	-5.00	112.55	78.28	0.00
20.1	116.91	57.17	3.05	12.37	0.00	-5.00	117.17	57.23	0.00
Philips Lighting TMS122 1xTL5-35W HFP !									
2.1	57.62	96.04	2.96	192.25	0.00	0.00	57.62	96.04	0.00
2.2	57.16	98.19	2.96	192.25	0.00	0.00	57.16	98.19	0.00
2.3	56.69	100.34	2.96	192.25	0.00	0.00	56.69	100.34	0.00
2.4	56.22	102.49	2.96	192.25	0.00	0.00	56.22	102.49	0.00
2.5	55.76	104.64	2.96	192.25	0.00	0.00	55.76	104.64	0.00
2.6	55.29	106.79	2.96	192.25	0.00	0.00	55.29	106.79	0.00
2.7	54.82	108.94	2.96	192.25	0.00	0.00	54.82	108.94	0.00
2.8	54.36	111.09	2.96	192.25	0.00	0.00	54.36	111.09	0.00
2.9	53.89	113.24	2.96	192.25	0.00	0.00	53.89	113.24	0.00
2.10	53.42	115.39	2.96	192.25	0.00	0.00	53.42	115.39	0.00
2.11	52.96	117.54	2.96	192.25	0.00	0.00	52.96	117.54	0.00
Philips Lighting LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Column !910770202405									
2	42.50	53.53	6.00	12.50	5.00	0.00	39.29	68.03	0.00
3	42.94	51.58	6.00	192.50	5.00	0.00	46.15	37.08	0.00
17	66.92	58.89	6.00	12.50	5.00	0.00	63.71	73.39	0.00
18	67.36	56.94	6.00	192.50	5.00	0.00	70.57	42.44	0.00
19	38.97	69.65	6.00	12.50	5.00	0.00	35.75	84.15	0.00
20	39.40	67.70	6.00	192.50	5.00	0.00	42.62	53.20	0.00

Philips Lighting, Philips Centre - Guildford Business Park, Guildford Surrey GU2 8XH
 NOT FOR CONSTRUCTION

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018



1 Carpark

1.1 Description, Carpark

1.1.1 Luminaire data/Room elements

23	63.39	75.01	6.00	12.50	5.00	0.00	60.17	89.51	0.00
24	63.82	73.06	6.00	192.50	5.00	0.00	67.04	58.56	0.00
27	46.04	37.42	6.00	12.50	5.00	0.00	42.83	51.92	0.00
28	46.47	35.46	6.00	192.50	5.00	0.00	49.69	20.97	0.00
29	35.87	88.94	6.00	282.50	5.00	0.00	50.36	92.15	0.00
30	33.91	88.50	6.00	102.50	5.00	0.00	19.41	85.29	0.00
33	14.13	47.57	6.00	282.50	5.00	0.00	28.63	50.78	0.00
34	17.88	30.47	6.00	282.50	5.00	0.00	32.38	33.69	0.00
35	41.37	18.48	6.00	12.50	5.00	0.00	38.16	32.97	0.00
36	19.21	87.84	6.00	282.50	5.00	0.00	33.71	91.06	0.00
37	17.26	87.41	6.00	102.50	5.00	0.00	2.76	84.19	0.00
38	32.78	111.39	6.00	192.50	5.00	0.00	36.00	96.90	0.00
39	80.63	43.98	6.00	12.50	5.00	0.00	77.41	58.48	0.00
40	83.94	87.20	6.00	102.50	5.00	0.00	69.44	83.98	0.00
41	90.44	62.00	6.00	102.50	5.00	0.00	75.94	58.79	0.00
49	15.38	108.21	6.00	243.20	5.00	0.00	28.64	101.52	0.00
50	67.63	9.27	6.00	90.00	5.00	0.00	52.78	9.27	0.00
55	10.38	64.66	6.00	282.50	5.00	0.00	24.88	67.87	0.00
57	6.10	84.19	6.00	282.50	5.00	0.00	20.59	87.41	0.00
51	53.47	20.74	6.00	270.00	5.00	0.00	68.32	20.74	0.00
59	67.92	41.05	6.00	90.00	5.00	0.00	53.06	41.05	0.00

Philips Lighting LumiStreet BGP213 LED75-4S/740 I DX10 7024 D9 48/60 6m Column !910770202407

42	138.32	96.99	6.00	102.50	5.00	0.00	123.82	93.78	0.00
44	142.59	75.79	6.00	102.50	5.00	0.00	128.09	72.58	0.00
46	145.68	45.36	6.00	102.50	5.00	0.00	131.18	42.15	0.00
47	151.27	23.72	6.00	102.50	5.00	0.00	136.77	20.50	0.00
48	130.39	51.76	6.00	12.50	5.00	0.00	127.18	66.25	0.00
52	115.12	69.84	6.00	282.50	5.00	0.00	129.62	73.05	0.00

Philips Lighting BGP212 T25 1 xLED49-4S/740 DW50

58	2.42	83.37	5.00	282.50	0.00	0.00	8.90	84.81	0.00
60	6.71	63.84	5.00	282.50	0.00	0.00	13.19	65.28	0.00

Philips Lighting BBS490 1xDLED-4000 PG !Luminaire Ref: LL-CANOPY

1.1	54.39	89.94	3.00	0.52	0.00	0.00	54.39	89.94	0.00
2.1	57.23	90.56	3.00	0.52	0.00	0.00	57.23	90.56	0.00
3.1	60.06	91.18	3.00	0.52	0.00	0.00	60.06	91.18	0.00
4.1	62.89	91.80	3.00	0.52	0.00	0.00	62.89	91.80	0.00
5.1	65.73	92.42	3.00	0.52	0.00	0.00	65.73	92.42	0.00
6.1	68.56	93.04	3.00	0.52	0.00	0.00	68.56	93.04	0.00
7.1	71.39	93.66	3.00	0.52	0.00	0.00	71.39	93.66	0.00
1.1	53.73	92.97	3.00	90.52	0.00	0.00	53.73	92.97	0.00
2.1	53.07	96.00	3.00	90.52	0.00	0.00	53.07	96.00	0.00
3.1	52.40	99.03	3.00	90.52	0.00	0.00	52.40	99.03	0.00
4.1	51.74	102.05	3.00	90.52	0.00	0.00	51.74	102.05	0.00
5.1	51.08	105.08	3.00	90.52	0.00	0.00	51.08	105.08	0.00
6.1	50.41	108.11	3.00	90.52	0.00	0.00	50.41	108.11	0.00
7.1	49.75	111.14	3.00	90.52	0.00	0.00	49.75	111.14	0.00
8.1	49.09	114.17	3.00	90.52	0.00	0.00	49.09	114.17	0.00
9.1	48.42	117.19	3.00	90.52	0.00	0.00	48.42	117.19	0.00
1.1	92.96	56.62	3.00	90.52	0.00	0.00	92.96	56.62	0.00
2.1	92.32	59.55	3.00	90.52	0.00	0.00	92.32	59.55	0.00
3.1	91.68	62.48	3.00	90.52	0.00	0.00	91.68	62.48	0.00
4.1	91.04	65.41	3.00	90.52	0.00	0.00	91.04	65.41	0.00

Philips Lighting, Philips Centre - Guildford Business Park, Guildford Surrey GU2 8XH
 NOT FOR CONSTRUCTION

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

1 Carpark

1.1 Description, Carpark

1.1.1 Luminaire data/Room elements

5.1	90.40	68.34	3.00	90.52	0.00	0.00	90.40	68.34	0.00
6.1	89.75	71.27	3.00	90.52	0.00	0.00	89.75	71.27	0.00
7.1	89.11	74.21	3.00	90.52	0.00	0.00	89.11	74.21	0.00
8.1	88.47	77.14	3.00	90.52	0.00	0.00	88.47	77.14	0.00
9.1	87.83	80.07	3.00	90.52	0.00	0.00	87.83	80.07	0.00
10.1	87.19	83.00	3.00	90.52	0.00	0.00	87.19	83.00	0.00
11.1	86.55	85.93	3.00	90.52	0.00	0.00	86.54	85.93	0.00
12.1	85.90	88.86	3.00	90.52	0.00	0.00	85.90	88.86	0.00
13.1	85.26	91.79	3.00	90.52	0.00	0.00	85.26	91.79	0.00

Structural elements

Virtual measuring surface

No.	xm[m]	ym[m]	zm[m]	Length	Width	z axis	Rotation angle	
							L axis	Q axis
Carpark								
m 1	66.48	11.73	-0.00	92.86	118.55	274.77	0.00	0.00
Delivery Area								
m 2	152.58	19.17	-0.00	64.78	97.80	290.08	0.00	0.00
Lorry Bay								
m 3	125.62	106.09	0.00	10.16	24.13	282.37	0.00	0.00
Pedestrian Access								
m 4	7.17	61.40	0.00	10.82	27.13	12.37	0.00	0.00
Between Units Footpath								
m 6	77.21	95.40	0.00	45.45	11.53	12.50	0.00	0.00
RoH Footpath								
m 5	122.27	138.84	0.00	78.42	22.41	282.34	0.00	0.00

Others

No.	xm[m]	ym[m]	zm[m]	Length	Width	z axis	Rotation angle	
							L axis	Q axis
LiDL Store								
A 1	73.17	91.66	0.00	84.26	51.56	12.37	0.00	0.00
Canopy								
A 2	73.17	91.68	3.00	26.72	35.34	12.37	0.00	0.00
Units								
A 3	96.52	44.32	0.00	46.11	59.30	12.37	0.00	0.00
Canopy								
A 4	92.37	55.44	3.00	9.79	37.53	12.37	0.00	0.00
A 5	147.40	44.60	0.00	19.83	27.78	288.94	0.00	0.00
Tr 1	7.02	61.16	0.00	8.96	24.17	12.37	0.00	0.00
Tr 2	0.36	87.66	0.00	24.99	23.84	327.37	0.00	0.00
Tr 7	2.21	83.13	4.75	0.10	0.39	102.50	0.00	0.00
Tr 8	6.50	63.60	4.75	0.10	0.39	102.50	0.00	0.00
Tr 3	32.90	111.74	5.75	0.39	0.10	192.50	0.00	0.00
Tr 4	15.19	108.53	5.75	0.19	0.36	243.20	0.00	0.00
Tr 5	5.85	83.93	5.75	0.10	0.39	102.50	0.00	0.00
Tr 6	10.14	64.42	5.75	0.10	0.39	102.50	0.00	0.00
Tr 9	13.89	47.31	5.75	0.10	0.39	102.50	0.00	0.00

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018



1 Carpark

1.1 Description, Carpark

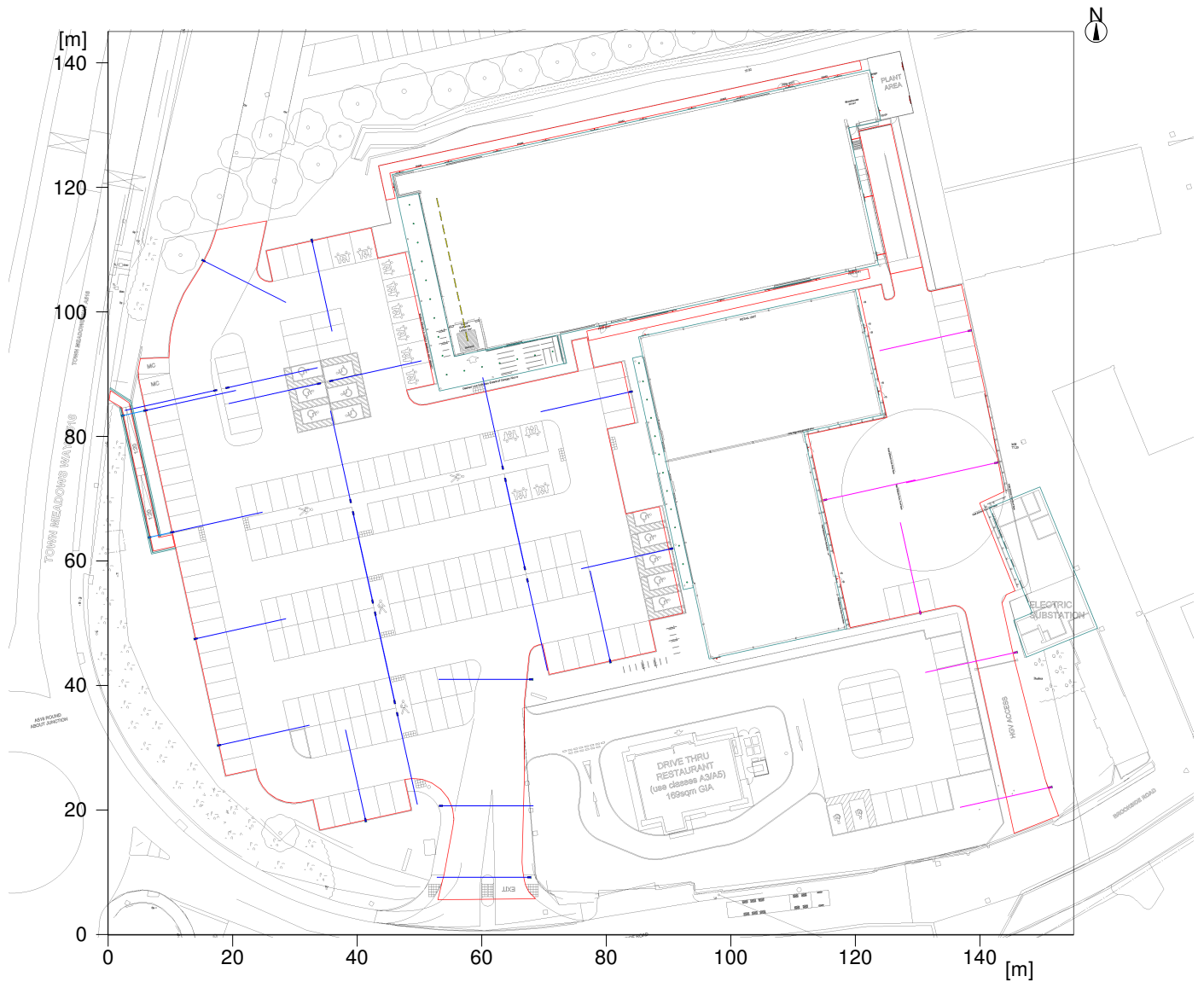
1.1.1 Luminaire data/Room elements

Tr 10	17.64	30.22	5.75	0.10	0.39	102.50	0.00	0.00
Tr 11	41.25	18.13	5.75	0.39	0.10	12.50	0.00	0.00
Tr 12	67.93	9.06	5.75	0.02	0.39	90.00	0.00	0.00
Tr 13	68.25	40.84	5.75	0.02	0.39	90.00	0.00	0.00
Tr 14	80.50	43.63	5.75	0.39	0.10	12.50	0.00	0.00
Tr 15	151.61	23.60	5.75	0.10	0.39	102.50	0.00	0.00
Tr 16	146.03	45.23	5.75	0.10	0.39	102.50	0.00	0.00
Tr 17	142.93	75.67	5.75	0.10	0.39	102.50	0.00	0.00
Tr 18	138.67	96.86	5.75	0.10	0.39	102.50	0.00	0.00

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018

1.1 Description, Carpark

1.1.2 Floor plan

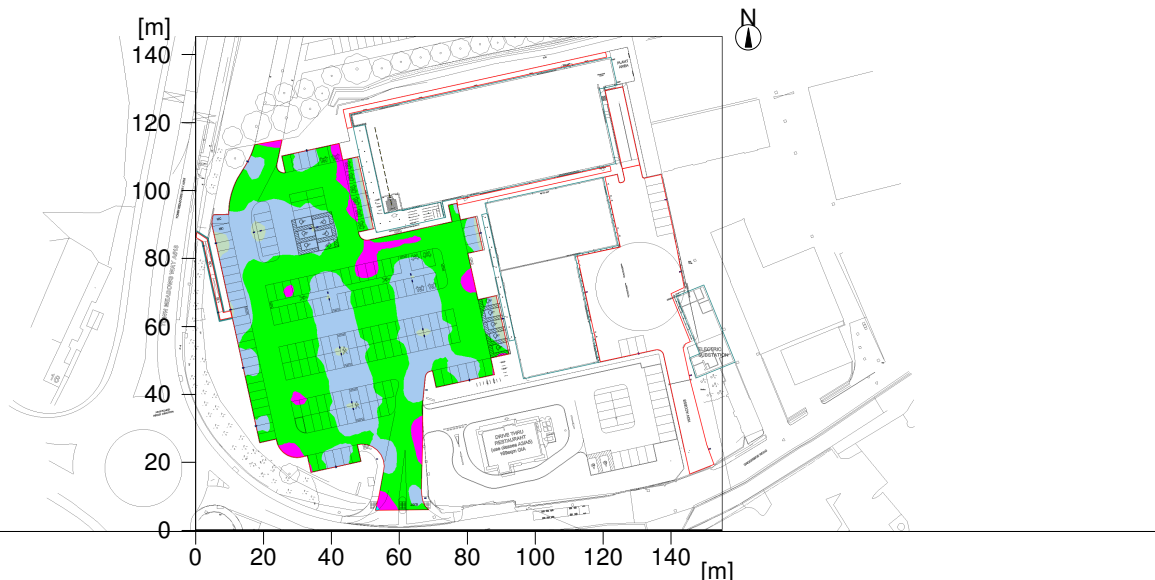


Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

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	341640 lm
Total power	2163.5 W
Total power per area (22475.00 m ²)	0.10 W/m ²
Upward light ratio (ULR)	0.01

Illuminance

Average illuminance	Eav	14 lx
Minimum illuminance	Emin	5.4 lx
Maximum illuminance	E _{max}	85.3 lx
Uniformity U _o	E _{min} /E _m	1:2.58 (0.39)
Diversity U _d	E _{min} /E _{max}	1:15.7 (0.06)

Type No. Make

Philips Lighting	
1	30
Order No.	: !Luminaire Ref: LL-E
Luminaire name	: WT460C L1300 1xLED23S/840 WB
Equipment	: 1 x LED23S/840/- 22 W / 2600 lm

2	11
Order No.	: !
Luminaire name	: TMS122 1xTL5-35W HFP
Equipment	: 1 x TL5-35W/840 39 W / 1000 lm





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

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018

1 Carpark

1.2 Summary, Carpark

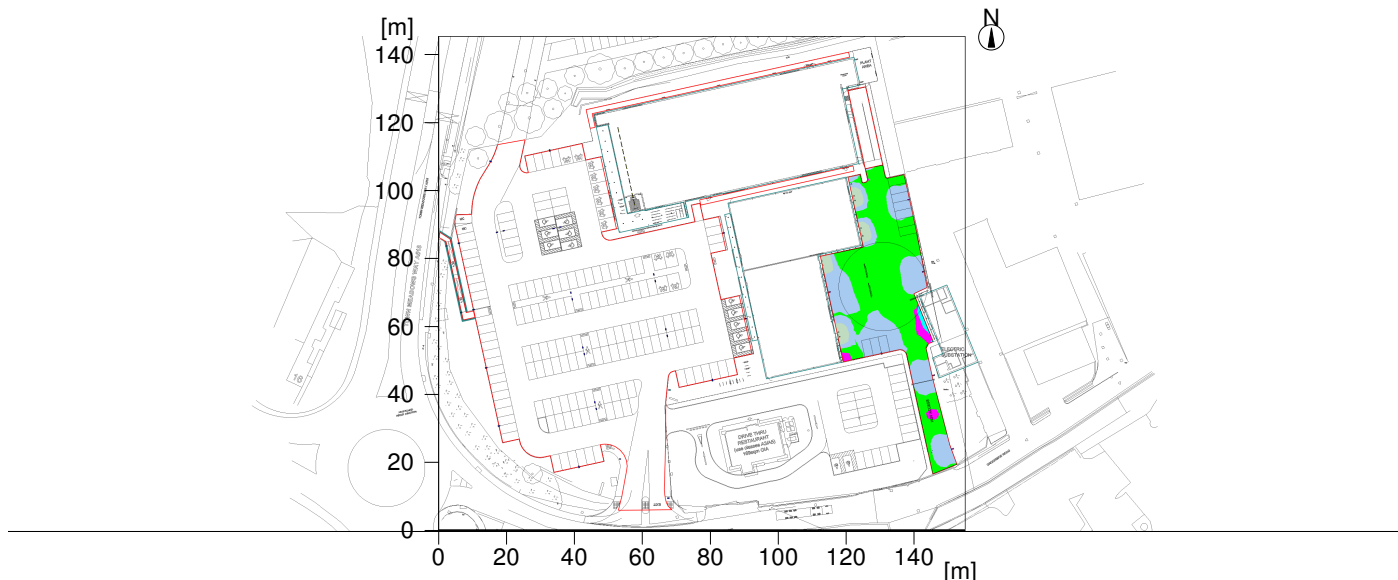
1.2.1 Result overview, Carpark

3	27	Order No.	: !910770202405
		Luminaire name	: LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm
4	6	Order No.	: !910770202407
		Luminaire name	: LumiStreet BGP213 LED75-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 7500 lm
6	2	Order No.	:
		Luminaire name	: BGP212 T25 1 xLED49-4S/740 DW50
		Equipment	: 1 x LED49-4S/740 35 W / 4900 lm
7	29	Order No.	: !Luminaire Ref: LL-CANOPY
		Luminaire name	: BBS490 1xDLED-4000 PG
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

1.2 Summary, Carpark

1.2.2 Result overview, Delivery Area




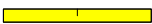
General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	-0.00 m
Maintenance factor	0.79
Total luminous flux of all lamps	341640 lm
Total power	2163.5 W
Total power per area (22475.00 m ²)	0.10 W/m ²
Upward light ratio (ULR)	0.01

Illuminance

Average illuminance	Eav	15.6 lx
Minimum illuminance	Emin	4.2 lx
Maximum illuminance	E _{max}	86.9 lx
Uniformity U _o	E _{min} /E _m	1:3.73 (0.27)
Diversity U _d	E _{min} /E _{max}	1:20.8 (0.05)

Type No.\Make





Philips Lighting		
1	30	Order No. : !Luminaire Ref: LL-E
		Luminaire name : WT460C L1300 1xLED23S/840 WB
		Equipment : 1 x LED23S/840/- 22 W / 2600 lm
2	11	Order No. : !
		Luminaire name : TMS122 1xTL5-35W HFP
		Equipment : 1 x TL5-35W/840 39 W / 1000 lm

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

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018

1.2 Summary, Carpark

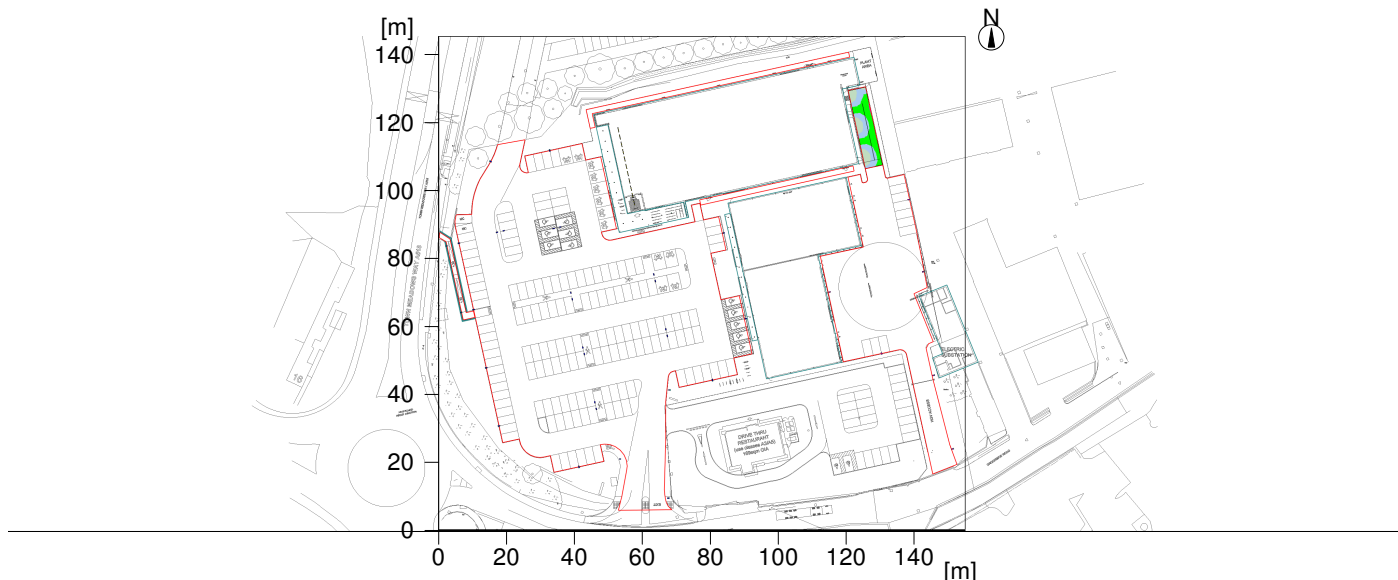
1.2.2 Result overview, Delivery Area

3	27	Order No.	: !910770202405
		Luminaire name	: LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm
4	6	Order No.	: !910770202407
		Luminaire name	: LumiStreet BGP213 LED75-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 7500 lm
6	2	Order No.	:
		Luminaire name	: BGP212 T25 1 xLED49-4S/740 DW50
		Equipment	: 1 x LED49-4S/740 35 W / 4900 lm
7	29	Order No.	: !Luminaire Ref: LL-CANOPY
		Luminaire name	: BBS490 1xDLED-4000 PG
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

1.2 Summary, Carpark

1.2.3 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	341640 lm
Total power	2163.5 W
Total power per area (22475.00 m ²)	0.10 W/m ²
Upward light ratio (ULR)	0.01

Illuminance

Average illuminance	Eav	20.2 lx
Minimum illuminance	Emin	8.5 lx
Maximum illuminance	E _{max}	53.6 lx
Uniformity U ₀	E _{min} /E _m	1:2.38 (0.42)
Diversity U _d	E _{min} /E _{max}	1:6.31 (0.16)

Type No.\Make

Philips Lighting			
1	30	Order No.	: !Luminaire Ref: LL-E
		Luminaire name	: WT460C L1300 1xLED23S/840 WB
		Equipment	: 1 x LED23S/840/- 22 W / 2600 lm





2	11	Order No.	: !
		Luminaire name	: TMS122 1xTL5-35W HFP
		Equipment	: 1 x TL5-35W/840 39 W / 1000 lm

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

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018

1.2 Summary, Carpark

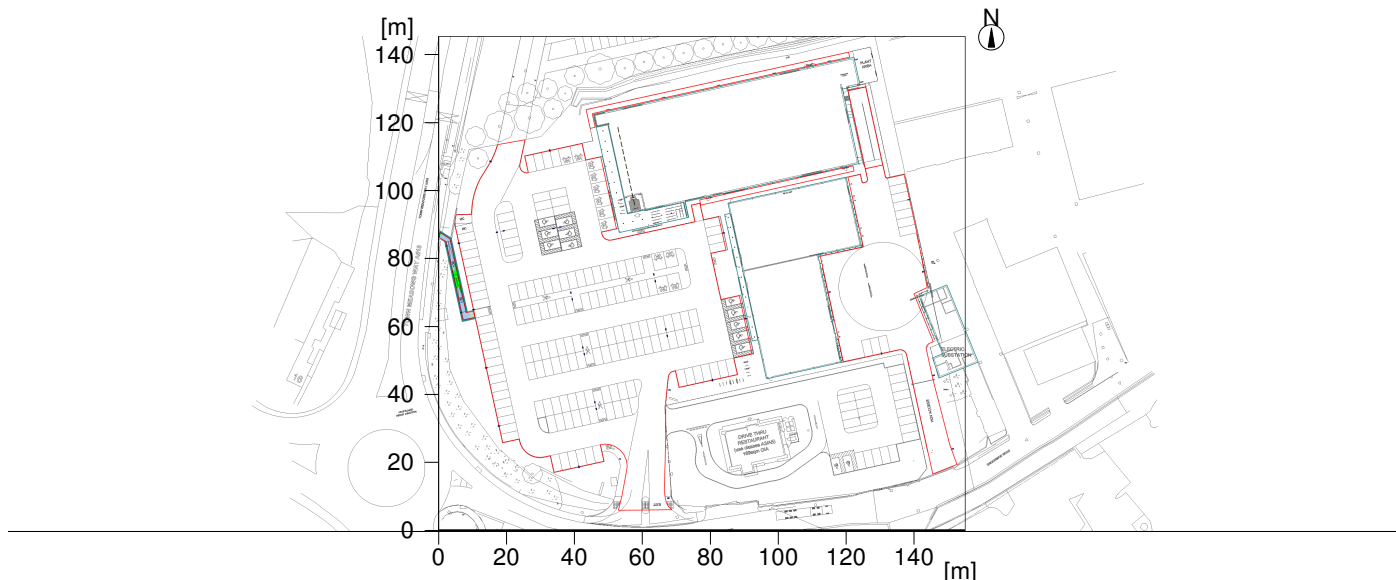
1.2.3 Result overview, Lorry Bay

3	27	Order No.	: !910770202405
		Luminaire name	: LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm
4	6	Order No.	: !910770202407
		Luminaire name	: LumiStreet BGP213 LED75-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 7500 lm
6	2	Order No.	:
		Luminaire name	: BGP212 T25 1 xLED49-4S/740 DW50
		Equipment	: 1 x LED49-4S/740 35 W / 4900 lm
7	29	Order No.	: !Luminaire Ref: LL-CANOPY
		Luminaire name	: BBS490 1xDLED-4000 PG
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

1.2 Summary, Carpark

1.2.4 Result overview, Pedestrian Access



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.79
Total luminous flux of all lamps	341640 lm
Total power	2163.5 W
Total power per area (22475.00 m ²)	0.10 W/m ²
Upward light ratio (ULR)	0.01

Illuminance

Average illuminance	Eav	18 lx
Minimum illuminance	Emin	11.3 lx
Maximum illuminance	E _{max}	30.1 lx
Uniformity U _o	E _{min} /E _m	1:1.59 (0.63)
Diversity U _d	E _{min} /E _{max}	1:2.65 (0.38)

Type No.\Make





Philips Lighting		
1	30	Order No. : !Luminaire Ref: LL-E
		Luminaire name : WT460C L1300 1xLED23S/840 WB
		Equipment : 1 x LED23S/840/- 22 W / 2600 lm
2	11	Order No. : !
		Luminaire name : TMS122 1xTL5-35W HFP
		Equipment : 1 x TL5-35W/840 39 W / 1000 lm

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

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018

1.2 Summary, Carpark

1.2.4 Result overview, Pedestrian Access

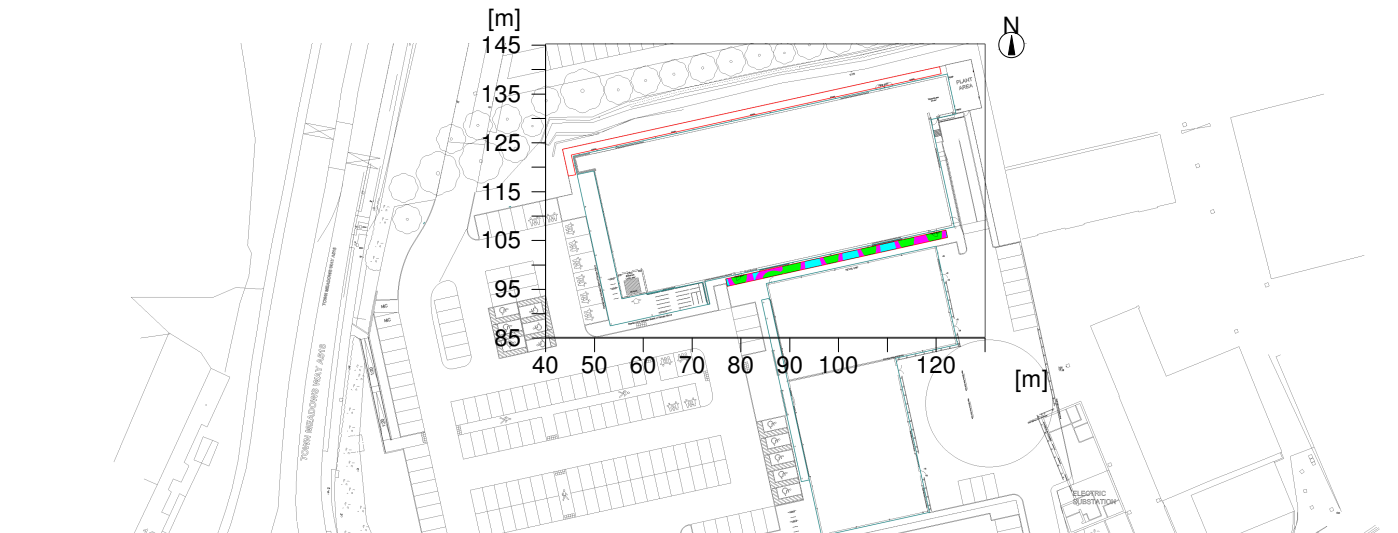
3	27	Order No.	: !910770202405
		Luminaire name	: LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm
4	6	Order No.	: !910770202407
		Luminaire name	: LumiStreet BGP213 LED75-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 7500 lm
6	2	Order No.	:
		Luminaire name	: BGP212 T25 1 xLED49-4S/740 DW50
		Equipment	: 1 x LED49-4S/740 35 W / 4900 lm
7	29	Order No.	: !Luminaire Ref: LL-CANOPY
		Luminaire name	: BBS490 1xDLED-4000 PG
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

2 RoH Footpath Eme Ltg

2.1 Summary, RoH Footpath Eme Ltg

2.1.1 Result overview, Between Units 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	7920 lm
Total power	66 W
Total power per area (5400.00 m ²)	0.01 W/m ²
Upward light ratio (ULR)	0.00

Illuminance

Average illuminance	Eav	6.9 lx
Minimum illuminance	Emin	2 lx
Maximum illuminance	Emax	11.3 lx
Uniformity U _o	Emin/Em	1:3.44 (0.29)
Diversity U _d	Emin/Emax	1:5.66 (0.18)

Type No.\Make

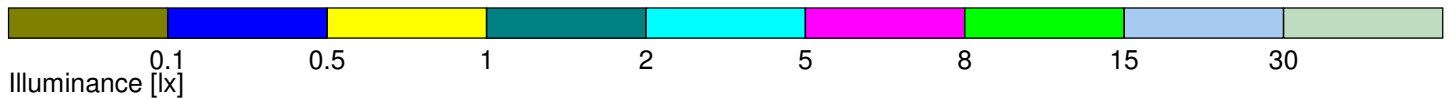
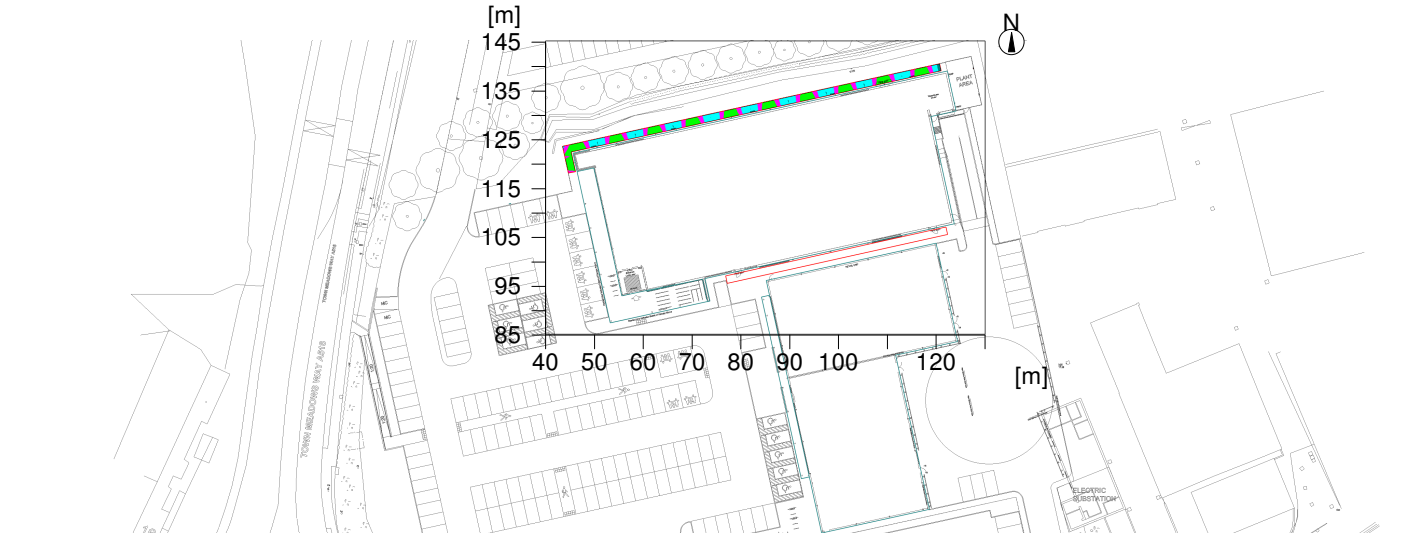
5	22	Philips Lighting
		Order No. :
		Luminaire name : WT460C EL3 L1300 EM 1xLED23S/840 WB
		Equipment : 1 x LED23S/840/- 3 W / 360 lm

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

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

2.1 Summary, RoH Footpath Eme Ltd

2.1.2 Result overview, RoH 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	7920 lm
Total power	66 W
Total power per area (5400.00 m ²)	0.01 W/m ²
Upward light ratio (ULR)	0.00

Illuminance

Average illuminance	Eav	6.2 lx
Minimum illuminance	Emin	1.3 lx
Maximum illuminance	Emax	12.5 lx
Uniformity U _o	Emin/Em	1:4.78 (0.21)
Diversity U _d	Emin/Emax	1:9.63 (0.1)

Type No.\Make

5	22	Philips Lighting
		Order No. :
		Luminaire name : WT460C EL3 L1300 EM 1xLED23S/840 WB
		Equipment : 1 x LED23S/840/- 3 W / 360 lm

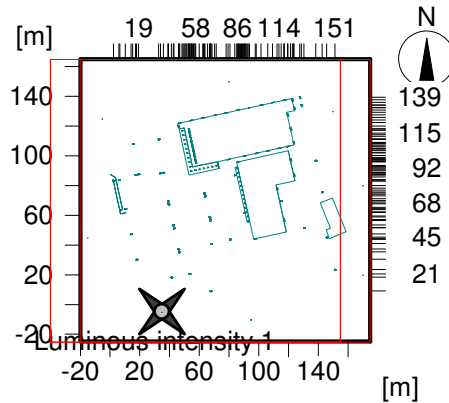
The ULR value has been calculated without obstruction by other objects.

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3 Carpark Spill Light

3.1 Calculation results, Carpark Spill Light

3.1.1 Luminous intensity: Luminous intensity 1



Measuring point for luminous intensity: Luminous intensity 1

Position : x = 35.00 m, y = -5.00 m, z = 1.50 m

Output criteria:

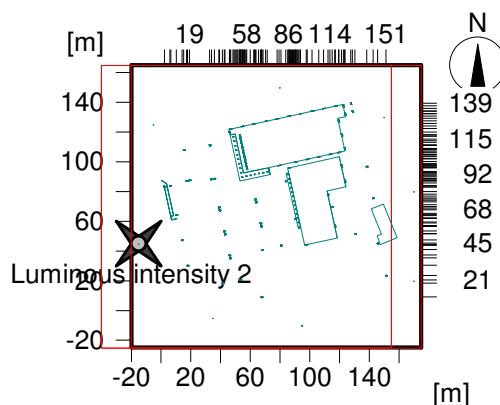
1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	36.47	35.46	6.00	0.092
2	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	42.94	51.58	6.00	0.073
3	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	39.40	67.70	6.00	0.060
4	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	57.36	56.94	6.00	0.049
5	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	52.78	111.39	6.00	0.042
6	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	53.82	73.06	6.00	0.040
7	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	50.44	62.00	6.00	0.036
8	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	53.94	87.20	6.00	0.031
9	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	55.38	108.21	6.00	0.023
10	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	57.88	30.47	6.00	0.019

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.1 Calculation results, Carpark Spill Light

3.1.2 Luminous intensity: Luminous intensity 2



Measuring point for luminous intensity: Luminous intensity 2

Position : x = -15.00 m, y = 45.00 m, z = 1.50 m

Output criteria:

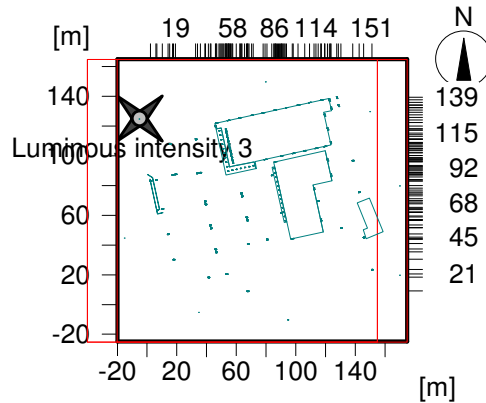
1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	17.26	87.41	6.00	0.071
2	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	11.37	18.48	6.00	0.064
3	LumiStreet BGP213 LED75-4S/740 I DX10 7024..., !910770202405	11.27	23.72	6.00	0.057
4	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	3.91	88.50	6.00	0.056
5	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	7.63	9.27	6.00	0.048
6	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	3.94	87.20	6.00	0.045
7	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	0.44	62.00	6.00	0.042
8	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	2.78	111.39	6.00	0.041
9	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	45.99	120.06	3.05	0.015
10	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	6.04	37.42	6.00	0.010

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.1 Calculation results, Carpark Spill Light

3.1.3 Luminous intensity: Luminous intensity 3



Measuring point for luminous intensity: Luminous intensity 3

Position : x = -5.00 m, y = 125.00 m, z = 1.50 m

Output criteria:

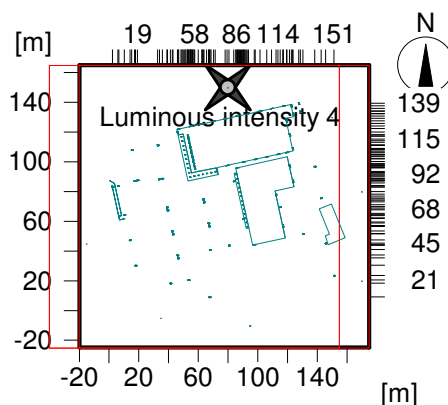
1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	53.91	88.50	6.00	0.108
2	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	58.97	69.65	6.00	0.055
3	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	42.50	53.53	6.00	0.051
4	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	36.04	37.42	6.00	0.047
5	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	1.37	18.48	6.00	0.043
6	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	3.39	75.01	6.00	0.037
7	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	6.92	58.89	6.00	0.035
8	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	0.63	43.98	6.00	0.030
9	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	0.44	62.00	6.00	0.028
10	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	7.26	87.41	6.00	0.019

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.1 Calculation results, Carpark Spill Light

3.1.4 Luminous intensity: Luminous intensity 4



Measuring point for luminous intensity: Luminous intensity 4

Position : x = 80.00 m, y = 150.00 m, z = 1.50 m

Output criteria:

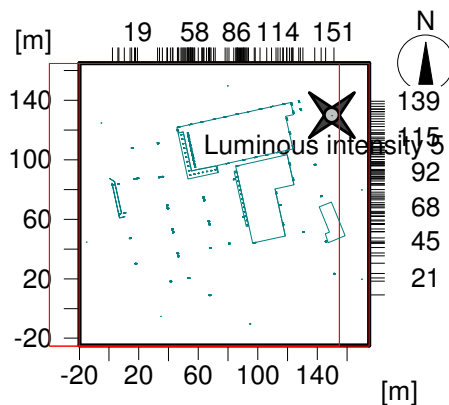
1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	55.38	108.21	6.00	0.026
2	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	85.93	130.94	3.05	0.024
3	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	78.11	129.22	3.05	0.022
4	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	93.74	132.65	3.05	0.020
5	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	70.30	127.51	3.05	0.019
6	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	101.56	134.36	3.05	0.017
7	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	127.57	139.42	1.75	0.016
8	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	62.48	125.79	3.05	0.014
9	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	109.37	136.08	3.05	0.012
10	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	54.67	124.08	3.05	0.011

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.1 Calculation results, Carpark Spill Light

3.1.5 Luminous intensity: Luminous intensity 5



Measuring point for luminous intensity: Luminous intensity 5

Position : x = 150.00 m, y = 130.00 m, z = 1.50 m

Output criteria:

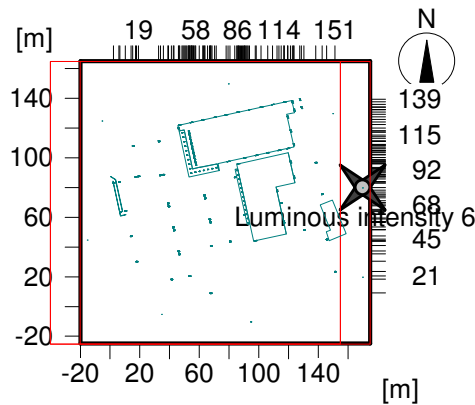
1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED75-4S/740 I DX10 7024..., !91077020240730	30.39	51.76	6.00	0.074
2	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	123.44	109.09	3.06	0.062
3	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	121.40	118.37	3.06	0.060
4	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	119.37	127.65	3.06	0.060
5	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	123.77	132.26	3.05	0.021
6	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	122.59	137.63	3.05	0.019
7	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	121.38	97.45	3.05	0.017
8	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	123.61	87.27	3.05	0.014
9	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	116.91	57.17	3.05	0.011

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.1 Calculation results, Carpark Spill Light

3.1.6 Luminous intensity: Luminous intensity 6



Measuring point for luminous intensity: Luminous intensity 6

Position : x = 170.00 m, y = 80.00 m, z = 1.50 m

Output criteria:

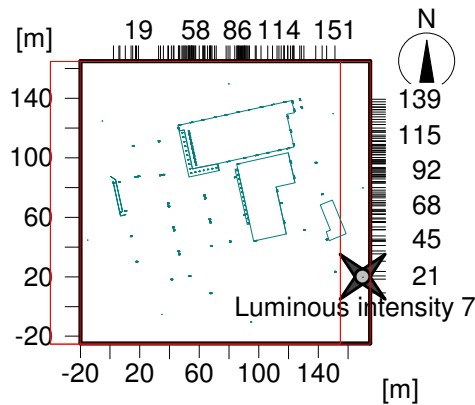
1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED75-4S/740 I DX10 7024..., !9107702024075.12	67.12	69.84	6.00	0.108
2	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	123.44	109.09	3.06	0.035
3	LumiStreet BGP213 LED75-4S/740 I DX10 7024..., !91077020240780.39	70.39	51.76	6.00	0.034
4	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	121.40	118.37	3.06	0.027
5	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	119.37	127.65	3.06	0.021
6	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	112.29	78.23	3.05	0.019
7	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	123.61	87.27	3.05	0.019
8	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	121.38	97.45	3.05	0.017
9	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	119.54	106.59	3.05	0.012

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.1 Calculation results, Carpark Spill Light

3.1.7 Luminous intensity: Luminous intensity 7



Measuring point for luminous intensity: Luminous intensity 7

Position : x = 170.00 m, y = 20.00 m, z = 1.50 m

Output criteria:

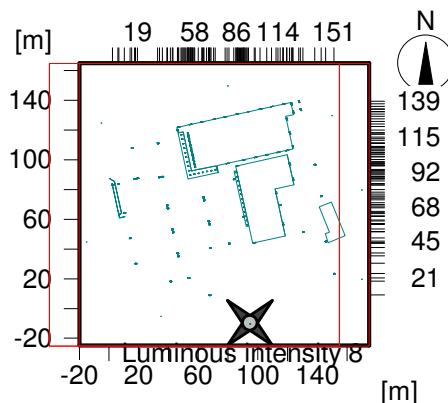
1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED75-4S/740 I DX10 7024..., !9107702024075.12	69.84	6.00	0.086	
2	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !9107702024057.88	30.47	6.00	0.038	
3	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !9107702024053.47	20.74	6.00	0.037	
4	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !9107702024054.13	47.57	6.00	0.033	
5	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !9107702024050.38	64.66	6.00	0.028	
6	WT460C L1300 1xLED23S/840 WB, !Luminaire Ref: LL-E	116.91	57.17	3.05	0.013

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.1 Calculation results, Carpark Spill Light

3.1.8 Luminous intensity: Luminous intensity 8



Measuring point for luminous intensity: Luminous intensity 8

Position : x = 95.00 m, y = -10.00 m, z = 1.50 m

Output criteria:

1. Luminaires with luminous intensities higher than 0.01 kcd
2. Only the first 10 luminaires will be listed.

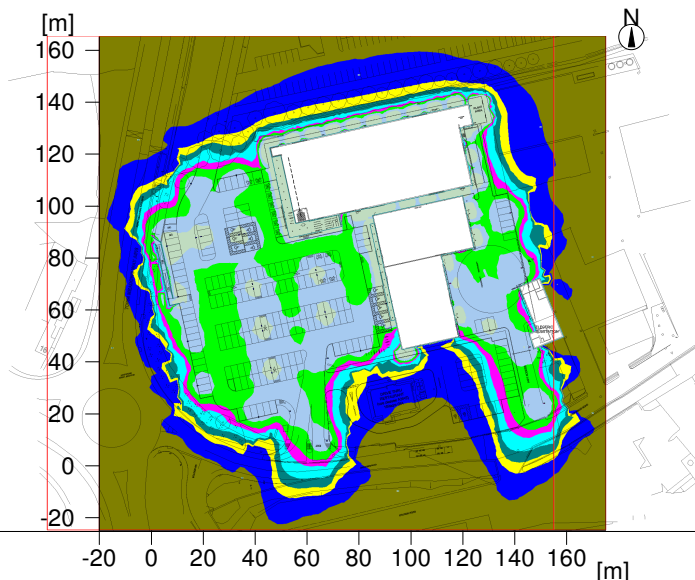
No.	Luminaire	Position			Lumin. intensity I[kcd]
		x[m]	y[m]	z[m]	
1	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	57.36	56.94	6.00	0.060
2	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	36.47	35.46	6.00	0.052
3	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	53.82	73.06	6.00	0.049
4	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	42.94	51.58	6.00	0.047
5	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	39.40	67.70	6.00	0.046
6	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	32.78	111.39	6.00	0.041
7	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	7.88	30.47	6.00	0.038
8	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	5.38	108.21	6.00	0.031
9	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	4.13	47.57	6.00	0.031
10	LumiStreet BGP213 LED49-4S/740 I DX10 7024..., !910770202405	0.38	64.66	6.00	0.025

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3 Carpark Spill Light

3.2 Summary, Carpark Spill Light

3.2.1 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	341640 lm
Total power	2163.5 W
Total power per area (37050.00 m ²)	0.06 W/m ² (0.76 W/m ² /100lx)
Upward light ratio (ULR)	0.01

Illuminance

Average illuminance	Eav	8 lx
Minimum illuminance	Emin	0 lx
Maximum illuminance	Emax	233 lx
Uniformity U _o	Emin/Em	1:--- (---)
Diversity U _d	Emin/Emax	1:--- (---)

Type No.\Make

Philips Lighting	
1	30
	Order No. : !Luminaire Ref: LL-E
	Luminaire name : WT460C L1300 1xLED23S/840 WB
	Equipment : 1 x LED23S/840/- 22 W / 2600 lm
2	11
	Order No. : !
	Luminaire name : TMS122 1xTL5-35W HFP
	Equipment : 1 x TL5-35W/840 39 W / 1000 lm





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

Object : LiDL Brookside Road, Uttoxeter
Installation : Carpark
Project number :
Date : 06.06.2018

3 Carpark Spill Light

3.2 Summary, Carpark Spill Light

3.2.1 Result overview, Horizontal Spill Light @0M

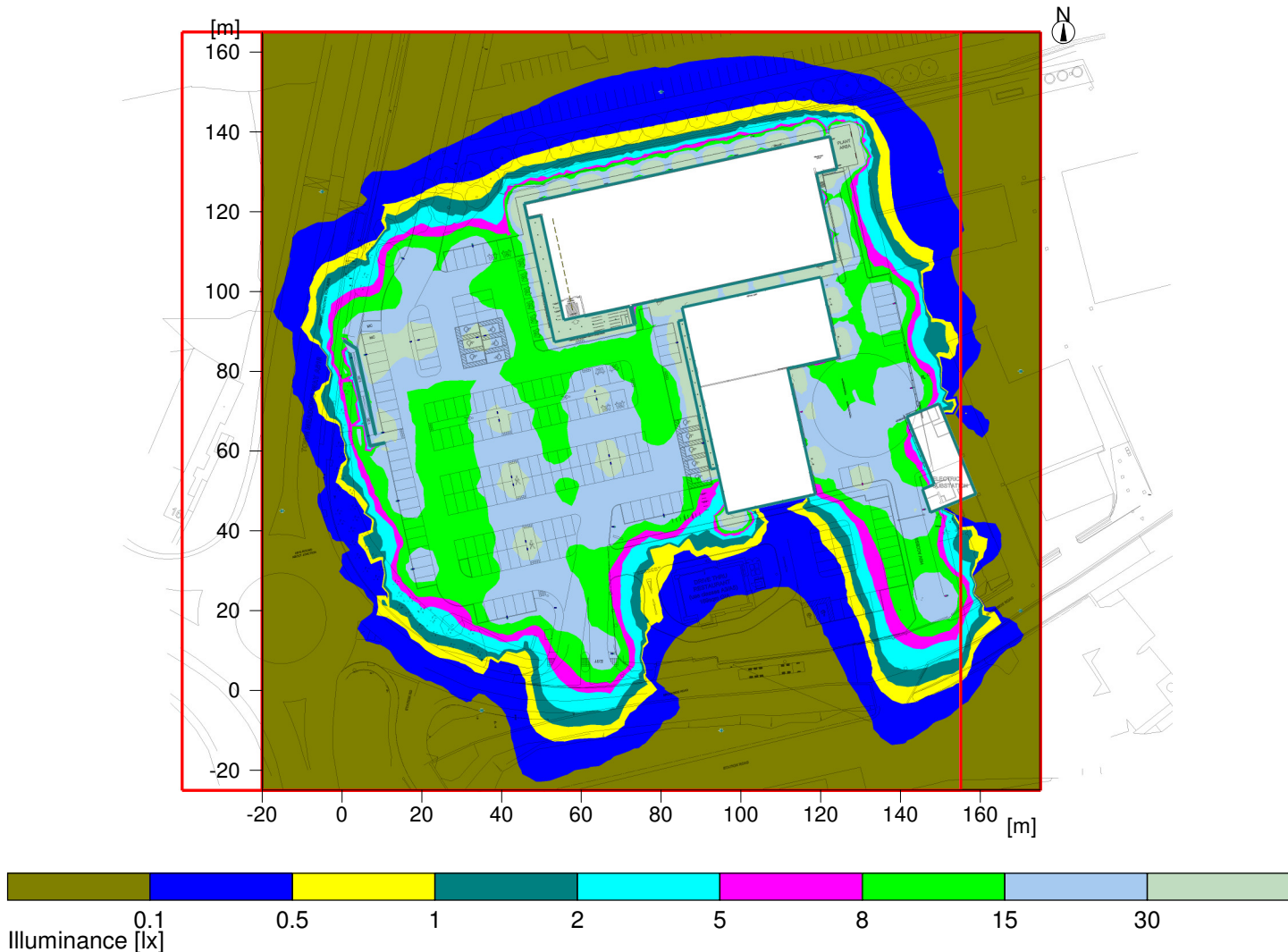
3	27	Order No.	: !910770202405
		Luminaire name	: LumiStreet BGP213 LED49-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 4900 lm
4	6	Order No.	: !910770202407
		Luminaire name	: LumiStreet BGP213 LED75-4S/740 I DX10 7024 D9 48/60 6m Col umn
		Equipment	: 1 x LED-HB 940-11500 lm-4S/740 1 W / 7500 lm
6	2	Order No.	:
		Luminaire name	: BGP212 T25 1 xLED49-4S/740 DW50
		Equipment	: 1 x LED49-4S/740 35 W / 4900 lm
7	29	Order No.	: !Luminaire Ref: LL-CANOPY
		Luminaire name	: BBS490 1xDLED-4000 PG
		Equipment	: 1 x DLED-4000 33.5 W / 2260 lm

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3 Carpark Spill Light

3.3 Calculation results, Carpark Spill Light

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



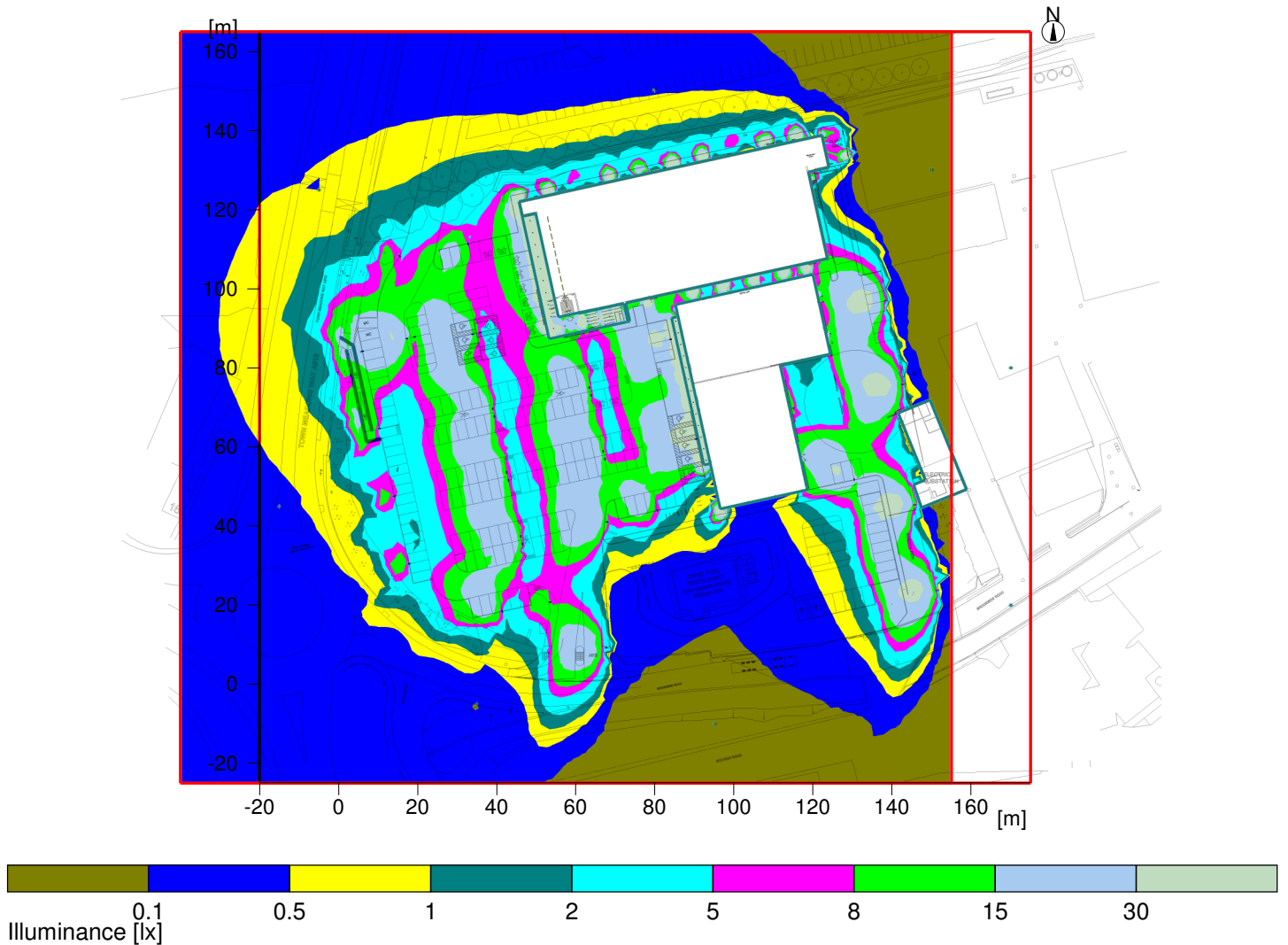
Height of the reference plane

Average illuminance	Eav	: 8 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 233 lx
Uniformity U _o	Emin/Eav	: ---
Diversity U _d	Emin/Emax	: ---

Object : LiDL Brookside Road, Uttoxeter
 Installation : Carpark
 Project number :
 Date : 06.06.2018

3.3 Calculation results, Carpark Spill Light

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



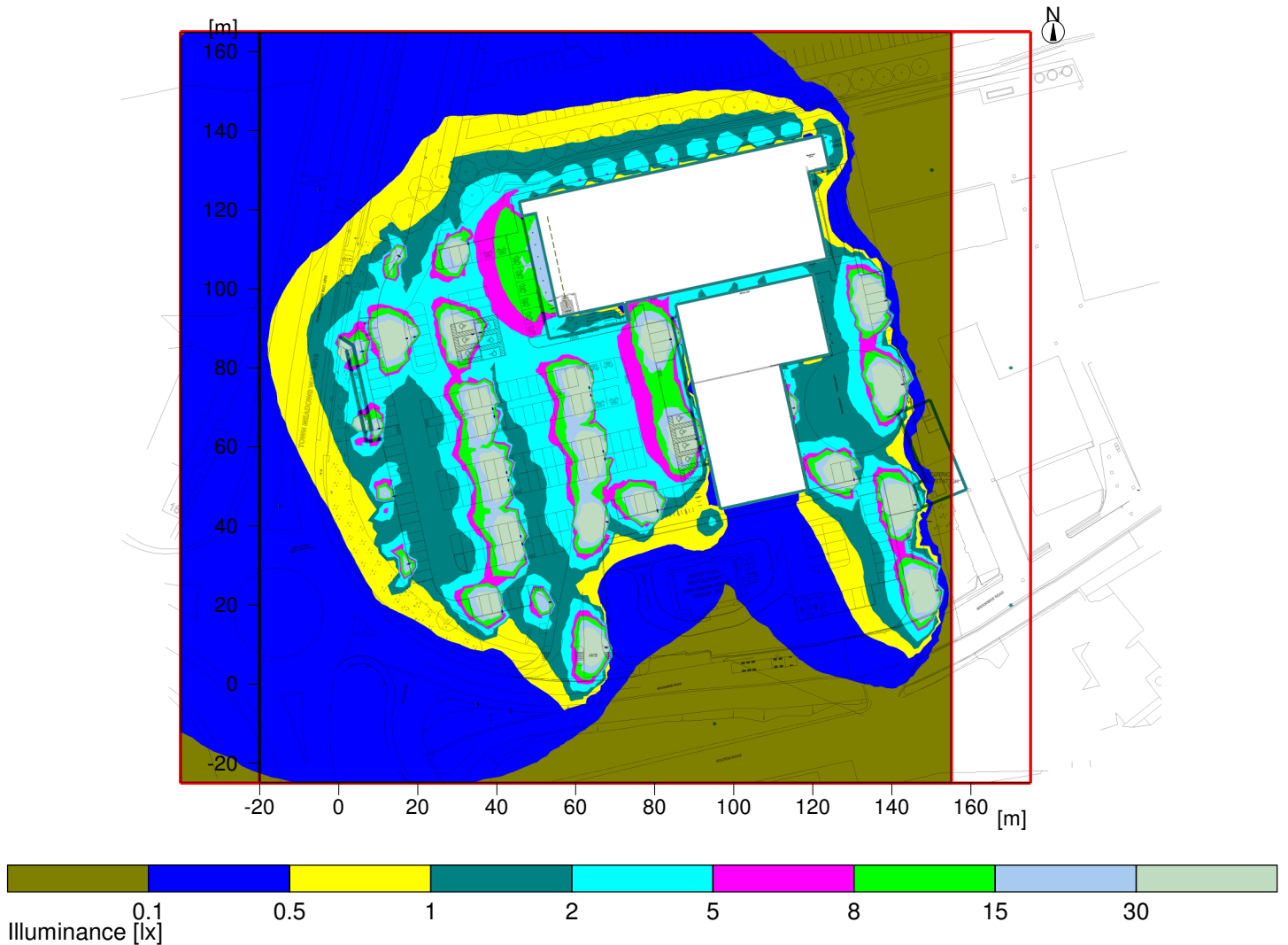
Vertical illuminance
 Height of the reference plane

from direction
 Average illuminance
 Minimum illuminance
 Maximum illuminance
 Uniformity U_o
 Diversity U_d

: 1.50 m
 : East (90°)
 E_{av} : 4 lx
 E_{min} : 0 lx
 E_{max} : 130 lx
 E_{min}/E_{av} : ---
 E_{min}/E_{max} : ---

3.3 Calculation results, Carpark Spill Light

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



Vertical illuminance
 Height of the reference plane

from direction
 Average illuminance
 Minimum illuminance
 Maximum illuminance
 Uniformity U_0
 Diversity U_d

: 4.00 m
 : East (90°)
 Eav : 4 lx
 Emin : 0 lx
 Emax : 138 lx
 Emin/Eav : ---
 Emin/Emax : ---

Philips Lighting

Philips Centre, Guildford Business Park, Guildford, Surrey GU2 8XH

Tel: +44 (0) 845 6011283

Lighting Proposal Terms and Conditions of Use

These terms and conditions apply to any proposal(s) supplied by Philips Electronics UK Limited (“**Philips**”) to which this document has been attached or accompanies, whether or not this is specifically acknowledged or referenced within the proposal.

For the purposes of these terms and conditions a proposal (“**proposal**”) is understood to mean a CAD drawing, lighting calculation, written document, verbal conversation, or in fact any medium used to demonstrate or communicate a proposed lighting arrangement using Philips lighting products. A customer (“**customer**”) is the person or organisation for whom the proposal is intended, whilst a design (“**design**”) or designer (“**designer**”) should have the meaning set out in the Construction, Design and Management Regulations 2007.

General Statement

The proposal has been provided in order to demonstrate how Philips lighting products could be arranged in order to facilitate the requirements particular to the relevant project, and is therefore only a suggested lighting design.

This information is provided subject to the following limitations:

- Philips has not undertaken any risk assessment for this design. Philips will not be held liable for any risk associated with the implementation of the design.
- Philips may not have had physical access to the site of the project to verify the information which has been provided and the proposal is therefore based solely on information provided by the customer to Philips. The customer is therefore responsible for ensuring that the proposal can be safely implemented in compliance with any laws and regulations.

Accordingly, the information contained in the proposal does not constitute a design for the purposes of the Construction, Design and Management Regulations 2007 and Philips does not accept or assume the role of designer.

The nominal values described in the proposal are likely to have been as a result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination which is usually considered to be a flat surface with no solid obstructions. In practice the values may vary due to a number of tolerances including; positions of lamps, luminaires, gear/drivers, ambient temperature, electrical supply behaviours, road camber, surface reflections, obstructions, and the precise positioning and angle of the luminaires for example.

The proposal should be considered as guidance only and must not be used in place of the final principal or construction drawings. Philips recommends that in the event that this proposal is taken forward as the preferred solution, that the calculations and arrangements are first scrutinised, verified and approved by a suitably qualified designer before being transposed onto the relevant working drawings as appropriate.



Installation and Maintenance Notes

- 1) The proposal must be read in conjunction with all other relevant project drawings and specifications.
- 2) Do not scale from the proposal. If in doubt please request further information.
- 3) The proposal may show lighting layout information, but should not be used for installation purposes or construction drawings. Please refer to the official contractor's working drawings which should also include additional information such as electrical connections, other illuminated equipment, and site specific hazards and other safety considerations.
- 4) All relevant laws and regulations must be fully complied with including the undertaking of any required site risk assessments before installation commences.
- 5) The proposal is based upon customer supplied information and it should be assumed that no survey on site has been carried out by Philips. Utility information such as underground and over ground cables and gas pipes etc. will need to be checked on site by the appropriate person/organisation before any excavation works or installation of lighting equipment.
- 6) The proposal may contain symbols which indicate the proposed locations of the lighting equipment. For further information please refer to the luminaire schedules and details.
- 7) Locations and orientation of all equipment must be confirmed with the client prior to installation. Exact orientation of luminaires may need to be finalised during final focusing. Please refer to the Philips lighting solutions drawings and specifications for details of electrical engineering associated with lighting works.
- 8) The customer shall ensure that all proposed lighting equipment is suitable for the particular environmental conditions prevalent at the proposed location.
- 9) All lighting equipment must be supplied with adequate means for protection during transport to site and any subsequent storage prior to installation.
- 10) For lighting on structures such as bridges, tunnels, buildings, canopies, furniture or water features for example, please refer to the relevant drawings and details.
- 11) For details of all luminaires please refer to the Philips lighting solutions luminaire schedule.
- 12) For cable routes, driver locations and any electrical works associated with the lighting installation please refer to the contractor's installation drawings and documentation.
- 13) The lighting installation requires a variety of luminaire types to achieve the desired effects. Information has been provided on the proposal as general guidance and outline of good practice. For more specific recommendations please refer to manufacturer's details for application, operation, handling cleaning and disposal instructions.
- 14) Installation and maintenance of lighting equipment installed at any height above ground requires specific precautions to be taken. Access arrangements should be in strict accordance with the projects access report, method statement and health and safety guidelines.
- 15) All fixtures must be electrically isolated prior to any testing or maintenance.
- 16) Luminaries may need to be powered up for focusing during the hours of darkness, and in which case they must be specified as being fully enclosed and earthed, or operated at extra low voltage.
- 17) Certain lighting fixtures need to be protected from thermal damage caused by over heating by means of thermal cut-out or similar device. Please refer to the relevant documentation.

