

Compliance Status:

Pol 04 Reduction of night time light pollution	Pass
Ene 03 Energy efficient external lighting	Fail
Hea 01 Internal and external lighting levels	Pass

BREEAM

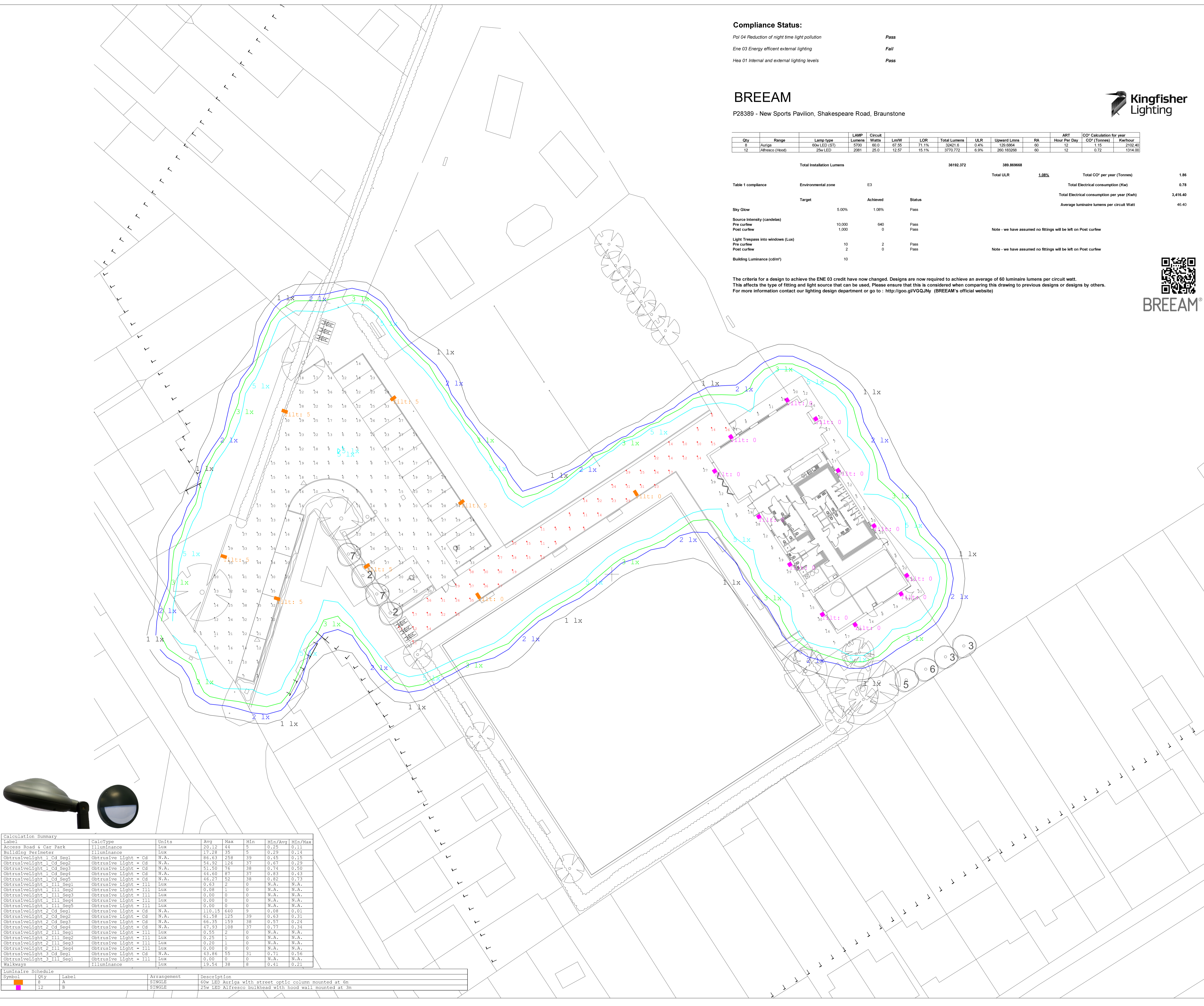
P28389 - New Sports Pavilion, Shakespeare Road, Braunstone



Qty	Range	Lamp type	LAMP Lumens	Circuit Watts	LmW	LOR	Total Lumens	ULR	Upward Lumns	RA	Hour Per Day	CO2 (Tonnes)	Kwh/our
8	Auriga	60w LED (ST)	5700	60.0	97.50	71.1%	32421.6	0.4%	129.6864	60	12	1.15	2192.40
12	Alfresco (1600)	25w LED	2081	25.0	12.97	15.1%	3770.772	6.9%	260.183288	60	12	0.72	1314.00

Total Installation Lumens		36192.372	389.86968	Total ULR	1.08%	Total CO2 per year (Tonnes)	1.86
Table 1 compliance		Environmental zone	E3	Total Electrical consumption (Kwh)		0.78	
		Target	Achieved	Status	Total Electrical consumption per year (Kwh)		3,416.40
					Average luminaire lumens per circuit Watt		40.40
Sky Glow		5.00%	1.08%	Pass			
Source Intensity (candelas)							
Pre curfew	10,000	640	0	Pass			
Post curfew	1,000	0	0	Pass	Note - we have assumed no fittings will be left on Post curfew		
Light Trespass into windows (Lux)							
Pre curfew	10	2	0	Pass			
Post curfew	2	0	0	Pass	Note - we have assumed no fittings will be left on Post curfew		
Building Luminance (cd/m²)		10					

The criteria for a design to achieve the ENE 03 credit have now changed. Designs are now required to achieve an average of 60 luminaire lumens per circuit watt. This affects the type of fitting and light source that can be used. Please ensure that this is considered when comparing this drawing to previous designs or designs by others. For more information contact our lighting design department or go to : <http://go.givgq.ny> (BREEAM's official website)



Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Min/Avg	Min/Max
Access Road & Car Park	Illuminance	Lux	20.12	44	5	0.25	0.11
Building Perimeter	Illuminance	Lux	17.28	35	5	0.29	0.14
ObtrusiveLight_1 Cd Seg1	Obtrusive Light - Cd	N.A.	86.63	258	39	0.45	0.15
ObtrusiveLight_1 Cd Seg2	Obtrusive Light - Cd	N.A.	51.92	126	37	0.67	0.29
ObtrusiveLight_1 Cd Seg3	Obtrusive Light - Cd	N.A.	51.50	76	38	0.74	0.50
ObtrusiveLight_1 Cd Seg4	Obtrusive Light - Cd	N.A.	44.60	87	37	0.82	0.43
ObtrusiveLight_1 Cd Seg5	Obtrusive Light - Cd	N.A.	46.27	52	38	0.82	0.73
ObtrusiveLight_1 Il1 Seg1	Obtrusive Light - Il1	Lux	0.63	2	0	N.A.	N.A.
ObtrusiveLight_1 Il1 Seg2	Obtrusive Light - Il1	Lux	0.08	1	0	N.A.	N.A.
ObtrusiveLight_1 Il1 Seg3	Obtrusive Light - Il1	Lux	0.00	0	0	N.A.	N.A.
ObtrusiveLight_1 Il1 Seg4	Obtrusive Light - Il1	Lux	0.00	0	0	N.A.	N.A.
ObtrusiveLight_1 Il1 Seg5	Obtrusive Light - Il1	Lux	0.00	0	0	N.A.	N.A.
ObtrusiveLight_2 Cd Seg1	Obtrusive Light - Cd	N.A.	110.15	640	9	0.08	0.01
ObtrusiveLight_2 Cd Seg2	Obtrusive Light - Cd	N.A.	61.58	125	39	0.63	0.31
ObtrusiveLight_2 Cd Seg3	Obtrusive Light - Cd	N.A.	66.35	159	38	0.57	0.24
ObtrusiveLight_2 Cd Seg4	Obtrusive Light - Cd	N.A.	47.93	108	37	0.73	0.34
ObtrusiveLight_2 Il1 Seg1	Obtrusive Light - Il1	Lux	0.55	2	0	N.A.	N.A.
ObtrusiveLight_2 Il1 Seg2	Obtrusive Light - Il1	Lux	0.25	1	0	N.A.	N.A.
ObtrusiveLight_2 Il1 Seg3	Obtrusive Light - Il1	Lux	0.20	1	0	N.A.	N.A.
ObtrusiveLight_2 Il1 Seg4	Obtrusive Light - Il1	Lux	0.00	0	0	N.A.	N.A.
ObtrusiveLight_3 Cd Seg1	Obtrusive Light - Cd	N.A.	43.86	55	31	0.71	0.56
ObtrusiveLight_3 Il1 Seg1	Obtrusive Light - Il1	Lux	0.00	0	0	N.A.	N.A.
Walkways	Illuminance	Lux	19.54	38	8	0.41	0.21

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description
A	8	A	SINGLE	60w LED Auriga with street optic column mounted at 6m
B	12	B	SINGLE	25w LED Alfresco bulkhead with hood wall mounted at 3m

rev.	description	date	drawn	approved
A	For Planning Application	July 16	NR	CW

Information **approval** **tender** **contract** **construction**

Axis Mechanical & Electrical Consulting Engineers
 No.8 Poplars Court
 Lenton Lane
 Nottingham
 NG7 2RR
 United Kingdom
tel: +44 (0) 115 9791875
fax: +44 (0) 115 9249179
email: mail@axisconsult.co.uk
web: www.axisconsult.co.uk



client
 HSSP ARCHITECTS

project
 NEW SPORTS PAVILION
 SHAKESPEARE ROAD
 BRAUNSTONE

drawing
 PROPOSED EXTERNAL LIGHTING

drawn	approved	date	scale
N.R.	C.W.	JULY '16	1:250 @ A1

drawing ref.	revision
AX1680-E-01	A