

Services : Lighting Specification, External Lighting

General:

External Lighting

4.1. Policy

The Company has made a public declaration that it has adopted a policy of limiting & controlling to a minimum all external "Upward Light Pollution". All external lighting schemes must therefore not make a direct contribution to "Upward Light Pollution".

4.2. Car Park Lighting

For either surface or multi storey car parks the lighting distribution shall be arranged as 60% "General". The remaining 40% lighting shall further be referred to as "Security" lighting.

Solar Belisha Beacons shall be installed as per the relevant retail drawing and/or store plan. Where existing powered belisha beacons are used they shall where possible be fed from the 40% security circuits subject to any local planning conditions or residents nuisance requirements.

Where Belisha Beacons are installed the lighting level on the crossing should be 15 lux (for LED schemes) and 30lux (for SON schemes) as the majority of the car park area.

The security lighting is required to provide illumination to "black hole" areas around the building exterior, to enhance security aspects of the site, to provide a lighting route from the store staff exit/entrance to the staff car parking area.

In order to prevent light spillage onto local and adjacent "sensitive" residential areas, the column lanterns shall be complete with suitable rear of lantern mounted "baffle" plate.

Adequate lighting to the general Car Parking areas, with special emphasis to all vehicular routes, pedestrian crossings, staircases and ticket machines etc must be provided.

4.3. Surface Car Parks

The design must satisfy all statutory requirements including the CIBSE Technical Lighting Guides and BS 5489 Part 9.

The high mast and 6 metre mast lighting schemes are not be to considered without the prior approval of the Sainsbury's Project Manager. When high mast lighting is approved for use, great care must be taken to ensure that the required lighting levels are achieved at the car park periphery, lighting glare to local residents is totally prevented, and adequate security lighting is provided.

The order of preference for Car Park lighting schemes shall be:

- i. Preference 1 (First Choice) 10m columns
- ii. Preference 2 (Second Choice) 8m columns

scheme	illumination level (lux)	lamp type	luminaire type	control
High Mast 15/30 metre steel	Gen 30 lux Entry/Exit 50 lux	400W Multi Vapour / metal halide	Specialised High Mast as Holphane / Urbis or equivalent	BMS
10 metre column steel	Gen 30 lux Entry/Exit 50 lux	250W SON/DL	Urbis Zx3 or Holphane signature Range	BMS
8 metre column steel	Gen 30 lux Entry/Exit 50 lux	150W SON/DL	Urbis ZX3 or equivalent	BMS
6 metre column	Gen 30 lux Entry/Exit 50 lux	150W SON/DL	Urbis ZX3 or equivalent	BMS
Pedestrian Crossing With Belisha	Min 50 Lux Min 30 Lux	SON/DL	Urbis ZX3 or ZX1 or equivalent	BMS
Pedestrian Walkway	Avg 15 Lux	SON/DL	6 metre columns or bollards	BMS

4.4. Covered Car Park

The design must satisfy all statutory requirements including the CIBSE Technical Lighting Guides and BS 5489 Part 9.

In brief BS5489 Part 9 calls for 75 lux average and 50 lux minimum at floor level, Sainsbury's require these levels enhanced to 100 Lux average and 50 Lux minimum.

Area	E(average) lux	E(minimum) lux
Parking bays, access lanes	100	50
Ramps, corners, intersections	150	75
Entrance/exit zones (vehicular)	150 Night	N/A
	300 Day	

E(average) is the maintained horizontal illuminance at floor level.

E(minimum) is the maintained minimum horizontal illuminance at floor level at any point within the calculation grid, which should be no more than 0.5m from the wall or perimeter of the area.

Uniformity is the ratio of E(minimum) to E(average).

Special areas i.e. stairways / pay machines are to be illuminated using vandal resistant fluorescent batten or bulkhead luminaire to achieve an average level of 150/200 lux

scheme	illumination level (lux)	lamp type	luminaire type	control
New Car Parks Parking spaces	100 lux - 50% uniformity @surface of car Park	Typically 2x35w T5	Sealed linear Fluorescent batten	BMS
Stairways and Areas in front of stairways and Pay machines	150/200Lux 50% uniformity surface of car Park	Typically 2x35w T5	Sealed linear Fluorescent batten	BMS
Entrance area Entry/Exit	100 Lux at Night 300 Lux during day	Typically 2x35w T5	Sealed linear Fluorescent batten	BMS

4.5. Service Yard

The lighting within the service yard shall generally be provided by the same solution as the external car park luminaire.

The Electrical Designer must give consideration to lighting by the following areas:

- REC equipment
- Compactors
- Generators etc.

area	illumination level (lux)	luminaire type	control
Service Yard	General Area (Enclosed) 50 lux General Area (Open) 25 lux - 30% uniformity Entrance/Exits 50 lux - 30% uniformity 150 General Ambient Generator area 50 lux min Compactor 50 lux	Luminaire 8m columns Where additional luminaire are required to be fitted to the building fabric A twin 8W battery IP 54 (min) luminaire shall be installed externally – usually above drivers door / personnel escape door	BEMS/Photocell 60% general lighting "On" at sunset and remaining on during trading hours 40% "On" sunset to sunrise

Identity

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