

EXAMPLE OF LED ENERGY SAVING - CALCULATED OVER A 5 & 10 YEAR PERIOD

Fitting Types	Amount Installed	Wattage	Total Fitting Wattage	PIR Saving	Energy Installed in Watts	Hours Per Day	Days Per Week	Weeks Per Year	Annual Hours	Annual Kwh	Energy Cost Kwh	Yearly Cost £	Co2 per Yr. Kg	Lamp Life	Lamp Cost Per Change	Labour Maintenance Cost Per Change	Total Maintenance Cost Per Light	Lamp Change Cost Per Year	Maintenance Cost Per Year	Installation Costs Dependant On Bespoke Contract		
																				Luminaire Installation Cost	Luminaire Installation Total cost	
Existing																						
High Bay 6x49w	114	294	315	0%	35910	24	7	52	8736	313709.76	0.12	37645.17	168462.14	24000.00	12.60	45.00	57.60	20.97	2390.17	n/a	n/a	
High Bay Batten 2 x 49w	14	98	105	0%	1470	24	7	52	8736	12841.92	0.12	1541.03	6896.11	24000.00	4.20	45.00	49.20	17.91	250.72	n/a	n/a	
600x600 4x18w (T5 14W OR T8 18W?)	78	72	72	0%	5616	24	7	52	8736	49061.38	0.12	5887.37	26345.96	24000.00	7.20	45.00	52.20	19.00	1482.06	n/a	n/a	
High Bay 4x49w	84	196	210	0%	17640	24	7	52	8736	154103.04	0.12	18492.36	82753.33	24000.00	8.40	45.00	53.40	19.44	1632.76	n/a	n/a	
Twin Fluorescent 2x 55w (PL or T5)	5	110	115	0%	575	24	7	52	8736	5023.20	0.12	602.78	2697.46	24000.00	4.00	45.00	49.00	17.84	89.18	n/a	n/a	
Single Fluorescent 1x55w	4	55	57.5	0%	230	24	7	52	8736	2009.28	0.12	241.11	1078.98	24000.00	2.00	45.00	47.00	17.11	68.43	n/a	n/a	
Single Fluorescent 1x58W (T8)	10	58	57.5	0%	575	24	7	52	8736	5023.20	0.12	602.78	2697.46	12000.00	2.00	45.00	47.00	34.22	342.16	n/a	n/a	
Twin Polycarbonate 2x 58w (T8)	27	142	116	0%	3132	24	7	52	8736	27361.15	0.12	3283.34	14692.94	12000.00	4.00	45.00	49.00	35.67	963.14	n/a	n/a	
Total Luminaires	336				0				0	0.00		0.00	0.00	24000.00			0.00	0.00	0.00	n/a	n/a	
Maintenance of Emergency 20%(0.2)	6720				0				0	0.00		0.00	0.00	12000.00		14.52	14.52	97574.40	97574.40	n/a	n/a	
New					65148.00					569132.93		£68,295.95	305624.38						104793.03			
Harrier	178	77	77	0%	13706	24	7	52	8736	119735.62	0.12	14368.27	64298.03	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	0.00	
Harrier Em	48	77	77	0%	3696	24	7	52	8736	32288.26	0.12	3874.59	17338.79	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	
Cascade	37	34	34	0%	1258	24	7	52	8736	10989.89	0.12	1318.79	5901.57	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	
Cascade Em	8	34	34	0%	272	24	7	52	8736	2376.19	0.12	285.14	1276.02	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	
Stiletto	3	62	62	0%	186	24	7	52	8736	1624.90	0.12	194.99	872.57	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	
Stiletto Em	1	62	62	0%	62	24	7	52	8736	541.63	0.12	65.00	290.86	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	
ACL Park	1	59	59	0%	59	24	7	52	8736	515.42	0.12	61.85	276.78	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	
ACL Park Em	8	59	59	0%	472	24	7	52	8736	4123.39	0.12	494.81	2214.26	50000.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	
Total Luminaires	284				0				0	0.00		0.00	0.00	50000.00			0.00	0.00	0.00	n/a	n/a	
Maintenance of Emergency 20% (0.2)	5680				0				0	0.00		0.00	0.00	50000.00		14.52	14.52	82473.60	82473.60	n/a	n/a	
					19711.00					172195.30		£ 20,663.44	92468.87						82473.60			
Savings					45437.00					396937.63		£ 47,632.52	213155.51						22319.43		£ -	

Cost Energy Kw	£47,632.52
Maintenance Cost Per Year	£22,319.43
Saving Per Year	£69,951.95

Luminaire/Installation Cost	£90,956.00
Controls/Installation Cost	£0.00
	£90,956.00

Payback in Years **1.3**

Co2 Saving Per Year	213155.51
Total Saving	£349,759.73
Total Cost	£90,956.00
Saving over Period	£258,803.73
	£699,519.45
	£90,956.00
	£608,563.45

Total cost saving for a 5 year period
Total cost saving for a 10 year period

Type of Room	Energy Saving (%)
Private office	15 to 52
Open Plan office	22 to 30
Classroom	42 to 48
Conference room	20 to 70
Restroom	30 to 90
Corridors	40 to 85
Storage / Closet	45 to 80

Please note the energy saved through controls on this contract is subjective, we have estimated this on the contracts foot traffic during or on site visits.

All lights are warranted for 5 years

The above calculation does not take into account the unknown failure rate of the existing control gear. The calculation would show better results if the old control gear failure rates are known.

Carbon emission calculations are based on the Carbon Trusts recommendations 0.520kg/CO2 /Kwh of electricity produced. All running costs are based upon average total circuit wattages of leading UK brands of control gear. BB Ltd can supply a more detailed analysis should a specific brand of control gear be requested.

Engineer	
Date	

Barrie Beard Ltd Lighting Fee Design Service – Outline of General Terms & Conditions	
The service offered by BB Ltd Lighting is Free. As there is a high probability that relevant actual site conditions will ultimately differ from those made known to BB Ltd at the design stage. It is the responsibility of the client acceptance and adoption of such proposal is carried out.	
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1) The area will be lit in accordance with the relevant CIBSE Code, using a luminaire agreement which considers both the purpose (which will meet the requirements described in his document and any amendment made in writing by the client) and any commercial considerations	2) The room reflectance's will be assumed to be in accordance with CIBSE guidelines
3) The luminance levels applied will be in accordance with CIBSE guidelines	4) The ambient temperature range at its most extreme will be assumed to be between 20°C and 30°C (25°C nominal)
5) The site voltage range at its most extreme will be assumed to be between 216v and 253v (230v nominal), frequency 50Hz	6) The luminaires will be quoted with what is deemed by BB Ltd standard control gear where applicable. Any requirement for other or special control gear types must be made in writing
7) Where the luminaire is supplied with lamps, these will be what are deemed by BB Ltd standard issue lamps for the product	8) It will be assumed that the overall and ongoing maintenance level of the project application and installation is good, and the illuminated area is clean unless notified otherwise

For further details on any of the above, please telephone BB Ltd on 01527 875172