Template v2

External Lighting Assessment

For

The New Woodley School and College

On behalf of

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11 United Business Park, Lowfields Road, Leeds, LS12 6UB
Tel: 0113 243 2672 Visit: AndersonGreen.co.uk

Registered in England & Wales No 4309499 VAT reg no 788 9812 47

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1.0 External Lighting Assessment

1.1 Design Requirements

The external lighting at The New Woodley School and College has been designed in accordance with the following documents:

- BS-EN 12464-2:2014 – Light and lighting. Lighting of workplaces – Outdoor workplaces.
- Institution of Lighting Professionals Guidance Note 1 for the reduction of obtrusive light.

The following table details the lighting criteria utilised for the design.

Areas	Horizontal Illuminance			Glare
	$\bar{E}_m$ lx	U_o	WP height (m)	GR_L
Walkways exclusively for pedestrians and security	5	0.25	0	50
Traffic area for slowly moving vehicles (max 10km/h)	10	0.40	0	50
Parking Area	10	0.25	0	50

The external lighting design can be seen on the Anderson Green Drawing 22315-AGL-24-XX-D-E-0001-External Lighting.

1.2 Luminaires Utilised

The external lighting design has been based utilising the manufacture Holophane Lighting, with column mounted luminaires mounted at 4m above finished floor levels, and wall mounted bulkheads mounted predominantly at 3m and 4m around the building. All external luminaires are 2700 kelvin colour temperature. The following tables details the luminaires utilised, please refer to the aforementioned drawing for the location of the luminaires.

REF	Picture	Description	Output
A2		Holophane double arm Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Asymmetric light distribution. Silver fitting (RAL 9006) and post.	4038lm
B1		Holophane single arm Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Forward light distribution. Silver fitting (RAL 9006) and post.	2920lm
B2		Holophane double arm Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Forward light distribution. Silver fitting (RAL 9006) and post.	2920lm
C1		Holophane single Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Asymmetric light distribution. Silver fitting (RAL 9006) and post.	2878lm
C2		Holophane double Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Asymmetric light distribution. Silver fitting (RAL 9006) and post.	2878lm

D1		Holophane single Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Forward throw light distribution. Silver fitting (RAL 9006) and post.	1959lm
E1		Holophane single Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Long and Narrow light distribution. Silver fitting (RAL 9006) and post.	2005lm
E2		Holophane double Denver fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Long and Narrow light distribution. Silver fitting (RAL 9006) and post.	2005lm
F		Holophane Denver wall mounted fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Forward throw light distribution. Silver fitting (RAL 9006) and post.	2223lm
G		Holophane Denver wall mounted fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Forward throw light distribution. Silver fitting (RAL 9006) and post.	1350lm

H		Holophane Denver wall mounted fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. High beam long and narrow distribution. Silver fitting (RAL 9006) and post.	799lm
I		Holophane Denver wall mounted fitting consisting of a 2 Part body and a removable LED module manufactured from marine grade die-cast aluminium with integrated thermal management properties. IP65 and IK10 rated. Forward throw light distribution. Silver fitting (RAL 9006) and post.	806lm
K		Holophane Micro Ceiling Recessed fitting corrosion resistant fitting. Stainless steel closing ring (AISI 316L) with 8mm tampered glass. IP68 rated. 44 degree beam.	440lm

1.3 Illumination Results

For the detailed results, please refer to the drawing, however, below is the table detailing the general illumination results achieved.

Illumination Results				
Description	Symbol	Avg	Min	Min/Avg
Car Parks Access - 10/0.40Uo	+	11 lux	5 lux	0.45
Inner Courtyards - 5/0.25Uo	+	5 lux	2 lux	0.40
Main Car Park 10/0.25Uo	+	12 lux	3 lux	0.25
Outdoor Teaching Areas (NW)	+	8 lux	4 lux	0.50
Outdoor Teaching Areas (SW)	+	9 lux	4 lux	0.44
Outdoor Teaching Areas (SW) Under Soffits	×	50 lux	13 lux	0.26
Outdoor Teaching Areas ALL (SW)	+	17 lux	4 lux	0.24
Pathways 5/0.25Uo	+	8 lux	2 lux	0.25
Play Area	+	8 lux	2 lux	0.25

On the drawing, a light spill vertical measuring plane has been added to the boundary of the proposed school and the adjacent houses and this shows that there is no light spill onto the adjacent properties.