SEVINGTON
INLAND BORDER FACILITY

Department for Environment, Food & Rural Affairs

HM Revenue & Customs

Department for Transport

External Lighting Assessment

Waterman Building Services – June 2025

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This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

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Comments	External Lighting Survey information added.				
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Comments	Further team comments incorporated.				

Revision		**Status**	
P*nn*	Preliminary (shared; non-contractual)	S1	Coordination
C*nn*	Contractual	S2	Information
		S3	Review & Comment
		S4	Review & Authorise
		S5	Review & Acceptance
		A0, A1, A*n*	Authorised & Accepted (*n*=work stage if applicable)

Disclaimer

This report has been prepared by Waterman Building Services Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

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1. Introduction

This External Lighting Assessment has been prepared by Waterman Building Services in support of a full planning application for the continued use and operation of the Sevington Inland Border Facility (IBF), Ashford, TN25 6GE (hereafter referred to as the Site) on behalf of Department for Transport (DFT), His Majesty's Revenue & Customs (HMRC) & Department for Environment, Food & Rural Affairs (Defra).

This document identifies the present arrangement and operation of the existing external lighting scheme for the Sevington Inland Boarder Facility and the assessment undertaken to determine the present lighting levels and lighting control strategy associated with the site.

Based upon the existing calculated lighting levels and the subsequent lighting survey undertaken on 2nd April 2025 (refer to External Lighting Report Revision P02 dated 22nd April 25), this report provides recommendations to address any non-compliant issues, taking into account the recorded feedback from local residences and the measures which the Inland Border Facility have undertaken to date.

This report has been based on the information and drawings Waterman Building Services received:

- External Lighting Survey Report (revision P02 dated 22nd April 2025)
- Existing External Lighting Drawing No. 49502-MMD-01-MO-DR-E-1361 Rev P04.
- Existing External Luminaire Schedule
- Lighting Calculations of existing & proposed prepared by Lighting manufacturer, which comprises:

    - LS16272-1-1- Layout.
    - LS16272-1-2-2 Layout
    - LS16272-1-2-1 Layout
    - LS16272-1-2-3 Layout

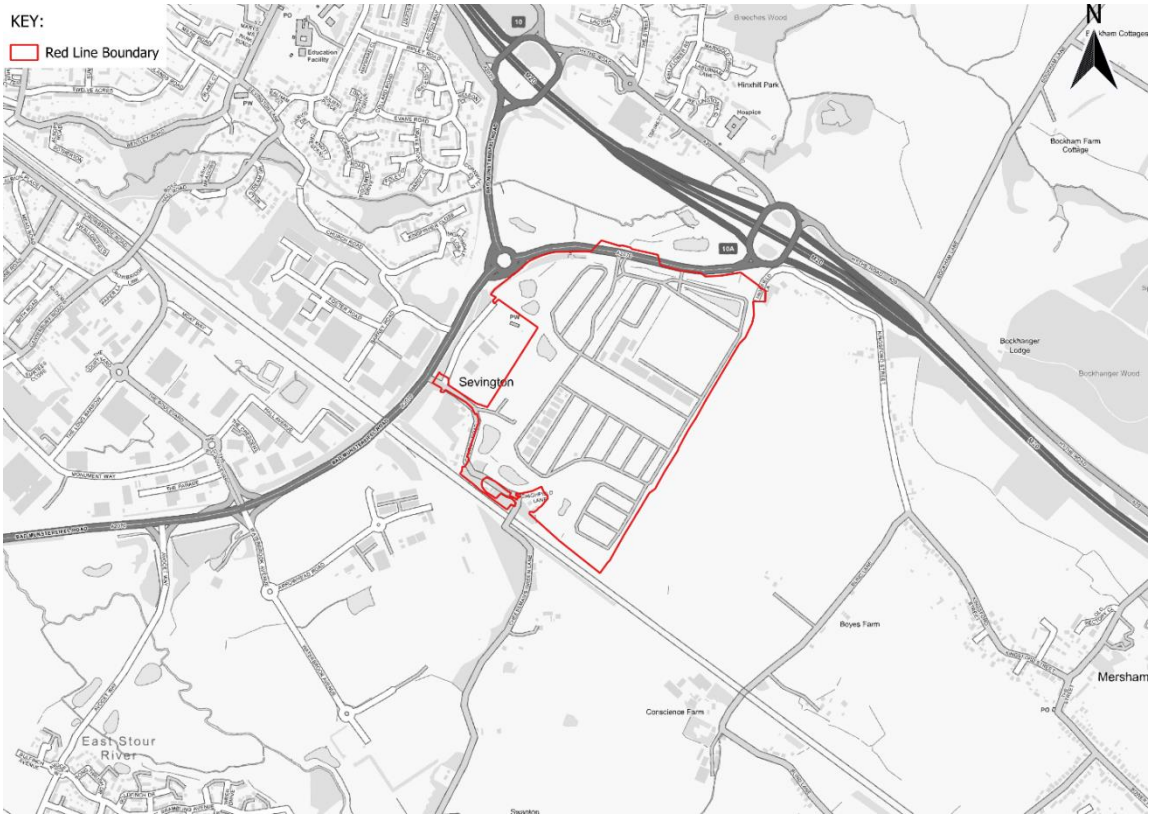
Additional guidance has been provided by the client with regards to external lighting control operation and the additional measures undertaken to minimise the lighting impact to neighbouring residences.

1.1 Site Description

The Application Site is centred on National Grid Reference TR 03976 40758 and is located within the administrative boundary of Ashford Borough Council (ABC) and Kent County Council (KCC).

As illustrated in Image 1, the Application Site is located in Sevington, south-east of Ashford in Kent, Postcode: TN25 6GE. This is a semi-rural area on the outskirts of Ashford, with a mixture of residential and commercial land uses located to the north and west of the Application Site but with agricultural land use to the south and east.

Image 1: Site Location



The Application Site occupies an area of approximately 48 hectares (ha) and is bound by:

- The A2070 Link Road and M20 motorway (M20 Junction 10a), to the north.
- Highfield Lane and Kingsford Street to the east and north-east respectively.
- Highfield Lane and Church Road, to the south.
- Church Road, St Marys Church and A2070 to the west.

The images below identify the location of the existing neighbouring residential areas, high-lighted in light blue :

Image 2a: Existing Neighbouring Residential Areas

Image 2b: Existing Neighbouring Residential Areas

2. Design Considerations

2.1 Planning Requirements

Below are the planning requirements and standards that are related to this report:

National Planning Policy Framework (2025)

Local Planning Authority (LPA) Requirements

Ashford Local Plan 2030 (Adopted February 2019)

Ashford Local Plan Dark Skies SPD (Adopted July 2014)

British Standards & CIBSE Guidance:

BS 5489-1:2020 – Road Lighting, including pedestrian and security lighting.

BS EN 12464-2:2024 – Lighting of Outdoor Workplaces (e.g., logistics hubs, border facilities).

CIBSE LG6 – The Exterior Environment – Covers general outdoor lighting principles.

CIBSE LG13 – Outdoor Workplace Lighting – Specific to areas like loading bays, car parks, and border facilities.

Clean Neighbourhoods and Environment Act 2005 – Excessive lighting can be classified as a statutory nuisance if it causes significant intrusion into residential properties.

2.2 Design Criteria Considerations

The external lighting design should be based upon British Standard BS-EN 12464:2024 – Lighting of Outdoor Workspaces (e.g., logistics hubs, border facilities). Table 1 is an extract from the British Standard defining the lighting requirements for the Sevington Inland Border Facility (external area lorry parking areas).

Table 1: Lighting Design Criteria

Area	Required Average Lux Levels	Uniformity	Glare	Colour Temperature (K)
Industrial Sites	100	0.5	45	4000

The Ashford Local Plan Dark Skies (Policy ENV4) – Light Pollution & Promoting Dark Skies - identifies the considerations which should be taken into account with regards to addressing obtrusive lighting limitation zones in conjunction with the Institution of Lighting Professionals (ILP). The environmental zoning identifies the 'What is acceptable' between Zones E0 to E4. It is considered that the site falls within zone E04.

3. Existing External Lighting Installation

3.1 General

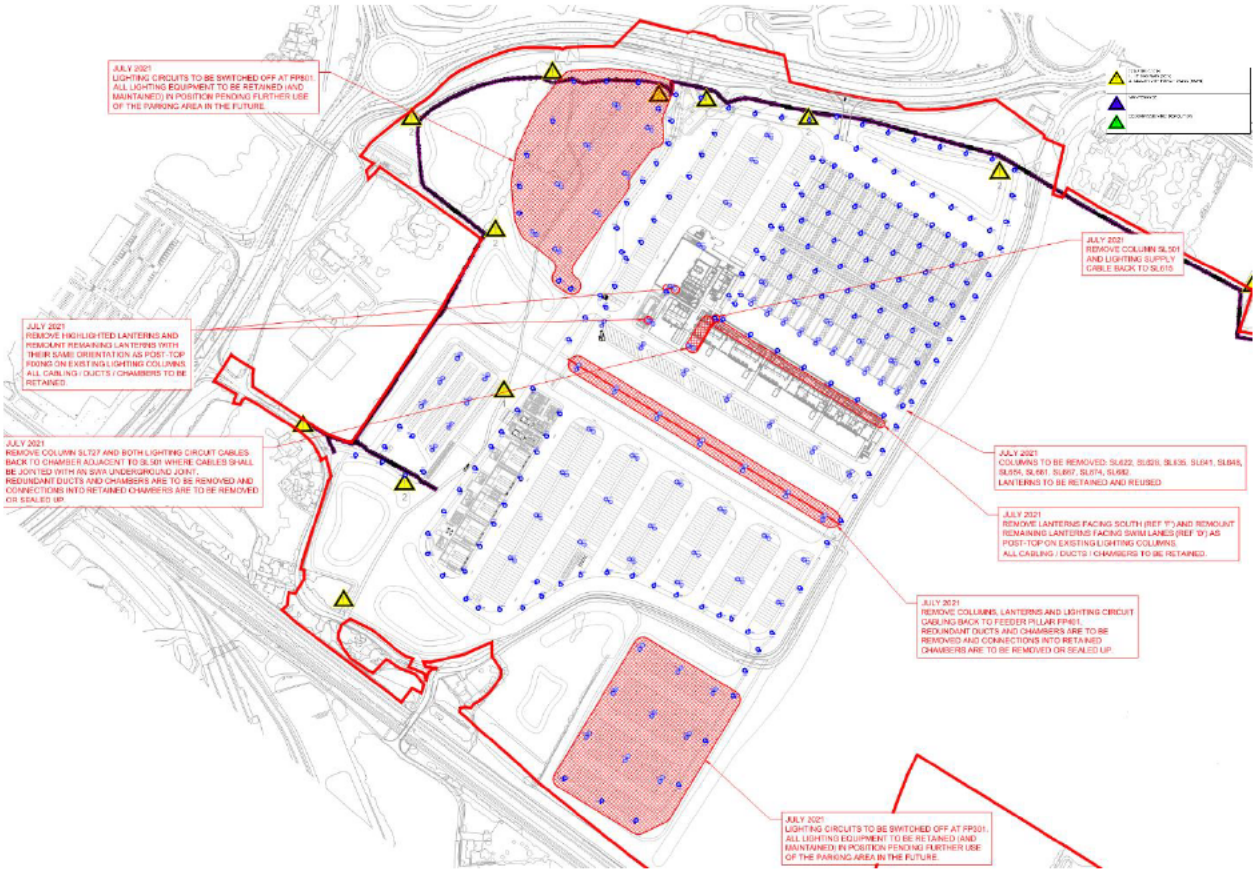
The existing lighting installation comprises 339No. external light fittings with a mounting height ranging between 8 to 12 meters.

Refer to Appendix A regarding the external lighting drawing (reference: 419419-MMD-01-MO-DR-E-1361, REV P04) produced by Mott MacDonald and Appendix B for the associated luminaire schedule.

The image 3 below is an extract from the existing lighting drawing (419419-MMD-01-MO-DR-E-1361 Rev P04). Revision P04 incorporates the modifications carried out following the review of the installation in July 2021 to reduce the light spillage beyond the site boundary.

This layout has been used to simulate design lux plots and assess the extent of light spill beyond the site boundary and into neighbouring residential areas.

Image 3: Existing External Lighting Installation Drawing



3.2 External Lighting Operating Periods

As the existing and intended ongoing use of IBF is to inspect the goods within lorries and to make sure that no contraband, dangerous substances or any illegal item/action pass through the UK, the site is required to operate 24/7 and therefore the external lighting is required to be on during the hours of darkness.

3.3 Present Measures Implemented to Reduce Light Spillage

A Technical Note was produced by Mott MacDonald dated 19th November 2021, following a light survey which was carried out during May 2021 (survey report not provided as part of this assessment).

The technical note confirmed the following modifications were implemented:

- The lights in the north-western (Romeo) and south-eastern areas of the site (Tango) have been switched off. These areas will be used only in emergencies.
- Lighting columns in the viewing corridor running through the centre of the site have been switched off and removed.
- Baffles have been installed on luminaires in close proximity to residents adjacent to the Site.
- All permanent lighting lanterns have been aligned to ensure they are fully horizontal and not tilted.

The Technical note states that a further check was undertaken by lighting engineers during September 2021 to identify whether the above recommendations were sufficiently implemented and that the local response had been that the above recommendations have been largely successful and that there has been a noticeable improvement.

At the time of the Technical Note being issued a lighting control system was being installed, which will function to give the Site Operator the ability to dim or switch off the lighting in non-operational or reduced-operation areas overnight. We are advised that the lighting control is installed and operational.

In addition to the measures identified by the Mott MacDonald Technical Note dated 19th November 2021 (hi-lighted in the image below in pink), the FM team have also removed the external luminaires on the side façade of Inspection Shed 5 and turned off the external luminaires on the rear façade of Inspection Shed 4 and Inspection Shed 5 (indicated in orange in Image 4).

Image 4: Removed Or Turned Off External Light Fittings.

4. Existing Lighting Control Strategy

4.1 Present Lighting Control Description

Across the Sevington site, multiple lighting control systems have been installed for different areas on the site. The lighting control systems currently installed on the Sevington site are as follows:

- Photocells and a Master Photocell
- Manual Switching
- WEB/Remote Switching
- Time Clocks

In order to address the light spill, the operator has arranged for certain lights to be turned off or removed from the site. The Emergency Holding Areas for Commercial Goods Vehicles Carparks labelled ‘Romeo’ and ‘Tango’ shall remain switched off under normal conditions and only operated under emergency conditions when overspill parking is required.

The external luminaires mounted on the side of building ‘Inspection Shed 5’ have been permanently removed and the external lights on the rear of buildings ‘Inspection Shed 4’ and ‘Inspection Shed 5’ have been fully isolated to the ‘off’ to ensure they are permanently off to address the light spill into the residential area 1.

All the external lighting on site is controlled by Photocells and a Master Photocell. When the daylight lux levels reach 80 lumens, the photocells and Master Photocell turn on the external light fittings. When the daylight lux levels reach 120 lumens, the photocells and Master Photocell turn off the external light fittings.

The lorry swim lanes located to the North- East of the IBF site is remotely controlled from WEB/Remote switching. When a ‘swim lane’ isn’t being used, the external lights are kept off to reduce the light spill emitted from the site and to reduce energy costs from the external lighting. We understand that this is a more recent mitigation initiative in response to the consultation feedback to this application.

5. External Lighting Assessment

5.1 General

The existing external lighting drawing produced by Mott MacDonald (ref: 49502-MMD-01-MO-DR-E-1361 Rev P04) has been used to prepare the lighting calculations to simulate the following scenarios:

Assessment A : Lighting levels based upon the original scheme with all external lighting operational.

Assessment B : Lighting levels based upon the measures implemented as part of the Mott MacDonald Technical Note (dated 19th November 2021) implemented and subsequent measure incorporated.

5.2 Observations

Based upon the lighting calculations simulations located in Appendix C & D, the following lux levels have been recorded for the residential areas in the Table 2.

Table 2: Lux Plot Results

Assessment	Res Area 1		Resi Area 2		Resi Area 3	
	Average Lux Level at Boundary	Lux Level beyond boundary	Average Lux Level at Boundary	Lux Level beyond boundary	Average Lux Level at Boundary	Lux Level beyond boundary
Assessment A	0.2 Lux	0.2 Lux	0.2 Lux	0 Lux	0.2 Lux	0 Lux
Assessment B	0.2 Lux	0 Lux	0.2 Lux	0 Lux	0 Lux	0 Lux

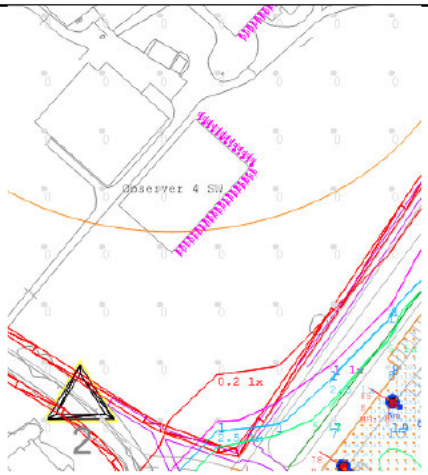
Image 5: Residential Areas that are in Close Proximity to the Site

Note the lux readings beyond the boundary do not take into consideration any existing physical barriers such as trees and hedges which would reduce the lux levels further.

Table 3 provides extracts from the lighting calculations indicating the lux contours for the 3 residential areas for Assessment A & Assessment B.

Where the lux contour lines represent the following:
- Green Contour Line - 5.0 Lux
- Blue Contour line - 2.0 Lux
- Purple Contour line - 1.0 Lux
- Red Contour Line - 0.2 Lux

Table 3: Lux Plot Images of the Residential Area

Area	Assessment A	Assessment B
Residential Area 1		
Residential Area 2		
Residential Area 3		

6. External Lighting Survey

The external lighting survey report dated 22nd April 2025 (revision P02) indicates that the lux level readings at the site boundary areas are similar to the calculated values previously undertaken. However, the photographs within the report provide clarity on the extent of direct glare and upward light spillage.

7. Conclusions and Recommendations

Based upon the lux plot design simulations for Assessment A (original scheme) and Assessment B (all lighting reduction measures applied), the results indicate that Assessment B reduces the lux levels to a compliant level between 0 - 0.2 lux at the site boundary adjacent to the residential areas.

The conclusion of the External Lighting Survey report (revision P02) dated 22nd April 2025, has made the following statement and recommendations:

Based upon the external lighting site survey it is noted that although the lux levels recorded at the relevant site boundaries are of acceptable levels, the main issue is the direct glare from the site luminaires and the percentage of upward light which is noticeable from the site photographs.

The photographs within the survey report demonstrate the extent of glare being experienced at the given locations. The photographs also identify upward light which could be considered as contravening the Ashford Local Plan Dark Skies (Policy ENV4).

The survey report recommends that the following course of action is considered to address the issues identified:

1. All column luminaires to be fitted with baffles to remove the impact of direct glare.

2. Consideration of dimming of the luminaires to a lower wattage in different areas of the site to create a lower average lux level and minimise the indirect light spillage which appears to be impacting on the dark sky issue due to potential reflection from the finished road surfaces.

3. Review the capability of the lighting control system to assess the flexibility of switching off certain circuits at night.

4. Assess the actual operation of the site to determine areas which are not always needed to be operational on a daily basis and control those areas accordingly using the lighting control system to switch off certain circuits at night.

Further to the above, the FM team have advised they are in the process of preparing an implementation plan to reduce lighting at night by switching off a selection of the lighting circuits and dimming other lighting circuits, where operationally feasible. We suggest this plan is obtained and reviewed and that a programme of monitoring and recording is implemented.

Appendices

A. Existing Luminaire Schedule

LUMINAIRE SCHEDULE

The following luminaire manufacturers have been selected to benchmark the proposed standard and performance perimeters that shall be applied.

Ref.	Image	Manufacturer	Description	Catalog Ref.	Lamp Output & Efficiency	Colour Temp. (K)	Comments
A		CU Phosco	IK09 IP66 **Installation Height:** 8m and above **As Installed height:** 10m **Dimensions:** Ø 34-42mm x 100mm (Side Entry), Ø 42-60mm x 100mm (Side Entry/Post Top), Ø 60-76mm x 100mm (Post Top) **Finish:** Polyester powder coat cured under heat, Light Grey.	P860-384-H5-4x4-740-W7-0475-247W	247 W 41693 lm 168 lm/W	4000	External Shields added to inhibit unwanted light spill.
B		CU Phosco	IK09 IP66 **Installation Height:** 8m and above **As Installed height:** 10-12m **Dimensions:** Ø 34-42mm x 100mm (Side Entry), Ø 42-60mm x 100mm (Side Entry/Post Top), Ø 60-76mm x 100mm (Post Top) **Finish:** Polyester powder coat cured under heat, Light Grey.	P860-384-H5-4x4-740-W7-0575-298W	298 W 49529 lm 166 lm/W	4000	External Shields added to inhibit unwanted light spill.

Ref.	Image	Manufacturer	Description	Catalog Ref.	Lamp Output & Efficiency	Colour Temp. (K)	Comments
C		CU Phosco	IK09 IP66 **Installation Height:** 8m and above **As Installed height:** 12m **Dimensions:** Ø 34-42mm x 100mm (Side Entry), Ø 42-60mm x 100mm (Side Entry/Post Top), Ø 60-76mm x 100mm (Post Top) **Finish:** Polyester powder coat cured under heat, Light Grey.	P860-384-H5-4x4-740-W7-0700-358W	358 W 59027 lm 165 lm/W	4000	External Shields added to inhibit unwanted light spill.
D		CU Phosco	IK09 IP66 **Installation Height:** 8m and above. **As Installed height:** 10-12m **Dimensions:** Ø 34-42mm x 100mm (Side Entry), Ø 42-60mm x 100mm (Side Entry/Post Top), Ø 60-76mm x 100mm (Post Top) **Finish:** Polyester powder coat cured under heat, Light Grey.	P860-384-H5-4x4-740-W7-0400-208W	208 W 35487 lm 171 lm/W	4000	External Shields added to inhibit unwanted light spill.

Ref.	Image	Manufacturer	Description	Catalog Ref.	Lamp Output & Efficiency	Colour Temp. (K)	Comments
E		CU Phosco	IK09 IP66 **Installation Height:** 5-12m **As Installed height:** 8m **Dimensions:** (Side Entry) Ø 34-42mm or Ø 42-60mm (Post Top) Ø 42-60mm or Ø 60-76mm **Finish:** Polyester powder coat cured under heat, Light Grey.	P862-128-H5-4x4-740-SF-0525-96W	96 W 15917 lm 166 lm/W	4000	External Shields added to inhibit unwanted light spill.
F		CU Phosco	IK09 IP66 **Installation Height:** 8m and above **As Installed height:** 10-12m **Dimensions:** Ø 34-42mm x 100mm (Side Entry), Ø 42-60mm x 100mm (Side Entry/Post Top), Ø 60-76mm x 100mm (Post Top) **Finish:** Polyester powder coat cured under heat, Light Grey.	P860-384-H5-4x4-740-W7-0925-470W	470 W 75345 lm 160 lm/W	4000	External Shields added to inhibit unwanted light spill.

Ref.	Image	Manufacturer	Description	Catalog Ref.	Lamp Output & Efficiency	Colour Temp. (K)	Comments
G		CU Phosco	IK09 IP66 **Installation Height:** 8m and above **As Installed height:** 10m **Dimensions:** Ø 34-42mm x 100mm (Side Entry), Ø 42-60mm x 100mm (Side Entry/Post Top), Ø 60-76mm x 100mm (Post Top) **Finish:** Polyester powder coat cured under heat, Light Grey.	P860-384-H5-4x4-740-W7-0325-171W	171 W 29117 lm 170 lm/W	4000	External Shields added to inhibit unwanted light spill.

Refer to drawing 419419-MMD-01-MO-DR-E-1361, REV P04 for individual luminaire heights.

B. Existing External Lighting Layout Drawing

Obtrusive Light - Compliance Report

CIE 150:2017, E2-Low District Brightness, Pre-Curfew
Filename: LS16272-1-2-3 off 2 areas-non compliant [agi_exp]
26/02/2025 07:26:43

Illuminance

Maximum Allowable Value: 5 Lux

Calculations Tested (15):

Calculation Label	Test Results	Max. Illum.
Observer 1 NE 1-8m- Kingsford St_Ill_Seg1	PASS	0
Observer 1 NE 1-8m- Kingsford St_Ill_Seg2	PASS	0
Observer 1 NE 1-8m- Kingsford St_Ill_Seg3	PASS	0
Observer 7 SW Church Road_Ill_Seg1	PASS	0
Observer 8 SW Church Road_1_Ill_Seg1	PASS	0
Observer 5 SW 1-8m_Ill_Seg1	PASS	0
Observer 5 SW 1-8m_Ill_Seg2	PASS	0
Observer 2 NE 1-8m-Kingsford St_Ill_Seg1	PASS	0
Observer 3 NE 1-8m-Kingsford St_Ill_Seg1	PASS	0
Observer 4 SW 1-8m (-2m)_Ill_Seg1	PASS	0
Observer 4 SW 1-8m (-2m)_Ill_Seg2	PASS	0
Observer 6 -4m to 4m_Ill_Seg1	PASS	1
Observer 6 -4m to 4m_Ill_Seg2	PASS	1
Observer 6 -4m to 4m_Ill_Seg3	PASS	1
Observer 6 -4m to 4m_Ill_Seg4	PASS	0

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value calculated from CIE 150:2017 (varies by Projected Area sq.m. and Distance Factor)
For E2-Low District Brightness, Projected Area and Distance Factors:
(0.002, 0.57) (0.01, 1.3) (0.03, 2.5) (0.13, 5) (0.5, 10)
Projected Area (sq.m) = Approx. projected emitting area of luminaire in direction of observer
Distance (m) = Distance from luminaire to observer
Max Cd Allowed = Projected Area Factor * Distance

Calculations Tested (15):

Calculation Label	Test Results
Observer 1 NE 1-8m- Kingsford St_Cd_Seg1	PASS
Observer 1 NE 1-8m- Kingsford St_Cd_Seg2	PASS
Observer 1 NE 1-8m- Kingsford St_Cd_Seg3	PASS
Observer 7 SW Church Road_Cd_Seg1	PASS
Observer 8 SW Church Road_1_Cd_Seg1	PASS
Observer 5 SW 1-8m_Cd_Seg1	PASS
Observer 5 SW 1-8m_Cd_Seg2	PASS
Observer 2 NE 1-8m-Kingsford St_Cd_Seg1	PASS
Observer 3 NE 1-8m-Kingsford St_Cd_Seg1	PASS
Observer 4 SW 1-8m (-2m)_Cd_Seg1	PASS
Observer 4 SW 1-8m (-2m)_Cd_Seg2	PASS
Observer 6 -4m to 4m_Cd_Seg1	FAIL
Observer 6 -4m to 4m_Cd_Seg2	FAIL
Observer 6 -4m to 4m_Cd_Seg3	FAIL
Observer 6 -4m to 4m_Cd_Seg4	PASS

Failed Meter Locations (45):

Offending Lum. No.	Label / Meter Coords	Proj. Area	Distance	Cd	Max Cd Allowed	
22	F-P860-168-H5-WW-E0975-467W_1	0.03	95.7	1741	239	-
973.493, 410.745, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.03	94.1	1701	470	-
975.481, 412.992, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.031	92.5	1625	463	-
977.47, 415.238, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.031	91	1520	455	-
979.458, 417.485, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.032	89.6	1450	448	-

981.446, 419.731, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.032	88.3	1410	441	-
983.435, 421.978, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.033	87	1357	435	-
985.423, 424.224, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.023	95.4	1037	238	-
973.493, 410.745, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.024	93.7	1016	234	-
975.481, 412.992, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.024	92.1	978	230	-
977.47, 415.238, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.024	90.6	931	227	-
979.458, 417.485, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	89.2	898	223	-
981.446, 419.731, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	87.9	877	220	-
983.435, 421.978, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	86.6	853	217	-
985.423, 424.224, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.016	95.1	547	238	-
973.493, 410.745, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.017	93.4	540	234	-
975.481, 412.992, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.017	91.9	530	230	-
977.47, 415.238, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.017	90.4	517	226	-
979.458, 417.485, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.017	88.9	505	222	-
981.446, 419.731, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	87.6	494	219	-
983.435, 421.978, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	86.3	481	216	-
985.423, 424.224, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.034	85.5	2978	427	-
962.542, 419.098, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.033	87.8	2783	439	-
964.699, 417.013, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.032	90.2	2433	451	-
966.855, 414.927, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.031	92.7	2124	463	-
969.012, 412.842, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.03	95.2	1866	476	-
971.168, 410.756, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.026	85.1	1435	213	-
962.542, 419.098, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	87.4	1366	219	-
964.699, 417.013, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	89.9	1266	225	-
966.855, 414.927, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.024	92.3	1172	231	-
969.012, 412.842, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.023	94.8	1085	237	-
971.168, 410.756, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	84.8	707	212	-
962.542, 419.098, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	87.1	682	218	-
964.699, 417.013, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.017	89.6	642	224	-
966.855, 414.927, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.017	92	604	230	-
969.012, 412.842, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.016	94.5	569	236	-
971.168, 410.756, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.032	88.4	2482	442	-
955.316, 415.392, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.033	86.6	2704	433	-
957.631, 417.301, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.034	85	2938	425	-
959.945, 419.21, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	88	1325	220	-

955.316, 415.392, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.026	86.3	1393	216	-
957.631, 417.301, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.026	84.6	1447	212	-
959.945, 419.21, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	87.7	658	219	-
955.316, 415.392, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	86	687	215	-
957.631, 417.301, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	84.3	709	211	-
959.945, 419.21, 3						

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.5 %

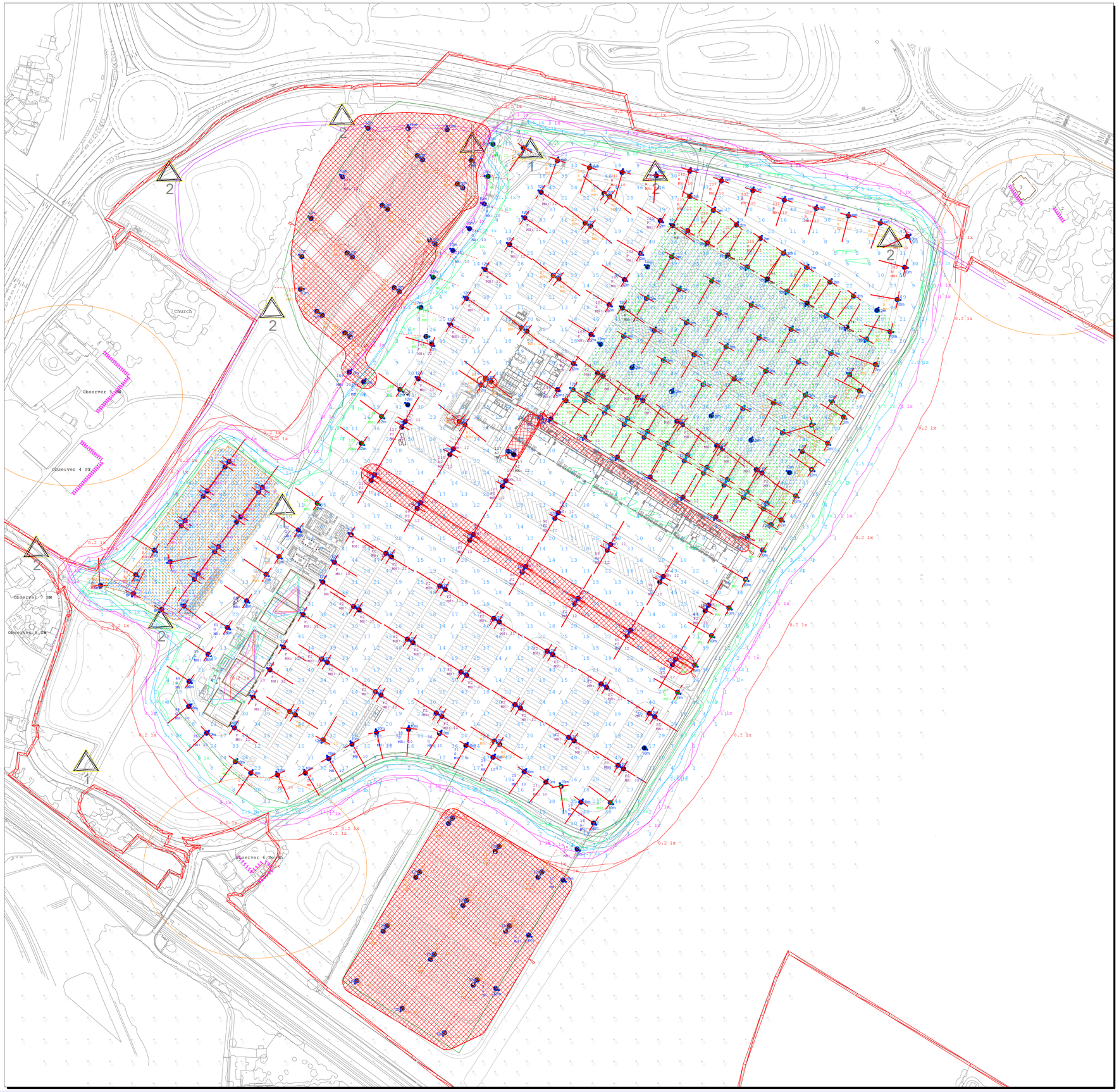
Calculated UWLR: 0.0 %
Test Results: **PASS**

Upward Flux Ratio (UFR)

Maximum Allowable Value:	6.0
Reference Area(s):	AreaTest Illuminance Car Park Tests Illuminance Copy_Horizontal spill over area
Average Reflectance - Reference Area(s):	0.20
Average Reflectance - Surround:	0.20
Average Illuminance - Reference Area(s):	21.48 Lux
Average Maintained Illuminance Required:	20.00 Lux
Total Area - Reference Area(s):	542254 Sq.m.
Total Luminaire Flux (All Locations) :	10478258
Downward Light Ratio (DLO):	1.000
Upward Light Ratio (ULO):	0.000
Utilization Factor (UF):	1.112

WARNING: Light Loss Factor (LLF) for one or more luminaires is not = 1
Upward Flux Ratio (UFR) calculations should be based on initial conditions

Calculated UFR: 0.97
Test Results: **PASS**



Luminaire Location Summary

Luminaire Location Summary							
Luminaire Location Summary		Insertion Point					
Luminaire Location Summary							
Luminaire Location Summary							
Luminaire Location Summary	

C. Assessment A – Original Existing Lighting Calculation

Obtrusive Light - Compliance Report

CIE 150:2017, E2-Low District Brightness, Pre-Curfew
Filename: LS6172-1-2-1 [agi_exp]-as installed
26/02/2025 09:51:21

Illuminance

Maximum Allowable Value: 5 Lux

Calculations Tested (15):

Calculation Label	Test Results	Max. Illum.
Observer 1 NE 1-8m- Kingsford St_Ill_Seg1	PASS	0
Observer 1 NE 1-8m- Kingsford St_Ill_Seg2	PASS	0
Observer 1 NE 1-8m- Kingsford St_Ill_Seg3	PASS	0
Observer 7 SW Church Road_Ill_Seg1	PASS	0
Observer 8 SW Church Road_1_Ill_Seg1	PASS	0
Observer 5 SW 1-8m_Ill_Seg1	PASS	0
Observer 5 SW 1-8m_Ill_Seg2	PASS	0
Observer 2 NE 1-8m-Kingsford St_Ill_Seg1	PASS	0
Observer 3 NE 1-8m-Kingsford St_Ill_Seg1	PASS	0
Observer 4 SW 1-8m (-2m)_Ill_Seg1	PASS	0
Observer 4 SW 1-8m (-2m)_Ill_Seg2	PASS	0
Observer 6 South -4m to4m_Ill_Seg1	PASS	1
Observer 6 South -4m to4m_Ill_Seg2	PASS	1
Observer 6 South -4m to4m_Ill_Seg3	PASS	1
Observer 6 South -4m to4m_Ill_Seg4	PASS	0

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value calculated from CIE 150:2017 (varies by Projected Area sq.m. and Distance Factor)
For E2-Low District Brightness, Projected Area and Distance Factors:
(0.002, 0.57) (0.01, 1.3) (0.03, 2.5) (0.13, 5) (0.5, 10)
Projected Area (sq.m) = Approx. projected emitting area of luminaire in direction of observer
Distance (m) = Distance from luminaire to observer
Max Cd Allowed = Projected Area Factor * Distance

Calculations Tested (15):

Calculation Label	Test Results
Observer 1 NE 1-8m- Kingsford St_Cd_Seg1	PASS
Observer 1 NE 1-8m- Kingsford St_Cd_Seg2	PASS
Observer 1 NE 1-8m- Kingsford St_Cd_Seg3	PASS
Observer 7 SW Church Road_Cd_Seg1	PASS
Observer 8 SW Church Road_1_Cd_Seg1	PASS
Observer 5 SW 1-8m_Cd_Seg1	PASS
Observer 5 SW 1-8m_Cd_Seg2	PASS
Observer 2 NE 1-8m-Kingsford St_Cd_Seg1	PASS
Observer 3 NE 1-8m-Kingsford St_Cd_Seg1	PASS
Observer 4 SW 1-8m (-2m)_Cd_Seg1	PASS
Observer 4 SW 1-8m (-2m)_Cd_Seg2	PASS
Observer 6 South -4m to4m_Cd_Seg1	FAIL
Observer 6 South -4m to4m_Cd_Seg2	FAIL
Observer 6 South -4m to4m_Cd_Seg3	FAIL
Observer 6 South -4m to4m_Cd_Seg4	FAIL

Failed Meter Locations (50):

Offending Lum. No.	Label / Meter Coords	Proj. Area	Distance	Cd	Max Cd Allowed	
12	B2-P860-168-H5-WW-E0600-294W	0.023	145.8	447	364	-
	965.73, 404.325, -3					
12	B2-P860-168-H5-WW-E0600-294W	0.023	143.6	453	359	-
	963.557, 406.394, -3					
12	B2-P860-168-H5-WW-E0600-294W	0.023	141.4	462	353	-
	961.384, 408.463, -3					
12	B2-P860-168-H5-WW-E0600-294W	0.024	139.2	472	348	-
	959.212, 410.531, -3					
12	B2-P860-168-H5-WW-E0600-294W	0.024	137.1	481	343	-

957.039, 412.6, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.03 95.7 1742 239 -
973.438, 410.711, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.03 94.2 1697 471 -
975.498, 412.892, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.031 92.7 1614 463 -
977.558, 415.073, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.031 91.3 1505 456 -
979.617, 417.254, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.032 90 1434 450 -
981.677, 419.435, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.032 88.7 1391 444 -
983.737, 421.616, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.033 87.5 1335 438 -
985.797, 423.797, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.023 95.4 1038 238 -
973.438, 410.711, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.024 93.8 1014 235 -
975.498, 412.892, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.024 92.3 974 231 -
977.558, 415.073, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.024 90.9 924 227 -
979.617, 417.254, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.025 89.6 890 224 -
981.677, 419.435, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.025 88.3 868 221 -
983.737, 421.616, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.025 87.1 842 218 -
985.797, 423.797, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.016 95.1 548 238 -
973.438, 410.711, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.017 93.5 539 234 -
975.498, 412.892, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.017 92 528 230 -
977.558, 415.073, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.017 90.6 514 227 -
979.617, 417.254, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.017 89.3 502 223 -
981.677, 419.435, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.018 88 489 220 -
983.737, 421.616, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.018 86.8 475 217 -
985.797, 423.797, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.034 85.6 2964 428 -
962.445, 418.983, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.033 87.8 2787 439 -
964.711, 417.017, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.032 90.1 2432 451 -
966.977, 415.051, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.031 92.5 2124 463 -
969.242, 413.084, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.03 94.9 1867 474 -
971.508, 411.118, -3
22 F-P860-168-H5-WW-E0975-467W_1 0.026 85.2 1432 213 -
962.445, 418.983, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.025 87.4 1366 219 -
964.711, 417.017, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.025 89.8 1266 224 -
966.977, 415.051, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.024 92.1 1172 230 -
969.242, 413.084, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.023 94.5 1085 236 -
971.508, 411.118, 0
22 F-P860-168-H5-WW-E0975-467W_1 0.018 84.9 706 212 -
962.445, 418.983, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.018 87.1 683 218 -
964.711, 417.017, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.017 89.5 642 224 -
966.977, 415.051, 3
22 F-P860-168-H5-WW-E0975-467W_1 0.017 91.8 604 230 -

969.242, 413.084, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.016	94.3	568	236	-
971.508, 411.118, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.032	89.2	2452	446	-
956.517, 414.672, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.033	87.1	2689	435	-
958.472, 416.947, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.034	85.1	2950	425	-
960.428, 419.222, -3						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	88.8	1312	222	-
956.517, 414.672, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.025	86.7	1381	217	-
958.472, 416.947, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.026	84.6	1446	212	-
960.428, 419.222, 0						
22	F-P860-168-H5-WW-E0975-467W_1	0.017	88.5	655	221	-
956.517, 414.672, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	86.4	683	216	-
958.472, 416.947, 3						
22	F-P860-168-H5-WW-E0975-467W_1	0.018	84.3	710	211	-
960.428, 419.222, 3						

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.5 %

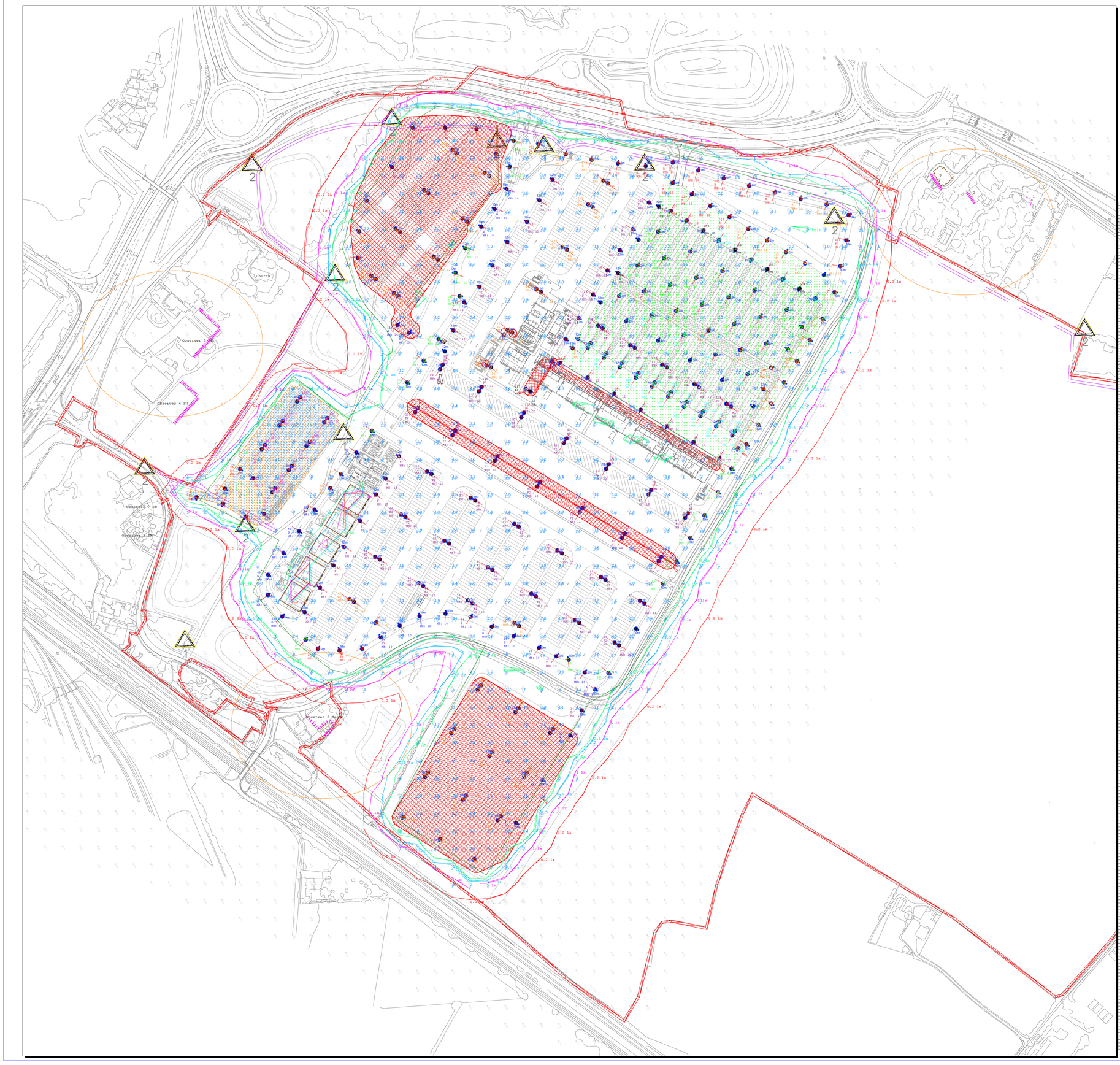
Calculated UWLR: 0.0 %
Test Results: **PASS**

Upward Flux Ratio (UFR)

Maximum Allowable Value:	6.0
Reference Area(s):	AreaTest Illuminance Car Park Tests Illuminance Copy_Horizontal spill over area
Average Reflectance - Reference Area(s):	0.30
Average Reflectance - Surround:	0.30
Average Illuminance - Reference Area(s):	25.84 Lux
Average Maintained Illuminance Required:	20.00 Lux
Total Area - Reference Area(s):	516654 Sq.m.
Total Luminaire Flux (All Locations) :	12465709
Downward Light Ratio (DLO):	1.000
Upward Light Ratio (ULO):	0.000
Utilization Factor (UF):	1.071

WARNING: Light Loss Factor (LLF) for one or more luminaires is not = 1
Upward Flux Ratio (UFR) calculations should be based on initial conditions

Calculated UFR: 1.21
Test Results: **PASS**



Luminaire Location Summary

LumNo	Label	Insertion Point X	Y	Z	Orient	Tilt	Tag (Qty)
1	S:PIN30.168-HS.WW.E9000.254W1	788.21	291.95	12	58	0	B (1)
2	S:PIN30.168-HS.WW.E9000.254W1	836.1	284.37	12	58	0	B (1)
3	S:PIN30.168-HS.WW.E9000.254W1	884.01	276.79	12	58	0	B (1)
4	S:PIN30.168-HS.WW.E9000.254W1	814.16	309.33	12	58	0	B (1)
5	S:CP60.168-HS.WW.E9000.254W	769.14	311.73	12	236	0	B2 (2)
6	S:CP60.168-HS.WW.E9000.254W	807.35	304.54	12	236	0	B2 (2)
7	S:PIN30.168-HS.WW.E9000.254W1	777.27	302.96	10	192	0	D (1)
8	S:CP60.168-HS.WW.E9000.254W	845.56	297.75	12	236	0	B2 (2)
9	S:CP60.168-HS.WW.E9000.254W	777.87	303.13	12	236	0	B2 (2)
10	S:CP60.168-HS.WW.E9000.254W	826.76	295.55	12	236	0	B2 (2)
11	S:CP60.168-HS.WW.E9000.254W	820.9	407.2	12	236	0	B2 (2)
12	S:CP60.168-HS.WW.E9000.254W	769.13	409.57	12	236	0	B2 (2)
13	S:CP60.168-HS.WW.E9000.254W	769.13	409.57	12	236	0	B2 (2)
14	F:PIN30.168-HS.WW.E9075.467W	427.99	430.73	10	104	0	F (1)
15	S:CP60.168-HS.WW.E9000.254W	748.51	412.86	12	236	0	B2 (2)
16	S:CP60.168-HS.WW.E9000.254W	748.51	412.86	12	236	0	B2 (2)
17	S:CP60.168-HS.WW.E9000.254W	820.12	407.2	12	236	0	B2 (2)
18	S:PIN30.168-HS.WW.E9425.219W	642.96	473.14	10	143	0	D (1)
19	S:PIN30.168-HS.WW.E9375.167W1	427.99	430.73	10	104	0	F (1)
20	S:PIN30.168-HS.WW.E9425.219W	495.48	491.91	10	213	0	D (1)
21	S:PIN30.168-HS.WW.E9425.219W	495.48	491.91	10	213	0	D (1)
22	S:PIN30.168-HS.WW.E9375.167W1	450.07	504.3	10	292	0	F (1)
23	S:PIN30.168-HS.WW.E9375.167W1	501.62	504.3	10	292	0	F (1)
24	S:PIN30.168-HS.WW.E9425.219W	642.96	473.14	10	143	0	D (1)
25	F:PIN30.168-HS.WW.E9375.467W	448.89	569.17	10	104	0	F (1)
26	F:PIN30.168-HS.WW.E9375.467W	448.89	569.17	10	104	0	F (1)
27	S:PIN30.168-HS.WW.E9425.219W	665.44	514.65	10	213	0	D (1)
28	S:PIN30.168-HS.WW.E9375.167W1	563.88	517.04	10	300	0	D (1)
29	S:PIN30.168-HS.WW.E9425.219W	665.44	514.65	10	213	0	D (1)
30	S:PIN30.168-HS.WW.E9425.219W	460.31	529.33	10	60	0	D (1)
31	S:PIN30.168-HS.WW.E9375.167W1	479.04	529.04	10	289	0	D (1)
32	S:CP60.168-HS.WW.E9000.254W	748.51	429.15	12	326	0	B2 (2)
33	S:PIN30.168-HS.WW.E9375.167W1	563.72	530.05	10	300	0	D (1)
34	S:PIN30.168-HS.WW.E9425.219W	460.31	529.33	10	60	0	D (1)
35	S:PIN30.168-HS.WW.E9375.167W1	501.62	531.84	10	292	0	D (1)
36	S:PIN30.168-HS.WW.E9375.167W1	398.93	540.34	10	289	0	D (1)
37	S:PIN30.168-HS.WW.E9375.167W1	459.11	545.73	10	289	0	D (1)
38	F:PIN30.168-HS.WW.E9375.167W1	398.71	544.68	10	305	0	F (1)
39	S:PIN30.168-HS.WW.E9375.167W1	459.11	545.73	10	289	0	D (1)
40	F:PIN30.168-HS.WW.E9375.467W	427.25	554.11	10	104	0	F (1)
41	F:PIN30.168-HS.WW.E9375.467W	397.27	556	10	308	0	F (1)
42	F:PIN30.168-HS.WW.E9375.467W	427.25	554.11	10	104	0	F (1)
43	F:PIN30.168-HS.WW.E9375.467W	379.96	556.56	10	308	0	F (1)
44	S:PIN30.168-HS.WW.E9375.163W1	1007.08	564.37	10	219	0	D (1)
45	F:PIN30.168-HS.WW.E9375.467W	377.05	567.13	10	308	0	F (1)
46	F:PIN30.168-HS.WW.E9375.467W	366.87	574.13	10	308	0	F (1)
47	F:PIN30.168-HS.WW.E9375.467W	377.05	567.13	10	308	0	F (1)
48	F:PIN30.168-HS.WW.E9375.467W	357.7	581.68	10	308	0	F (1)
49	S:PIN30.168-HS.WW.E9375.163W1	1007.08	583.83	10	146	0	D (1)
50	F:PIN30.168-HS.WW.E9375.467W	348.39	589.57	10	308	0	F (1)
51	F:PIN30.168-HS.WW.E9375.467W	368.39	589.57	10	308	0	F (1)
52	F:PIN30.168-HS.WW.E9375.467W	339.76	597.24	10	308	0	F (1)
53	F:PIN30.168-HS.WW.E9375.467W	366.26	604.27	10	308	0	F (1)
54	F:CP60.64.HS.WW.E500.980	1001.83	604.07	8	55	0	E (1)
55	F:CP60.64.HS.WW.E500.980	1001.83	604.07	8	55	0	E (1)
56	F:CP60.64.HS.WW.E500.980	1110.95	629.02	8	55	0	E (1)
57	S:CP60.168-HS.WW.E9000.254W	748.51	429.15	12	326	0	B2 (2)
58	F:PIN30.168-HS.WW.E9375.467W	348.39	614.36	10	308	0	F (1)
59	S:PIN30.168-HS.WW.E9425.219W	550.42	626.58	10	150	0	D (1)
60	S:PIN30.168-HS.WW.E9425.219W	550.42	626.58	10	150	0	D (1)
61	F:PIN30.168-HS.WW.E9375.467W	363.12	633.34	10	308	0	F (1)
62	F:CP60.168-HS.WW.E9375.467W	349.42	641.09	10	308	0	F (1)
63	F:PIN30.168-HS.WW.E9375.467W	363.12	633.34	10	308	0	F (1)
64	F:PIN30.64.HS.WW.E500.980	1056.52	648.3	8	57	0	E (1)
65	F:PIN30.64.HS.WW.E500.980	1056.52	648.3	8	57	0	E (1)
66	F:CP60.64.HS.WW.E9375.467W	377.25	652.13	10	308	0	F (1)
67	F:CP60.168-HS.WW.E9375.467W	356.69	654.25	10	308	0	F (1)
68	S:CP60.168-HS.WW.E9000.254W	769.13	409.57	12	326	0	B2 (2)
69	F:CP60.168-HS.WW.E9375.467W	379.1	658.68	10	308	0	F (1)
70	F:PIN30.64.HS.WW.E500.980	1001.83	664.07	8	55	0	E (1)
71	F:PIN30.64.HS.WW.E500.980	1110.95	689.02	8	55	0	E (1)
72	F:CP60.64.LED.HE.Lens.500mA_1	1074.78	712.45	8	64	0	F2 (2)
73	F:CP60.168-HS.WW.E9375.467W	379.1	658.68	10	308	0	F (1)
74	F:CP60.64.HS.WW.E9375.467W	341.91	664.27	10	308	0	F (1)
75	S:PIN30.168-HS.WW.E9425.219W	519.24	676.68	10	150	0	D (1)
76	F:CP60.168-HS.WW.E9375.467W	398.23	678.67	10	240	0	F (1)
77	F:CP60.64.LED.HE.Lens.500mA_1	1023.58	686.8	8	64	0	F2 (2)
78	F:CP60.64.LED.HE.Lens.500mA_1	1023.58	686.8	8	64	0	F2 (2)
79	F:CP60.168-HS.WW.E9000.254W1	469.72	687.16	12	146	0	F (1)
80	F:CP60.168-HS.WW.E9375.467W	354.06	687.86	10	240	0	F (1)
81	F:PIN30.64.HS.WW.E500.980	1049.91	689.13	8	55	0	E (1)
82	F:PIN30.168-HS.WW.E9375.467W	395.72	699.09	10	308	0	F (1)
83	F:CP60.64.LED.HE.Lens.500mA_1	1049.91	712.45	8	64	0	F2 (2)
84	F:CP60.64.LED.HE.Lens.500mA_1	1058.98	703.05	8	185	0	F (1)
85	F:CP60.64.HS.WW.E500.980	1058.98	703.05	8	185	0	F (1)
86	F:CP60.64.LED.HE.Lens.500mA_1	1058.98	703.05	8	64	0	F2 (2)
87	F:CP60.168-HS.WW.E9375.467W	646.95	707.23	12	289	0	F (1)
88	F:PIN30.168-HS.WW.E9375.467W	371.91	715.05	10	60	0	F (1)
89	S:CP60.168-HS.WW.E9375.467W	371.68	717.08	12	240	0	F2 (2)
90	S:CP60.168-HS.WW.E9375.467W	371.68	717.08	12	240	0	F2 (2)
91	S:CP60.168-HS.WW.E9375.467W	371.68	717.08	12	240	0	F2 (2)
92	S:CP60.168-HS.WW.E9375.3GW	606.7	726.41	12	57	0	C (1)
93	S:CP60.168-HS.WW.E9375.3GW	606.7	726.41	12	57	0	C (1)
94	F:CP60.64.LED.HE.Lens.500mA_1	1018.9	729.46	8	64	0	F2 (2)
95	S:PIN30.168-HS.WW.E9000.254W1	486.99	730.97	12	150	0	B (1)
96	S:PIN30.168-HS.WW.E9000.254W1	471.5	731.8	12	150	0	B (1)
97	F:CP60.64.LED.HE.Lens.500mA_1	1045.48	734.23	8	64	0	F2 (2)
98	F:CP60.168-HS.WW.E9375.467W	694.17	736.89	12	289	0	F (1)
99	F:CP60.168-HS.WW.E9375.467W	694.17	736.89	12	289	0	F (1)
100	S:CP60.168-HS.WW.E9000.254W	748.51	429.15	12	326	0	B2 (2)
101	F:CP60.168-HS.WW.E9375.467W	693.74	745.48	12	289	0	F (1)
102	F:CP60.168-HS.WW.E9375.467W	680.27	750.78	12	289	0	F (1)
103	S:PIN30.168-HS.WW.E9000.254W1	473.5	752.8	12	150	0	B (1)
104	F:CP60.64.LED.HE.Lens.500mA_1	1018.9	753.23	8	64	0	F2 (2)
105	F:CP60.64.LED.HE.Lens.500mA_1	994.14	759.71	8	64	0	F2 (2)
106	F:CP60.64.LED.HE.Lens.500mA_1	994.14	759.71	8	64	0	F2 (2)
107	F:CP60.168-HS.WW.E9375.467W	694.17	746.89	12	289	0	F (1)
108	F:CP60.168-HS.WW.E9375.467W	789.76	796.29	12	240	0	F2 (2)
109	S:PIN30.168-HS.WW.E9000.254W1	472.24	796.68	12	326	0	B (1)
110	F:CP60.168-HS.WW.E9375.467W	545.05	799.52	12	302	0	F (1)
111	S:PIN30.168-HS.WW.E9375.3GW	594.55	799.89	12	240	0	F2 (2)
112	S:PIN30.168-HS.WW.E9425.219W	469.36	800.03	12	144	0	D (1)
113	S:CP60.168-HS.WW.E9375.467W	412.3	810.89	12	60	0	F (1)
114	S:CP60.168-HS.WW.E9375.3GW	412.3	810.89	12	240	0	F2 (2)
115	F:CP60.168-HS.WW.E9375.467W	410.17	812.89	12	60	0	F (1)
116	F:CP60.168-HS.WW.E9375.467W	410.17	812.89	12	240	0	F2 (2)
117	S:PIN30.168-HS.WW.E9000.254W1	492.61	819.98	10	197	0	F (1)
118	S:CP60.168-HS.WW.E9000.254W	780.49	828.97	12	302	0	B2 (2)
119	S:CP60.168-HS.WW.E9375.467W	581.62	831.01	12	302	0	F2 (2)
120	S:CP60.168-HS.WW.E9375.3GW	581.62	831.01	12	302	0	F2 (2)
121	S:CP60.168-HS.WW.E9375.3GW	604.56	831.01	12	240	0	F2 (2)
122	F:PIN30.168-HS.WW.E9375.467W	396.36	834.61	12	152	0	F (1)
123	S:PIN30.168-HS.WW.E9425.219W	651.79	835.36	10	144	0	D (1)
124	S:PIN30.168-HS.WW.E9000.254W1	429.64	834.68	12	150	0	B (1)
125	S:PIN30.168-HS.WW.E9425.219W	651.79	835.36	10	144	0	D (1)
126	S:PIN30.168-HS.WW.E9375.3GW	642.82	836.36	12	240	0	F2 (2)
127	S:PIN30.168-HS.WW.E9425.219W	445.39	841.72	10	303	0	D (1)
128	S:PIN30.168-HS.WW.E9375.467W	434.7	841.77	12	60	0	F (1)
129	S:CP60.168-HS.WW.E9000.254W	809.32	842.04	12	302	0	F2 (2)
130	S:PIN30.168-HS.WW.E9375.3GW	642.82	845.25	12	240	0	F2 (2)
131	F:PIN30.168-HS.WW.E9375.467W	491.1	849.29	12	148	0	F (1)
132	F:PIN30.168-HS.WW.E9375.467W	434.7	849.29	12	148	0	F (1)
133	S:PIN30.168-HS.WW.E9425.219W	634.35	849.87	12	144	0	D (1)
134	S:PIN30.168-HS.WW.E9000.254W1	415.36	849.74	12	153	0	B (1)
135	S:PIN30.168-HS.WW.E9375.3GW	681.92	853.06	12	302	0	F2 (2)
136	S:PIN30.168-HS.WW.E9000.254W1	392.77	853.66	12	146	0	B (1)
137	S:PIN30.168-HS.WW.E9000.254W1	392.77	853.66	12	146	0	B (1)
138	S:CP60.168-HS.WW.E9000.254W	758.61	860.13	12	326	0	B2 (2)
139	S:PIN30.168-HS.WW.E9000.254W1	868.53	861.03	10	236	0	F (1)
140	F:PIN30.168-HS.WW.E9375.467W	422.96	863.25	12	151	0	F (1)
141	S:PIN30.168-HS.WW.E9000.254W1	531.04	863.77	10	234	0	B (1)
142	S:PIN30.168-HS.WW.E9425.219W	634.35	864.22	12	324	0	D (1)
143	S:PIN30.168-HS.WW.E9425.219W	429.04	864.27	12	324	0	D (1)
144	S:CP60.168-HS.WW.E9375.3GW	681.6	869.52	12	240	0	F2 (2)
145	S:PIN30.168-HS.WW.E9425.219W	665.44	514.65	10	213	0	D (1)
146	F:PIN30.168-HS.WW.E9000.254W1	429.36	877.63	10	146	0	F (1)
147	S:PIN30.168-HS.WW.E9425.219W	427.09	879.23	12	144	0	D (1)
148	S:CP60.168-HS.WW.E9375.3GW	596.33	880.41	12	240	0	F2 (2)
149	S:PIN30.168-HS.WW.E9425.219W	442.61	897.01	12	324	0	D (1)
150	S:PIN30.168-HS.WW.E9425.219W	442.61	897.01	12	324	0	D (1)
151	F:PIN30.168-HS.WW.E9375.467W	366.46	899.11	10	153	0	F (1)
152	S:CP60.168-HS.WW.E9425.219W	434.56	899.8	12	240	0	D (1)
153	S:CP60.168-HS.WW.E9375.3GW	413.35	899.8	12	60	0	F2 (2)
154	S:CP60.168-HS.WW.E9375.3GW	413.35	899.8	12	60	0	F (1)
155	F:PIN30.168-HS.WW.E9375.467W	440.09	900.48	10	148	0	F (1)
156	S:CP60.168-HS.WW.E9000.254W	868.88	901.07	12	302	0	B2 (2)
157	S:PIN30.168-HS.WW.E9425.219W	427.31	905.36	12	324	0	D (1)
158	S:CP60.168-HS.WW.E9375.3GW	427.31	905.36	12	240	0	F2 (2)
159	S:CP60.168-HS.WW.E9000.254W	787.63	909.9	12	302	0	B2 (2)
160	S:PIN30.168-HS.WW.E9425.219W	421.17	920.83	12	324	0	D (1)
161	A:PIN30.168-HS.WW.E9425.386W	431.25	926.56	12	60	0	A (1)
162	A:PIN30.168-HS.WW.E9425.386W	431.25	926.56	12	60	0	A (1)
163	F:PIN30.168-HS.WW.E9375.467W	476.76	928.13	10	240	0	F (1)
164	F:PIN30.168-HS.WW.E9375.467W	476.76	928.13	10	240	0	F (1)
165	S:PIN30.168-HS.WW.E9425.219W	733.63	911.59	12	326	0	D (1)
166	S:PIN30.168-HS.WW.E9425.219W	733.63	911.59	12	326	0	D (1)
167	S:CP60.168-HS.WW.E9375.3GW	449.17	917.1	12	60	0	C (1)
168	S:CP60.168-HS.WW.E9375.3GW	449.17	917.1	12	60	0	C (1)
169	S:PIN30.168-HS.WW.E9425.219W	644.61	923.39	12	144	0	D (1)
170	S:PIN30.168-HS.WW.E9425.219W	831.21	926.35	12	326	0	D (1)
171	F:PIN30.168-HS.WW.E9375.467W	440.51	927.22	10	148	0	F (1)
172	A:PIN30.168-HS.WW.E9000.254W	427.4	928.08	12	326	0	A (1)
173	A:PIN30.168-HS.WW.E9000.254W	427.4	928.08	12	326	0	A (1)
174	S:PIN30.168-HS.WW.E9425.219W	415.05	936.95	12	60	0	D (1)
175	S:PIN30.168-HS.WW.E9000.254W1	382.52	938.13	10	170	0	B (1)
176	S:PIN30.168-HS.WW.E9425.219W	415.05	936.95	12	326	0	D (1)
177	S:PIN30.168-HS.WW.E9425.219W	418.68	937.21	12	60	0	D (1)
178	S:CP60.168-HS.WW.E9375.3GW	485.18	938.63	12	60	0	C (1)
179	S:PIN30.168-HS.WW.E9000.254W1	427.43	939.51	12	233	0	B (1)
180	S:CP60.168-HS.WW.E9000.254W	809.85	942.23	12	302	0	B2 (2)
181	F:PIN30.168-HS.WW.E9375.467W	440.51	942.73	10	148	0	F (1)
182	S:PIN30.168-HS.WW.E9425.219W	421.72	947.35	12	324	0	D (1)
183	F:PIN30.168-HS.WW.E9375.467W	429.07	950.06	10	197	0	F (1)
184	S:PIN30.168-HS.WW.E9000.254W1	423.79	949.89	10	60	0	B (1)
185	S:PIN30.168-HS.WW.E9000.254W1	443.37	952.11	12	235	0	B (1)
186	S:CP60.168-HS.WW.E9000.254W	809.85	952.23	12	302	0	B2 (2)
187	S:PIN30.168-HS.WW.E9425.219W	494.67	953.8	12	302	0	D (1)
188	S:PIN30.168-HS.WW.E9425.219W	898.89	958.4	10	369	0	D (1)
189	F:PIN30.168-HS.WW.E9375.467W	423.1	960.29	10	60	0	F (1)
190	F:PIN30.168-HS.WW.E9375.467W	423.1	960.29	10	240	0	F (1)
191	S:PIN30.168-HS.WW.E9000.254W1	372.47	963.19	10	306	0	B (1)
192	S:PIN30.168-HS.WW.E9000.254W1	464.67	963.14	12	236	0	B (1)
193	A:PIN30.168-HS.WW.E9425.386W	439.68	971.72	12	60	0	A (1)
194	A:PIN30.168-HS.WW.E9425.386W	439.68	971.72	12	60	0	A (1)
195	S:PIN30.168-HS.WW.E9000.254W	829.36	974.8	12	302	0	B2 (2)
196	F:PIN30.168-HS.WW.E9375.467W	415.5	974.05	12	150	0	F (1)
197	S:CP60.168-HS.WW.E9425.219W	487.72	974.45	12	240	0	D (1)
198	S:PIN30.168-HS.WW.E9000.254W1	486.17	976.4	12	234	0	B (1)
199	S:PIN30.168-HS.WW.E9000.254W1	471.5	976.8	12	234	0	B (1)
200	F:CP60.64.LED.HE.Lens.500mA_1	1038.84	983.05	8	64	0	F2 (2)
201	F:PIN30.168-HS.WW.E9375.467W	376.81	986.35	10	104	0	F (1)
202	S:PIN30.168-HS.WW.E9000.254W	827.43	990.75	12	302	0	B2 (2)
203	S:PIN30.168-HS.WW.E9000.254W	567.25	993.87	12	236	0	B (1)
204	S:PIN30.168-HS.WW.E9000.254W	567.25	993.87	12	236	0	B (1)
205	S:PIN30.168-HS.WW.E9425.219W	574.79	993.69	12	60	0	D (1)
206	S:PIN30.168-HS.WW.E9000.254W1	376.97	999.96	10	360	0	B (1)
207	F:PIN30.168-HS.WW.E9375.467W	376.81	1000.1	10	104	0	F (1)
208	S:PIN30.168-HS.WW.E9000.254W	666.99	1002.16	12	324	0	B (1)
209	F:PIN30.168-HS.WW.E9375.467W	596.9	1003.94	12	149	0	F (1)
210	F:PIN30.168-HS.WW.E9000.254W1	529.75	1004.25	12	237	0	B (1)
211	S:PIN30.168-HS.WW.E9000.254W1	398.14	1006.13	10	292	0	B (1)
212	S:PIN30.168-HS.WW.E9000.254W1	398.14	1006.13	10	292	0	B (1)
213	F:PIN30.168-HS.WW.E9375.467W	477.3	1009.69	10	104	0	F (1)
214	S:PIN30.168-HS.WW.E9000.254W1	477.14	1017.8	10	264	0	B (1)
215	S:CP60.168-HS.WW.E9000.254W	811.14	1017.87	12	326	0	B2 (2)
216	S:PIN30.168-HS.WW.E9000.254W	549.61	1017.22	12	237	0	B (1)
217	S:PIN30.168-HS.WW.E9000.254W	549.61	1017.22	12	237	0	B (1)
218	S:PIN30.168-HS.WW.E9375.167W1	453.17	1018.18	10	104	0	F (1)
219	S:PIN30.168-HS.WW.E9000.254W1	485.6	1026.99	10	252	0	B (1)
220	F:PIN30.168-HS.WW.E9375.467W	377.1	1028.31	10	104	0	F (1)
221	F:PIN30.168-HS.WW.E9375.467W	417.92	1030.32	10	240	0	F (1)
222	S:PIN30.168-HS.WW.E9000.254W	711.15	1033.15	12	326	0	B2 (2)
223	S:PIN30.168-HS.WW.E9000.254W	414.36	1033.35	12	60	0	F (1)
224	S:CP60.168-HS.WW.E9000.254W	582.4	1037.31	12	302	0	B2 (2)
225	F:PIN30.168-HS.WW.E9375.467W	417.92	1040.32	10	240	0	F (1)
226	F:PIN30.168-HS.WW.E9425.219W	580.07	1042.71	12	60	0	F (1)
227	S:PIN30.168-HS.WW.E9000.254W1	492.03	1046.31	10	292	0	B (1)
228	S:PIN30.168-HS.WW.E9000.254W1	472.5	1047.12	10	292	0	B (1)
229	S:PIN30.168-HS.WW.E9000.254W1	453.01	1047.92	10	292	0	B (1)
230	S:PIN30.168-HS.WW.E9425.219W	433.47	1052.48	10	264	0	B (1)
231	S:PIN30.168-HS.WW.E9000.254W1	433.47	1052.48	10	264	0	B (1)
232	S:PIN30.168-HS.WW.E9000.254W1	443.48	1059.51	12	154	0	B (1)
233	S:PIN30.168-HS.WW.E9000.254W1	769.72	1068.69	12	154	0	B (1)
234	S:PIN30.168-HS.WW.E9000.254W	818.56	1063.05	12	326	0	B2 (2)
235	S:PIN30.168-HS.WW.E9000.254W1	650.29	1063.34	10	292	0	B (1)
236	S:PIN30.168-HS.WW.E9000.254W1	630.79	1064.15	10	292	0	B (1)
237	S:PIN30.168-HS.WW.E9425.219W	752.78	1076.36	12	324	0	D (1)
238	S:PIN30.168-HS.WW.E9000.254W1	868.95	1091.72	10	305	0	B (1)
239	S:PIN30.168-HS.WW.E9000.254W	744.42	1092.56	12	326	0	B2 (2)
240	S:PIN30.168-HS.WW.E9000.254W	630.82	1092.56	12	270	0	B (1)
241	S:PIN30.168-HS.WW.E9000.254W	611.32	1093.36	12	270	0	B (1)

This Drawing is a photometric design on a horizontal plane unless stated otherwise.Lighting levels may deviate from those shown due to tolerances in lit area geometry, surface reflectance,luminaire installation position, luminaire and light source performance and electrical supply and any obstructions within the area. It should be noted that light sources depreciate with use.Maintenance Factor assumed in the design is shown below.

To achieve flood light aiming angles, flood lights may need to be mounted above and below the bracket arm.
Please contact CU Phosco Lighting if more information is required.
This drawing must not be reproduced without the permission of CU Phosco Lighting.

Lighting Impact Assessment

to be relab kit what are the compliance requirements under The Clean Neighbourhoods and Environmental Act (CNEA2005 for the task lurtetty.

Please note that for minimum lighting you to short the maintenance factor is required >1 as for the first day of installation.
The drivers are programmed on supply according to the MF stated on design therefore no further int light units are necessary for stimlusive calcu ation.

Observers were placed @ the residential areas marked out on pl. Noted the main levels @ South and West and considered in calculation.
The instal ation exceeds the' limits for the ILP ENR1 guidance for stimulus light for a CLASS(E) - zone for pre-curfew as attached report of South Observer 6.
Please note that curfewing or illuminance (higher mid areas) can be provided as stimulus against (when illuminance).

To be confirmed for full comp ance for Sevington Inland Border Facility, Sevington, Ashford.
ILP environmental Zone for stadium
ILP environmental Zone E2
Operating centre is Unknown.To be confirmed for post our we compliance with the ENR1 guidance.

Luminaire Schedule

Symbol	Qty	Label	Description	HD	LOF	Luminaire Lumens	Lum Ass Multi	Total Watts
	1	S:PIN30.E HE-WW-E9000-254W1	PIN30 HE-WW-E9000-80W	B	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9000-254W1	PIN30.168-HS.WW-E9000- 80W	C	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9425.219W	PIN30.168-HS.WW-E9425.219W	D	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9375.167W1	PIN30.168-HS.WW-E9375.167W1	E	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9375.3GW	PIN30.168-HS.WW-E9375.3GW	F	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9375.467W	PIN30.168-HS.WW-E9375.467W	G	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9425.219W	PIN30.168-HS.WW-E9425.219W	H	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9000.254W1	PIN30.168-HS.WW-E9000.254W1	I	0.9 S	10000	1	80
	1	S:PIN30.168-HS.WW-E9000.254W	PIN30.168-HS.WW-E9000.254W	J	0.9 S	10000	1	80
	1	S:CP60.64.LED.HE.Lens.500mA_1	CP60.64.LED.HE.Lens.500mA_1	K	0.9 S	5000	1	40
	1	S:CP60.64.HS.WW.E500.980	CP60.64.HS.WW.E500.980	L	0.9 S	5000	1	40
	1	S:CP60.168-HS.WW.E9000.254W	CP60.168-HS.WW.E9000.254W	M	0.9 S	10000	1	80
	1	S:CP60.168-HS.WW.E9375.3GW	CP60.168-HS.WW.E9375.3GW	N	0.9 S	10000	1	80
	1	S:CP60.168-HS.WW.E9375.467W	CP60.168-HS.WW.E9375.467W	O	0.9 S	10000	1	80

Calculation Summary

Project_Project_1							
Label	CalcType	Units	Avg	Max	Min	Min/Avg	Min/Max
Area Full Illuminance	Illuminance	Lux	43.76	152	0	0.24

D. Assessment B – Existing Lighting Calculation with Reduction Measures Applied.

Obtrusive Light - Compliance Report

CIE 150:2017, E2-Low District Brightness, Pre-Curfew
Filename: LS16272-1-2-2 [agi_exp]- with shields, compliant
26/02/2025 09:54:47

Illuminance

Maximum Allowable Value: 5 Lux

Calculations Tested (15):

Calculation Label	Test Results	Max. Illum.
Observer 1 NE 1-8m- Kingsford St_Ill_Seg1	**PASS**	0
Observer 1 NE 1-8m- Kingsford St_Ill_Seg2	**PASS**	0
Observer 1 NE 1-8m- Kingsford St_Ill_Seg3	**PASS**	0
Observer 7 SW Church Road_Ill_Seg1	**PASS**	0
Observer 8 SW Church Road_1_Ill_Seg1	**PASS**	0
Observer 5 SW 1-8m_Ill_Seg1	**PASS**	0
Observer 5 SW 1-8m_Ill_Seg2	**PASS**	0
Observer 2 NE 1-8m-Kingsford St_Ill_Seg1	**PASS**	0
Observer 3 NE 1-8m-Kingsford St_Ill_Seg1	**PASS**	0
Observer 4 SW 1-8m (-2m)_Ill_Seg1	**PASS**	0
Observer 4 SW 1-8m (-2m)_Ill_Seg2	**PASS**	0
Observer Observer 6 South 1-8m (-4m-4m)_Ill_Seg1	**PASS**	0
Observer Observer 6 South 1-8m (-4m-4m)_Ill_Seg2	**PASS**	0
Observer Observer 6 South 1-8m (-4m-4m)_Ill_Seg3	**PASS**	0
Observer Observer 6 South 1-8m (-4m-4m)_Ill_Seg4	**PASS**	0

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value calculated from CIE 150:2017 (varies by Projected Area sq.m. and Distance Factor)
For E2-Low District Brightness, Projected Area and Distance Factors:
(0.002, 0.57) (0.01, 1.3) (0.03, 2.5) (0.13, 5) (0.5, 10)

Calculations Tested (15):

Calculation Label	Test Results
Observer 1 NE 1-8m- Kingsford St_Cd_Seg1	**PASS**
Observer 1 NE 1-8m- Kingsford St_Cd_Seg2	**PASS**
Observer 1 NE 1-8m- Kingsford St_Cd_Seg3	**PASS**
Observer 7 SW Church Road_Cd_Seg1	**PASS**
Observer 8 SW Church Road_1_Cd_Seg1	**PASS**
Observer 5 SW 1-8m_Cd_Seg1	**PASS**
Observer 5 SW 1-8m_Cd_Seg2	**PASS**
Observer 2 NE 1-8m-Kingsford St_Cd_Seg1	**PASS**
Observer 3 NE 1-8m-Kingsford St_Cd_Seg1	**PASS**
Observer 4 SW 1-8m (-2m)_Cd_Seg1	**PASS**
Observer 4 SW 1-8m (-2m)_Cd_Seg2	**PASS**
Observer Observer 6 South 1-8m (-4m-4m)_Cd_Seg1	**PASS**
Observer Observer 6 South 1-8m (-4m-4m)_Cd_Seg2	**PASS**
Observer Observer 6 South 1-8m (-4m-4m)_Cd_Seg3	**PASS**
Observer Observer 6 South 1-8m (-4m-4m)_Cd_Seg4	**PASS**

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.5 %

Calculated UWLR: 0.0 %
Test Results: **PASS**

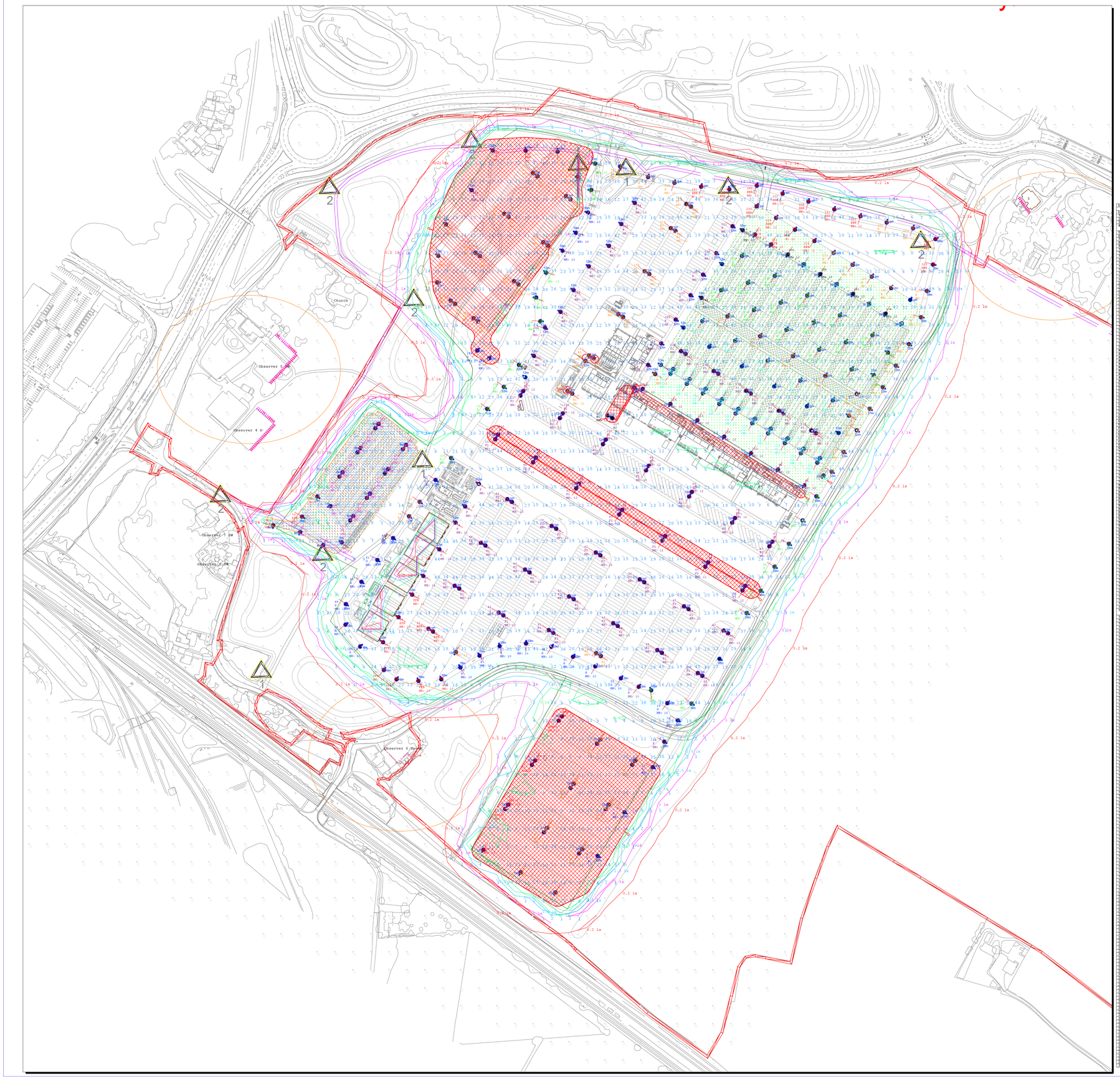
Upward Flux Ratio (UFR)

Maximum Allowable Value:	6.0
Reference Area(s):	AreaTest Illuminance Car Park Tests Illuminance Copy_Horizontal spill over area
Average Reflectance - Reference Area(s):	0.30
Average Reflectance - Surround:	0.30

Average Illuminance - Reference Area(s):	27.85 Lux
Average Maintained Illuminance Required:	20.00 Lux
Total Area - Reference Area(s):	465054 Sq.m.
Total Luminaire Flux (All Locations) :	12283346
Downward Light Ratio (DLO):	1.000
Upward Light Ratio (ULO):	0.000
Utilization Factor (UF):	1.054

WARNING: Light Loss Factor (LLF) for one or more luminaires is not = 1
Upward Flux Ratio (UFR) calculations should be based on initial conditions

Calculated UFR: 1.32
Test Results: **PASS**



Luminaire Location Summary

LumNo.	Label	Insertion Point			Orient	Tilt	Drawing	Tag (Qty)
1	G.PR03.168.HS.WW.E30025.25AW1	296.21	361.50	7	0	1.00	G (1)	
2	G.PR03.168.HS.WW.E30025.25AW1	236.17	294.32	10	58	1.00	G (1)	
3	G.PR03.168.HS.WW.E30025.1CW1	247.12	303.72	10	105	1.00	G (1)	
4	BTF5.PR03.168.HS.WW.E3600.25AW_1	878.15	509.50	12	58	0.50	BF5 (5) (1)	
5	B2.PR03.168.HS.WW.E3600.25AW	768.14	511.23	12	256	1.00	B2 (2)	
6	B2.PR03.168.HS.WW.E3600.25AW	897.05	534.54	12	236	1.00	B2 (2)	
7	G.PR03.168.HS.WW.E5725.1CW1	217.72	362.04	10	102	1.00	G (1)	
8	BTF5.PR03.168.HS.WW.E3600.25AW_1	850.11	509.50	12	58	0.50	BF5 (2)	
9	B2.PR03.168.HS.WW.E3600.25AW	776.61	503.63	12	236	1.00	B2 (2)	
10	B2.PR03.168.HS.WW.E3600.25AW	787.57	519.08	12	236	1.00	B2 (2)	
11	G.PR03.168.HS.WW.E5725.1CW1	200.08	355.24	10	102	1.00	G (1)	
12	BTF5.PR03.168.HS.WW.E3600.25AW_1	826.11	489.25	12	236	0.50	BF5 (2)	
13	B2.PR03.168.HS.WW.E3600.25AW	745.11	472.66	12	236	1.00	B2 (2)	
14	B2.PR03.168.HS.WW.E3600.25AW	757.17	488.15	12	236	1.00	B2 (2)	
15	B2.PR03.168.HS.WW.E3600.25AW	745.11	432.68	12	236	1.00	B2 (2)	
16	G.PR03.168.HS.WW.E5725.1CW1	427.87	644.03	10	146	1.00	G (1)	
17	BTF5.PR03.168.HS.WW.E3600.25AW_1	797.17	458.15	12	236	1.00	BF5 (2)	
18	B2.PR03.168.HS.WW.E3600.25AW	734.65	451.72	12	236	1.00	B2 (2)	
19	G.PR03.168.HS.WW.E5425.1CW1	238.56	417.13	10	214	1.00	G (1)	
20	G.PR03.168.HS.WW.E5425.1CW1	497.48	691.51	10	273	1.00	G (1)	
21	F.PR03.168.HS.WW.E5075.4CW_1	782.19	449.06	12	326	1.00	F (1)	
22	F.PR03.168.HS.WW.E5075.4CW_1	952.05	522.63	10	256	0.30	F (6) (1)	
23	F.PR03.168.HS.WW.E5075.4CW_1	952.05	522.63	10	256	0.30	F (6) (1)	
24	G.PR03.168.HS.WW.E5725.1CW1_1	324.12	704.43	10	300	1.00	G (1)	
25	G.PR03.168.HS.WW.E5725.1CW1	222.03	564.93	10	102	1.00	G (1)	
26	G.PR03.168.HS.WW.E5425.1CW1	249.08	377.72	10	214	1.00	G (1)	
27	G.PR03.168.HS.WW.E5425.1CW1	606.04	514.64	10	300	0.50	G (1) (1)	
28	G.PR03.168.HS.WW.E5425.1CW1_1	563.04	514.64	10	300	1.00	G (1)	
29	G.PR03.168.HS.WW.E5425.1CW1	524.12	704.43	10	300	1.00	G (1)	
30	B.PR03.168.HS.WW.E3600.25AW1	908.89	529.33	10	60	1.00	B (1)	
31	B2.PR03.168.HS.WW.E3600.25AW	749.13	529.16	12	326	1.00	B2 (2)	
32	B2.PR03.168.HS.WW.E3600.25AW	749.13	529.16	12	326	1.00	B2 (2)	
33	G.PR03.168.HS.WW.E5425.1CW1	280.19	530.55	10	300	1.00	G (1)	
34	F2.PR03.168.HS.WW.E5075.4CW	687.17	476.45	12	326	1.00	F2 (2)	
35	G.PR03.168.HS.WW.E5425.1CW1	1311.56	540.14	10	224	1.00	G (1)	
36	G.PR03.168.HS.WW.E5425.1CW1	1311.56	540.14	10	224	1.00	G (1)	
37	G.PR03.168.HS.WW.E5425.1CW1	858.13	562.42	10	253	1.00	G (1)	
38	F.PR03.168.HS.WW.E5075.4CW_1	696.76	544.07	12	326	0.50	F (6) (1)	
39	G.PR03.168.HS.WW.E5425.1CW1	529.51	544.07	10	256	1.00	G (1)	
40	F2.PR03.168.HS.WW.E5075.4CW	697.25	554.11	12	326	1.00	F2 (2)	
41	F2.PR03.168.HS.WW.E5075.4CW	697.25	554.11	12	326	1.00	F2 (2)	
42	BTF5.PR03.168.HS.WW.E3600.25AW_1	735.62	592.65	12	326	0.50	BF5 (2)	
43	F2.PR03.168.HS.WW.E5075.4CW	720.99	562.59	12	326	1.00	F2 (2)	
44	F2.PR03.168.HS.WW.E5075.4CW	720.99	562.59	12	326	1.00	F2 (2)	
45	E.PR02.64.HS.WW.E100.5BW	1077.68	574.13	12	326	1.00	E (6) (1)	
46	F2.PR03.168.HS.WW.E5075.4EW	696.87	574.15	12	326	1.00	F2 (2)	
47	F.PR03.168.HS.WW.E5425.1CW1	1311.56	562.42	10	326	1.00	F (1)	
48	F2.PR03.168.HS.WW.E5075.4CW	651.7	581.65	12	326	1.00	F2 (2)	
49	F2.PR03.168.HS.WW.E5075.4CW	1311.56	562.42	10	326	1.00	F (1)	
50	F.PR03.168.HS.WW.E5075.4CW	778.65	581.65	12	326	1.00	F (1)	
51	F.PR03.168.HS.WW.E5075.4EW_1	958.39	597.67	12	326	1.00	F (6) (1)	
52	F2.PR03.168.HS.WW.E5075.4CW	663.04	605.64	12	326	1.00	F2 (2)	
53	F2.PR03.168.HS.WW.E5075.4CW	696.75	602.89	12	240	1.00	F2 (2)	
54	F2.PR03.168.HS.WW.E5075.4CW	696.75	602.89	12	240	1.00	F2 (2)	
55	F2.PR03.168.HS.WW.E5075.4CW	1076.7	598.64	12	326	1.00	F2 (2)	
56	F2.PR03.168.HS.WW.E5075.4CW	700.09	611.39	12	326	1.00	F2 (2)	
57	F2.PR03.168.HS.WW.E5075.4CW	696.87	624.64	12	326	1.00	F2 (2)	
58	F.PR03.168.HS.WW.E5075.4CW	756.47	629.39	12	326	1.00	F (1)	
59	G.PR03.168.HS.WW.E5425.1CW1	1240.57	626.08	10	103	1.00	G (1)	
60	F.PR03.168.HS.WW.E5075.4CW	428.97	629.39	12	326	1.00	F (1)	
61	G.PR03.168.HS.WW.E5725.1CW1	992.31	631.68	10	146	1.00	G (1)	
62	F.PR03.168.HS.WW.E5075.4CW	1076.7	629.39	12	326	1.00	F (1)	
63	F2.PR03.168.HS.WW.E5075.4CW	429.97	647.89	12	326	1.00	F2 (2)	
64	E.PR02.64.HS.WW.E100.5BW	1056.04	648.3	8	57	1.00	E (1)	
65	G.PR03.168.HS.WW.E5425.1CW1	1240.57	656.78	10	103	1.00	G (1)	
66	F2.PR03.168.HS.WW.E5075.4CW	677.65	652.13	12	326	1.00	F2 (2)	
67	F2.PR03.168.HS.WW.E5075.4CW	677.65	652.13	12	326	1.00	F2 (2)	
68	E.PR02.64.HS.WW.E100.5BW	1036.64	659.25	8	231	1.00	E (1)	
69	G.PR03.168.HS.WW.E5725.1CW1	924.12	662.25	10	146	1.00	G (1)	
70	F2.PR03.168.HS.WW.E5075.4CW	676.7	668.64	12	240	1.00	F2 (2)	
71	E.PR02.64.HS.WW.E100.5BW	1051.83	662.02	8	64	1.00	E (6) (1)	
72	F2.PR03.168.HS.WW.E5075.4CW	1076.7	668.64	12	326	1.00	F2 (2)	
73	F.PR03.168.HS.WW.E5075.4CW	756.47	679.39	12	326	1.00	F (1)	
74	F.PR03.168.HS.WW.E5075.4CW	649.28	676.96	12	326	1.00	F (1)	
75	F2.PR03.168.HS.WW.E5075.4CW	696.87	676.89	12	326	1.00	F2 (2)	
76	F2.PR03.168.HS.WW.E5075.4CW	696.87	676.89	12	326	1.00	F2 (2)	
77	E.PR02.64.HS.WW.E100.5BW	1051.98	680.8	8	64	1.00	E (6) (1)	
78	E.PR02.64.HS.WW.E100.5BW	1051.98	680.8	8	64	1.00	E (6) (1)	
79	B.PR03.168.HS.WW.E3600.25AW1	964.72	681.16	12	146	1.00	B (1)	
80	E.PR02.64.HS.WW.E100.5BW	1036.64	683.13	8	231	1.00	E (1)	
81	F.PR03.168.HS.WW.E5075.4CW	1076.7	688.64	12	326	1.00	F (1)	
82	F.PR03.168.HS.WW.E5075.4CW	696.72	696.39	12	326	1.00	F (1)	
83	F2.PR03.168.HS.WW.E5075.4CW	696.87	696.89	12	326	1.00	F2 (2)	
84	F2.PR03.168.HS.WW.E5075.4CW	696.87	696.89	12	326	1.00	F2 (2)	
85	E.PR02.64.HS.WW.E100.5BW	1051.98	699.8	8	64	1.00	E (6) (1)	
86	F2.PR03.64.LED.HS.Lens 100mA_1	1004.66	700.65	8	64	1.00	F2 (2)	
87	F2.PR03.64.LED.HS.Lens 100mA_1	1004.66	700.65	8	64	1.00	F2 (2)	
88	F.PR03.168.HS.WW.E5075.4CW	649.28	705.39	12	326	1.00	F (1)	
89	F2.PR03.168.HS.WW.E5075.4CW	771.68	717.68	12	326	1.00	F2 (2)	
90	F2.PR03.168.HS.WW.E5075.4CW	771.68	717.68	12	326	1.00	F2 (2)	
91	G.PR03.168.HS.WW.E5425.1CW1	1240.57	726.78	10	103	1.00	G (1)	
92	G.PR03.168.HS.WW.E5725.1CW1	858.13	721.9	10	146	1.00	G (1)	
93	F.PR03.168.HS.WW.E5075.4CW	1076.7	719.14	12	326	1.00	F (1)	
94	F2.PR03.64.LED.HS.Lens 100mA	1004.66	734.13	8	64	1.00	F2 (2)	
95	B.PR03.168.HS.WW.E3600.25AW1	486.99	730.97	12	150	1.00	B (1)	
96	F2.PR03.168.HS.WW.E5075.4CW	1004.7	730.13	12	60	1.00	F2 (2)	
97	F2.PR03.64.LED.HS.Lens 100mA	983.46	734.13	8	64	1.00	F2 (2)	
98	F.PR03.168.HS.WW.E5075.4CW	1076.7	739.89	12	326	1.00	F (1)	
99	F.PR03.168.HS.WW.E5075.4CW	819.04	746.39	12	240	1.00	F (1)	
100	G.PR03.168.HS.WW.E5425.1CW1	915.1	746.37	10	146	1.00	G (1)	
101	F.PR03.168.HS.WW.E5075.4CW	1076.7	749.64	12	326	1.00	F (1)	
102	F.PR03.168.HS.WW.E5075.4CW	280.25	750.78	12	240	1.00	F (1)	
103	B.PR03.168.HS.WW.E3600.25AW1	473.2	752.81	12	60	1.00	B (1)	
104	F.PR03.168.HS.WW.E5075.4CW	722.58	756.45	12	326	1.00	F (1)	
105	F2.PR03.64.LED.HS.Lens 100mA	1014.39	752.45	8	54	1.00	F2 (2)	
106	F2.PR03.64.LED.HS.Lens 100mA	1014.39	752.45	8	54	1.00	F2 (2)	
107	F2.PR03.168.HS.WW.E5075.4CW	741.97	766.27	12	240	1.00	F2 (2)	
108	C2.PR03.168.HS.WW.E5075.3CW	539.9	767.17	12	240	1.00	C2 (1)	
109	F.PR03.168.HS.WW.E5075.4CW	670.87	769.14	12	60	1.00	F (1)	
110	F2.PR03.168.HS.WW.E5075.4CW	1004.7	769.13	12	60	1.00	F2 (2)	
111	F2.PR03.168.HS.WW.E5075.4CW	539.04	775.51	12	322	1.00	F2 (2)	
112	B.PR03.168.HS.WW.E3600.25AW1	458.9	776.99	12	146	1.00	B (1)	
113	C2.PR03.168.HS.WW.E5725.3CW1	558.54	777.54	12	240	1.00	C2 (1)	
114	F2.PR03.64.LED.HS.Lens 100mA	994.46	784.65	8	64	1.00	F2 (2)	
115	F2.PR03.64.LED.HS.Lens 100mA	994.46	784.65	8	64	1.00	F2 (2)	
116	F2.PR03.168.HS.WW.E5725.3CW	539.19	788.56	12	240	1.00	F2 (2)	
117	A2-12diff1 and 30xF2B lenses in PE...	735.97	793.76	12	147	1.00	A2 (2)	
118	F.PR03.168.HS.WW.E5075.4CW	789.76	795.39	12	240	1.00	F (1)	
119	B.PR03.168.HS.WW.E3600.25AW1	477.24	796.99	12	326	1.00	B (1)	
120	F2.PR03.168.HS.WW.E5075.4CW	545.06	796.62	12	322	1.00	F2 (2)	
121	C2.PR03.168.HS.WW.E5725.3CW	594.55	799.85	12	240	1.00	C2 (1)	
122	F.PR03.168.HS.WW.E5075.4CW	1004.7	799.63	12	60	1.00	F (1)	
123	B.PR03.168.HS.WW.E3600.25AW1	444.99	800.51	12	326	1.00	B (1)	
124	F.PR03.168.HS.WW.E5075.4CW	670.37	805.43	12	60	1.00	F (1)	
125	F2.PR03.168.HS.WW.E5725.3CW	647.9	810.69	12	240	1.00	F2 (2)	
126	C2.PR03.168.HS.WW.E5725.3CW	486.57	814.89	10	240	1.00	C2 (1)	
127	F.PR03.168.HS.WW.E5075.4CW	1004.7	819.13	12	60	1.00	F (1)	
128	B.PR03.168.HS.WW.E3600.25AW1	458.61	819.86	12	326	1.00	B (1)	
129	B2.PR03.168.HS.WW.E3600.25AW	780.69	820.57	12	322	1.00	B2 (2)	
130	B2.PR03.168.HS.WW.E3600.25AW	780.69	820.57	12	322	1.00	B2 (2)	
131	F.PR03.168.HS.WW.E5075.4CW	791.24	821.87	12	60	1.00	F (1)	
132	C2.PR03.168.HS.WW.E5725.3CW	636.98	822.01	12	240	1.00	C2 (1)	
133	F.PR03.168.HS.WW.E5075.4CW	790.76	824.61	12	326	1.00	F (1)	
134	G.PR03.168.HS.WW.E5425.1CW1	851.79	825.36	10	144	1.00	G (1)	
135	B.PR03.168.HS.WW.E3600.25AW1	458.61	829.86	12	326	1.00	B (1)	
136	C2.PR03.168.HS.WW.E5725.3CW	649.19	831.54	12	240	1.00	C2 (1)	
137	G.PR03.168.HS.WW.E5725.3EW	522.62	836.95	10	240	1.00	G (1)	
138	G.PR03.168.HS.WW.E5425.1CW1	445.79	841.52	10	323	1.00	G (1)	
139	B.PR03.168.HS.WW.E3600.25AW1	494.7	841.97	10	252	1.00	B (1)	
140	B.PR03.168.HS.WW.E3600.25AW1	494.7	841.97	10	252	1.00	B (1)	
141	B.PR03.168.HS.WW.E3600.25AW1	498.02	843.64	10	307	1.00	B (1)	
142	C2.PR03.168.HS.WW.E5725.3CW	647.25	844.36	10	57	1.00	C2 (1)	
143	F.PR03.168.HS.WW.E5075.4CW	691.1	849.06	12	326	1.00	F (1)	
144	G.PR03.168.HS.WW.E5425.1CW1	453.56	848.89	10	240	1.00	G (1)	
145	G.PR03.168.HS.WW.E5425.1CW1	453.56	848.89	10	240	1.00	G (1)	
146	B.PR03.168.HS.WW.E3600.25AW1	475.12	849.14	10	323	1.00	B (1)	
147	G.PR03.168.HS.WW.E5725.3EW	483.62	853.95	10	307	1.00	G (1)	
148	G.PR03.168.HS.WW.E5425.1CW1	445.79	853.52	10	323	1.00	G (1)	
149	C2.PR03.168.HS.WW.E5725.3EW	558.01	859.05	10	240	1.00	C2 (1)	
150	B2.PR03.168.HS.WW.E3600.25AW	736.61	865.51	12	322	1.00	B2 (2)	
151	G.PR03.168.HS.WW.E5725.1CW1	868.53	861.63	10	326	1.00	G (1)	
152	F.PR03.168.HS.WW.E5075.4CW	827.96	863.25	12	331	1.00	F (1)	
153	B2.PR03.168.HS.WW.E3600.25AW	736.61	865.51	12	322	1.00	B2 (2)	
154	F2.PR03.168.HS.WW.E5075.4CW	654.22	864.17	12	322	1.00	F2 (2)	
155	G.PR03.168.HS.WW.E5425.1CW1	429.54	866.27	10	323	1.00	G (1)	
156	G.PR03.168.HS.WW.E5725.1CW1	397.1	869.52	10	252	1.00	G (1)	
157	G.PR03.168.HS.WW.E5425.1CW1	420.12	871.31	10	240	1.00	G (1)	
158	G.PR03.168.HS.WW.E5425.1CW1	420.12	871.31	10	240	1.00	G (1)	
159	B.PR03.168.HS.WW.E3600.25AW1	426.36	873.63	10	148	1.00	B (1)	
160	G.PR03.168.HS.WW.E5425.1CW1	472.09	879.31	10	240	1.00	G (1)	
161	G.PR03.168.HS.WW.E5425.1CW1	472.09	879.31	10	240	1.00	G (1)	
162	G.PR03.168.HS.WW.E5425.1CW1	337.17	881.11	10	345	1.00	G (1)	
163	G.PR03.168.HS.WW.E5425.1CW1	442.51	887.61	10	345	1.00	G (1)	
164	F.PR03.168.HS.WW.E5075.4CW	695.45	891.11	12	323	1.00	F (1)	
165	G.PR03.168.HS.WW.E5425.1CW1	336.16	892.9	10	240	1.00	G (1)	
166	G.PR03.168.HS.WW.E5425.1CW1	336.16	892.9	10	240	1.00	G (1)	
167	G.PR03.168.HS.WW.E5425.1CW1	419.12	899.46	10	174	1.00	G (1)	
168	F.PR03.168.HS.WW.E5075.4CW	680.09	900.45	12	148	1.00	F (1)	
169	B2.PR03.168.HS.WW.E3600.25AW	856.68	901.07	12	322	1.00	B2 (2)	
170	G.PR03.168.HS.WW.E5425.1CW1	427.91	901.36	10	240	1.00	G (1)	
171	G.PR03.168.HS.WW.E5425.1CW1	427.91	901.36	10	240	1.00	G (1)	
172	B.PR03.168.HS.WW.E3600.25AW1	397.04	903.8	10	166	1.00	B (1)	
173	B3.PR03.168.HS.WW.E3600.25AW	721.7	906.83	12	322	1.00	B2 (2)	
174	B.PR03.168.HS.WW.E3600.25AW1	433.52	909.32	10	60	1.00	B (1)	
175	B.PR03.168.HS.WW.E3600.25AW1	433.52	909.32	10	60	1.00	B (1)	
176	G.PR03.168.HS.WW.E5425.1CW1	479.16	908.93	10	240	1.00	G (1)	
177	F.PR03.168.HS.WW.E5075.4CW	779.53	911.92	12	326	1.00	F (1)	
178	G.PR03.168.HS.WW.E5425.1CW1	524.31	915.05	10	240	1.00	G (1)	
179	G.PR03.168.HS.WW.E5425.1CW1	524.31	915.05	10	240	1.00	G (1)	
180	B2.PR03.168.HS.WW.E3600.25AW	857.24	926.56	12	322	1.00	B2 (2)	
181	G.PR03.168.HS.WW.E5425.1CW1	544.61	923.39	10	345	1.00	G (1)	
182	G.PR03.168.HS.WW.E5425.1CW1	421.27	926.36	10	345	1.00	G (1)	
183	F.PR03.168.HS.WW.E5075.4CW	643.03	927.29	12	148	1.00	F (1)	
184	F.PR03.168.HS.WW.E5075.4CW	643.03	927.29	12	148	1.00	F (1)	
185	A.PR03.168.HS.WW.E3600.24W	467.04	929.06	10	60	1.00	A (1)	
186	G.PR03.168.HS.WW.E5425.1CW1	535.03	930.95	10	345	1.00	G (1)	
187	B.PR03.168.HS.WW.E3600.25AW1	386.03	933.13	10	166	1.00	B (1)	
188	F.PR03.168.HS.WW.E5075.4CW	778.72	936.25	12	326	1.00	F (1)	
189	G.PR03.168.HS.WW.E5425.1CW1	524.31	936.95	10	345	1.00	G (1)	
190	G.PR03.168.HS.WW.E5725.3EW	495.18	936.65	10	60	1.00	G (1)	
191	B.PR03.168.HS.WW.E3600.25AW1	421.53	939.51	10	323	1.00	B (1)	
192	B.PR03.168.HS.WW.E3600.25AW1	421.53	939.51	10	323	1.00	B (1)	
193	B.PR03.168.HS.WW.E3600.25AW1	534.72	941.19	10	177	1.00	B (1)	
194	G.PR03.168.HS.WW.E5425.1CW1	581.29	945.36	10	345	1.00	G (1)	
195	F.PR03.168.HS.WW.E5075.4CW	429.57	949.06	12	326	1.00	F (1)	
196	A.PR03.168.HS.WW.E3600.24W	520.19	949.89	10	60	1.00	A (1)	
197	A.PR03.168.HS.WW.E3600.24W	520.19	949.89	10	60	1.00	A (1)	
198	G.PR03.168.HS.WW.E5425.1CW1	531.04	975.17	10	345	1.00	G (1)	
199	B2.PR03.168.HS.WW.E3600.25AW	694.67	963.3	12	322	1.00	B2 (2)	
200	G.PR03.168.HS.WW.E5425.1CW1	888.09	966.4	10	345	1.00	G (1)	
201	C.PR03.168.HS.WW.E5725.3CW	521.61	960.62	10	60	1.00	C (1)	
202	G.PR03.168.HS.WW.E5425.1CW1	531.04	975.17	10	345	1.00	G (1)	
203	B.PR03.168.HS.WW.E3600.25AW1	373.62	962.15	10	323	1.00	B (1)	
204	B.PR03.168.HS.WW.E3600.25AW1	464.67	965.14	12	236	1.00	B (1)	
205	B2.PR03.168.HS.WW.E3600.25AW	694.67	963.3	12	322	1.00	B2 (2)	
206	B.PR03.168.HS.WW.E3600.25AW1	369.93	974.67	10	323	1.00	B (1)	
207	B.PR03.168.HS.WW.E3600.25AW1	502.36	974.6	10	323	1.00	B (1)	
208	F.PR03.168.HS.WW.E5075.4CW	670.1	974.65	12	252	1.00	F (1)	
209	G.PR03.168.HS.WW.E5425.1CW1	587.72	975.47	10	240	1.00	G (1)	
210	G.PR03.168.HS.WW.E5425.1CW1	587.72	975.47	10	240	1.00	G (1)	
211	G.PR03.168.HS.WW.E5725.1CW1	791.43	979.76	10	345	1.00	G (1)	
212	C.PR03.168.HS.WW.E5725.3EW_1	656.04	983.61	10	60	1.00	C (6) (1)	
213	F.PR03.168.HS.WW.E5075.4CW	778.53	985.35	12	326	1.00	F (1)	
214	B2.PR03.168.HS.WW.E3600.25AW	807.53	985.75	12	322	1.00	B2 (2)	
215	B2.PR03.168.HS.WW.E3600.25AW	807.53	985.75	12	322	1.00	B2 (2)	
216	B.PR03.168.HS.WW.E3600.24W	371.05	993.5	10	256	1.00	B (6) (1)	
217	A.PR03.168.HS.WW.E5075.3EW_1	426.39	993.69	10	60	1.00	A (6) (1)	
218	G.PR03.168.HS.WW.E5725.1CW1	778.57	999.59	10	345	1.00	G (1)	
219	B2.PR03.168.HS.WW.E3600.25AW	690.68	1001.77	12	322	1.00	B2 (2)	
220	B2.PR03.168.HS.WW.E3600.25AW	690.68	1001.77	12	322	1.00	B2 (2)	
221	B.PR03.168.HS.WW.E3600.24W	371.05	993.5	10	256	1.00	B (6) (1)	
222	B.PR03.168.HS.WW.E3600.25AW1	526.15	1004.75	10	222	1.00	B (6) (1)	
223	B.PR03.168.HS.WW.E3600.25AW1	526.15	1004.75	10	222	1.00	B (6) (1)	
224	B.PR03.168.HS.WW.E3600.25AW1	530.91	1009.37	10	322	1.00	B (1)	
225	F.PR03.168.HS.WW.E5075.4EW	725.7	1005.09	12	326	1.00	F (1)	
226	B.PR03.168.HS.WW.E3600.25AW1	427.54	1012.8	10	256	1.00	B (1)	
227	B2.PR03.168.HS.WW.E3600.25AW	851.14	1017.02	12	323	1.00	B2 (2)	
228	B2.PR03.168.HS.WW.E3600.25AW	851.14	1017.02	12	323	1.00	B2 (2)	
229	B.PR03.168.HS.WW.E3600.25AW	464.62	1019.48	10	254	1.00	B (6) (1)	
230	G.PR03.168.HS.WW.E5725.1EW1	763.17	1021.58	10	345	1.00	G (1)	
231	B.PR03.168.HS.WW.E3600.25AW	480.5	1026.99	10	252	1.00	B (6) (1)	
232	B2.PR03.168.HS.WW.E3600.25AW	647.52	1026.53	12	322	1.00	B2 (2)	
233	B2.PR03.168.HS.WW.E3600.25AW	647.52	1026.53	12	322	1.00	B2 (2)	
234	F.PR03.168.HS.WW.E5075.4CW	711.15	1033.15	12	326	1.00	F (1)	
235	B.PR03.168.HS.WW.E3600.25AW	614.38	1035.74	10	253	1.00	B (6) (1)	
236	B.PR03.168.HS.WW.E3600.25AW	614.38	1035.74	10	253	1.00	B (6) (1)	
237	G.PR03.168.HS.WW.E5425.1CW1	243.1	1044.23	10	323	1.00	G (1)	
238	G.PR03.168.HS.WW.E5425.1CW1	330.02	1046.43	10	323	1.00	G (1)	
239	F.PR03.168.HS.WW.E5075.4CW	692.05	1047.57	12	326	1.00	F (1)	
240	B.PR03.168.HS.WW.E3600.25AW1	493.71	1049.22	10	254	1.00	B (6) (1)	
241	B.PR03.168.HS.WW.E3600.25AW1	493.71	1049.22	10	254	1.00	B (6) (1)	
242	B.PR03.168.HS.WW.E3600.25AW1	472.31	1053.18	10	254	1.00	B (6) (1)	
243	B.PR03.168.HS.WW.E3600.25AW1	483.25	1056.51	10	252	1.00	B (1)	
244	B2.PR03.168.HS.WW.E3600.25AW	769.12	1058.89	12	322	1.00	B2 (2)	
245	B2.PR03.168.HS.WW.E3600.25AW	818.84	1063.05	12	326	1.00	B2 (2)	
246	B2.PR03.168.HS.WW.E3600.25AW	818.84	1063.05	12	326	1.00	B2 (2)	
247	B.PR03.168.HS.WW.E3600.25AW1	723.09	1073.77	10	256	1.00	B (6) (1)	
248	G.PR03.168.HS.WW.E5425.1CW1	250.16	1076.38	10	343	1.00	G (1)	
249	B.PR03.168.HS.WW.E3600.25AW1	466.01	1080.12	10	252	1.00	B (6) (1)	
250	B.PR03.168.HS.WW.E3600.25AW1	734.62	1091.58	10	252	1.00	B (6) (1)	
251	B.PR03.168.HS.WW.E3600.25AW1	670.02	1092.04	10	252	1.00	B (6) (1)	

This Drawing is a photometric design on a horizontal plane unless stated otherwise.Lighting levels may deviate from those shown due to tolerances in lit area geometry, surface reflectance,luminaire installation position, lu

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We deliver progressive, sustainability-driven environmental and engineering consultancy services across every sector. We think differently, and we're harnessing our collective expertise to deliver greener, healthier and well-connected communities, networks and built environments.

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