

**IDEAL LIGHTS**

ILLUMINATE YOUR LIFE

# Energy Saving Lighting Report

Example Sport & Fitness Centre

# Introduction

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This energy saving lighting report has been produced to show you the advantages of switching over to Ideal Lights unique range of retrofit LED Lighting. As will be seen, significant savings can be made - both from a fiscal point of view and environmental view - through the reduction of your carbon footprint.

## Ideal Lights

Ideal Lights was launched in 2005, its prime focus today is to combine the latest lighting technologies and materials in designing, testing, certifying and supplying **ultra low-energy, long-life, environmentally friendly, retrofit lighting solutions**. In addition to supplying lighting products to end users, Ideal Lights offers a fully packaged service which includes:

- Detailed lighting energy audit reports, pinpointing where replacement lamps will reduce energy consumption.
- An outline installation programme and, if required, the provision of specialist installation engineers and equipment.
- Assistance with applying for interest-free funding from the Carbon Trust or Salix, as appropriate.
- Fully WEEE compliant disposal of old lamps, bulbs and fittings.

## LED Technology

Ideal lights have a unique, never before seen, range of LED lighting solutions. Our LED products are the brightest on the market, offering, for the first time, usable levels of general lighting.

New generation LED's generate 3 to 5 times more light than previous LED technology and have energy savings of up to 90%, when compared against traditional lighting technology.

Ideal specialises in retrofit products, which install with the least amount of disruption possible. All of our products have undergone extensive testing and certification to ensure they meet stringent standards and have the longest life possible.

With average service life of up to 50,000 hours, LED lamps are perfect for hard-to-reach and maintain fixtures. Besides reducing maintenance, they substantially extend bulb replacement cycles, further cutting costs.

LEDs reach full brightness almost instantly unlike compact fluorescents that can take more than minute to achieve their maximum output.

Existing lighting technologies are omni-directional and require external, inefficient reflectors to focus the light they emit. LED lighting is by its nature a directional light source, so that light is used efficiently and distributed to exactly where it is needed.

## Enhanced Capital Allowances

White LED Lighting is now on the Government's Energy Technology List, so that all our LED replacement products qualify for Enhanced Capital Allowances, enabling companies to write off this capital expenditure in the first year.

## Carbon Trust and Salix Loans

SMEs and public sector organizations may qualify for interest-free loans that absorb the upfront costs of an energy-saving lighting project. Loan repayments are spread over the length of the project's payback period so that the cost is effectively funded by ongoing energy savings.

# Introduction

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## **Secondary Saving Benefits**

With the extended life span of LED Lamps, there are significant savings to be made with reduced maintenance and lamp replacement costs. Other secondary benefits include reductions in air conditioning costs due to the significantly reduced heat generated by LED lamps.

## **Reduced Deterioration of Cabling and Fittings**

With a significant reduction in electrical current draw from LED lights, wiring and electrical fittings will suffer less from deterioration and hence last longer.

# Lighting Replacement Proposal

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Significant savings can be made by replacing the following lighting types:

## Halogen Down-spots

MR16 & GU10 Halogen downspots can be replaced with our 3X CREE LED Spots.

These lamps offer an easy cost effective retrofit solution to current downspot fittings. Our 3X CREE LED Spots are significantly brighter than other LED spots on the market, providing effective levels of lighting. They also have extended lifespans, upto 50,000 hours average life.

Our 3X CREE LED spots consume just 4 watts per lamp and are available in a range of colour temperatures. Being based on CREE technology they produce effective levels of lighting for very little power usage.

## High Intensity Halogen Down-spots

Where light levels are critical and the same as or better illumination is required, then these spots can be replaced with our CCFL - cold cathode range of GU10/MR16 replacements.

They offer intense levels of light, matching or exceeding the current fittings, lifespans are extended significantly from the existing 2000 hours of a halogen spot to 20,000 hours of a CCFL spot.

## General Lighting

General lamps such as candles and various spot lights can be replaced with our CCFL range of spots - producing like for like levels of lighting with significant power reductions. Our CCFL range draws 8 to 10 watts of power vs the 50-60W ordinary lamp that it replaces.

## Fluorescent Tubes

Fluorescent tubes can be replaced with our LED Tubes, reducing both power and increasing life span significantly.

6 Foot LED Tubes consume 24 watts vs 84 Watts  
5 Foot LED Tubes consume 18 watts vs 70 Watts  
4 Foot LED Tubes consume 15 watts vs 43 Watts  
2 Foot LED Tubes consume 8 watts vs 22 Watts

Ballast losses of 20% have been factored into the power usage calculations.

## Notes

The report has made the following assumptions to provide you with an example of the energy savings that can be made.

- An average of 9 pence / kWh has been used.

# Savings Overview

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Based on the information gathered from the lighting survey, and our proposed replacement lighting solution, we can determine your current annual energy usage and costs:

	<b>Current</b>	<b>Proposed</b>
Annual Lighting Energy Usage (kWh)	733,776	331,704
Carbon Emissions from Lighting (Kg)	394,052	178,131
Annual Lighting Energy Costs	£66,036	£29,852
Annual Lighting Replacement Costs	£2,296	£1,477
<b>Total Annual Cost</b>	<b>£68,332</b>	<b>£31,328</b>

**Reduced Lighting Energy Costs by £36,184 per year**

**Overall Lighting Energy Savings of 55%**

**Reduced Carbon Emissions by 215,921 Kg per year**

**Maintenance £2,000**

**Total Savings: £39,004 per year**

**Plus maintenance savings, air conditioning power savings etc.**

## Benefits

- Significant energy cost savings.
- Improved lighting quality in various areas.
- Our LED products are on the ECA list (Enhanced Capital Allowance), allowing significant tax savings.

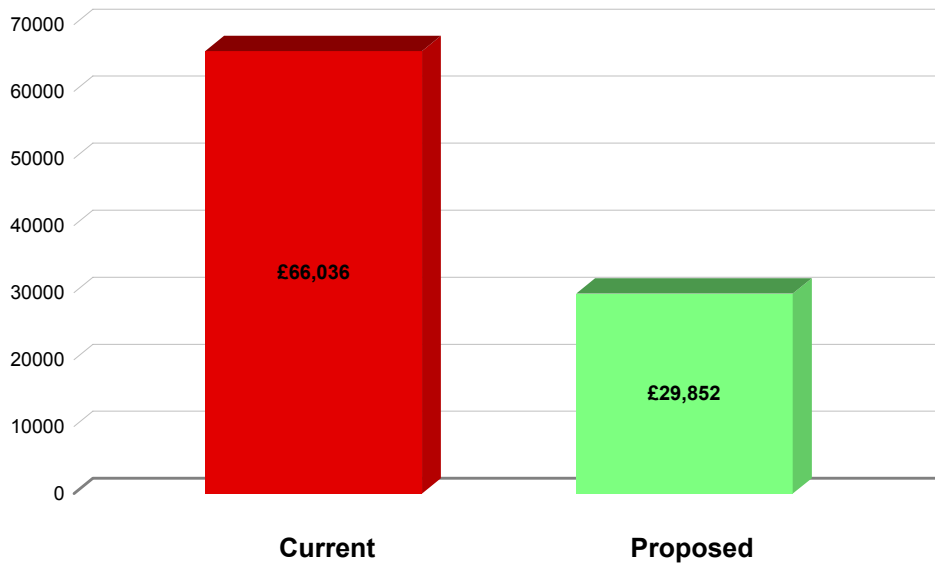
## Maintenance costs significantly reduced

- LED products come with a minimum 1 year warranty and last an average of 50,000 hours.
- All our LED products are designed to be drop in replacements, using existing fittings. Some fittings may require a simple modification.
- CCFL products come with a 1 year warranty and last up to 20,000 hours

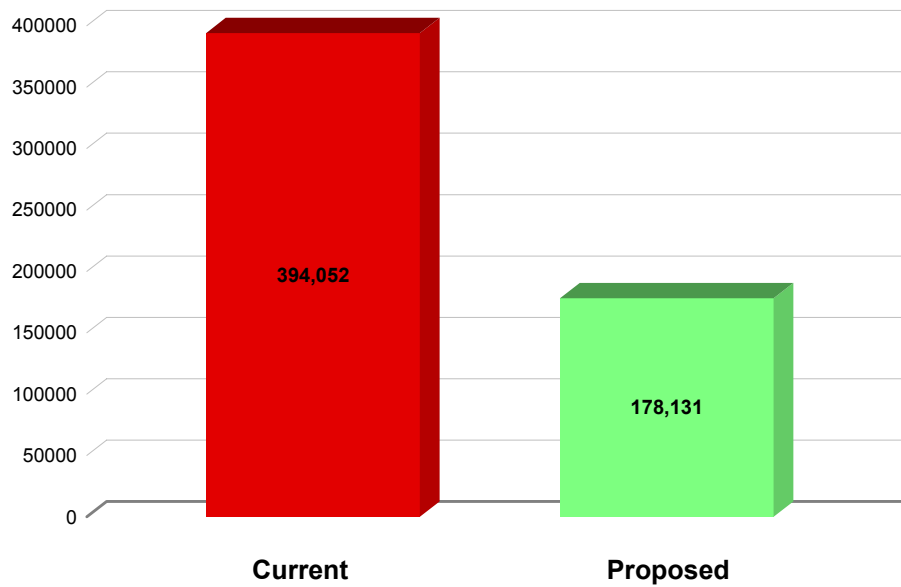
## Environmental Benefits

- Significant reduction in carbon reduction.
- LED Products can be disposed of more safely as they contain no mercury or lead content.

### Annual Lighting Energy Costs (£)



### Carbon Emissions (kg) per year

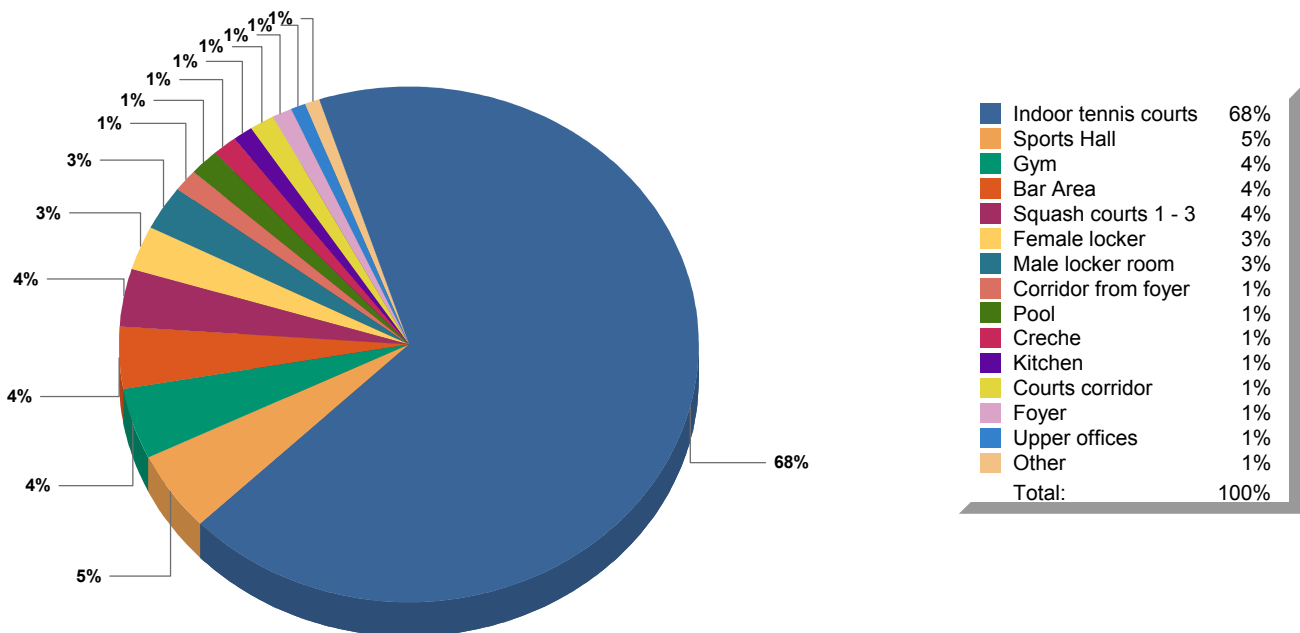


**Note:** A conversion rate of 0.53702 has been used for Kwh to Kg of carbon emissions

# Current Energy Usage Per Area

Area Description	kWh per week	Weekly	Monthly	Annual
Indoor tennis courts	8,809	£792.85	£3,444.92	£41,339.04
Sports Hall	656	£59.05	£256.58	£3,079.00
Gym	557	£50.11	£217.74	£2,612.93
Bar Area	531	£47.77	£207.58	£2,490.97
Squash courts 1 - 3	472	£42.47	£184.55	£2,214.58
Male locker room	356	£32.05	£139.28	£1,671.32
Female locker	356	£32.05	£139.28	£1,671.32
Corridor from foyer	187	£16.84	£73.19	£878.22
Pool	184	£16.59	£72.08	£864.94
Creche	184	£16.55	£71.90	£862.83
Kitchen	174	£15.69	£68.17	£818.06
Courts corridor	153	£13.81	£60.00	£720.03
Foyer	142	£12.77	£55.47	£665.69
Upper offices	138	£12.42	£53.97	£647.63
Studio corridor	92	£8.29	£36.04	£432.47
Squash court corridor	90	£8.13	£35.32	£423.88
Other	989	£89.05	£386.91	£4,643.11
<b>Totals</b>	<b>14,072</b>	<b>£1,266</b>	<b>£5,503</b>	<b>£66,036</b>

## Energy Usage per Area Comparison



## Summary

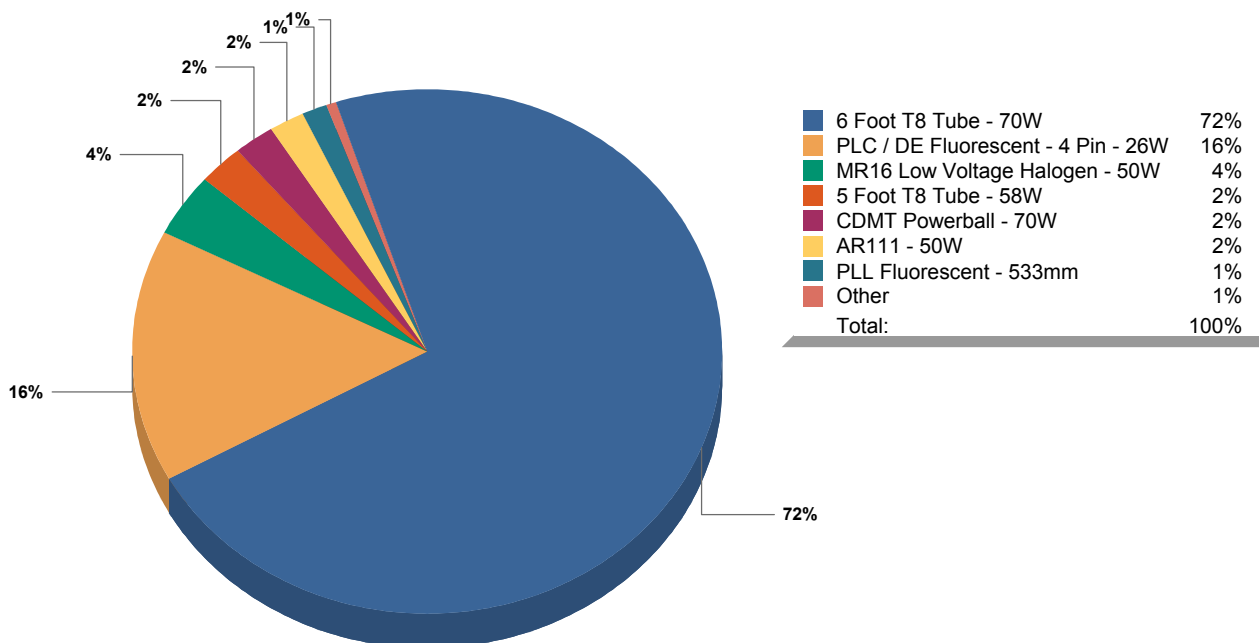
**Current Annual Lighting Energy Costs: £66,036**

*Note: Costs based on an electricity unit rate of: 9.00p per kWh*

## Current Energy Usage Per Lamp Type

Lamp Description	Quantity	kWh per week	Weekly	Monthly	Annual
6 Foot T8 Tube - 70W	1,137	9,937	£894.31	£3,885.79	£46,629.43
PLC / DE Fluorescent - 4 Pin - 26W	684	2,145	£193.08	£838.92	£10,066.99
MR16 Low Voltage Halogen - 50W	103	547	£49.26	£214.05	£2,568.64
5 Foot T8 Tube - 58W	46	334	£30.07	£130.66	£1,567.89
CDMT Powerball - 70W	40	318	£28.60	£124.28	£1,491.31
AR111 - 50W	46	261	£23.49	£102.08	£1,225.00
PLL Fluorescent - 533mm	27	184	£16.55	£71.90	£862.83
4 Foot T5 Tube - 28W	40	84	£7.56	£32.85	£394.18
GU10 Halogen - 50W	8	45	£4.09	£17.75	£213.04
2D Lamp Fluorescent - 28W	13	44	£3.98	£17.30	£207.65
2 Foot T8 Tube - 18W	20	38	£3.46	£15.03	£180.38
4 Foot T8 Tube - 36W	8	36	£3.27	£14.20	£170.44
GLS Bulb - 60W	5	34	£3.06	£13.32	£159.78
Multitube CFL - 11W	24	28	£2.48	£10.78	£129.33
PLL Fluorescent - 217mm - 18W	10	23	£2.04	£8.88	£106.52
T5 Exit Box - 6W	20	13	£1.20	£5.22	£62.60
<b>Totals</b>	<b>2,231.00</b>	<b>14,072</b>	<b>£1,267</b>	<b>£5,503</b>	<b>£66,036</b>

## Energy Usage per Lamp Type



## Summary

**Current Annual Lighting Energy Costs: £66,036**

*Note: Costs based on an electricity unit rate of: 9.00p per kWh*



# Lamp Rolling Replacement Costs

Below is a breakdown of the estimated number of lamp replacements and hence lamp costs per year. This data is used to calculate the capital costs of replacing the lamps every year.

## Current Annual Lamp Replacement Costs

Lamp Description	Quantity	On Time	Lifespan	Replacements / yr	Unit Cost	Total Cost
2 Foot T8 Tube - 18W	20	5,010.94	8,000	6.3	£1.00	£6.26
2D Lamp Fluorescent - 28W	13	5,918.23	8,000	4.8	£3.00	£14.43
4 Foot T5 Tube - 28W	40	3,650.01	15,000	4.9	£2.50	£12.17
4 Foot T8 Tube - 36W	8	5,918.23	8,000	3.0	£1.00	£2.96
5 Foot T8 Tube - 58W	46	5,918.23	8,000	17.0	£1.25	£21.27
6 Foot T8 Tube - 70W	1,137	5,918.23	8,000	420.6	£1.50	£630.85
AR111 - 50W	46	5,918.23	4,000	34.0	£4.00	£136.12
CDMT Powerball - 70W	40	5,918.23	8,000	14.8	£20.00	£295.91
GLS Bulb - 60W	5	5,918.23	1,000	14.8	£0.50	£7.40
GU10 Halogen - 50W	8	5,918.23	2,000	11.8	£1.00	£11.84
MR16 Low Voltage Halogen - 50W	103	5,542.35	2,000	142.7	£0.70	£99.90
Multitube CFL - 11W	24	5,445.68	8,000	8.2	£2.50	£20.42
PLC / DE Fluorescent - 4 Pin - 26W	684	5,639.68	8,000	241.1	£4.00	£964.38
PLL Fluorescent - 217mm - 18W	10	5,918.23	8,000	3.7	£3.00	£11.10
PLL Fluorescent - 533mm	27	5,918.23	8,000	10.0	£5.00	£49.94
T5 Exit Box - 6W	20	5,804.82	8,000	7.3	£1.50	£10.88
<b>Totals</b>	<b>2,231</b>			<b>945.0</b>		<b>£2,296</b>

Please note, the life span of a lamp refers to the average (median) life expectancy and it is the time for 50% of the lamps to fail. The number of replacements per year represent an averaged out number of replacements over the total lifespan.

LED and CCFL Energy saving products have exceptionally long life spans and hence don't incur any relative lamp replacement costs.

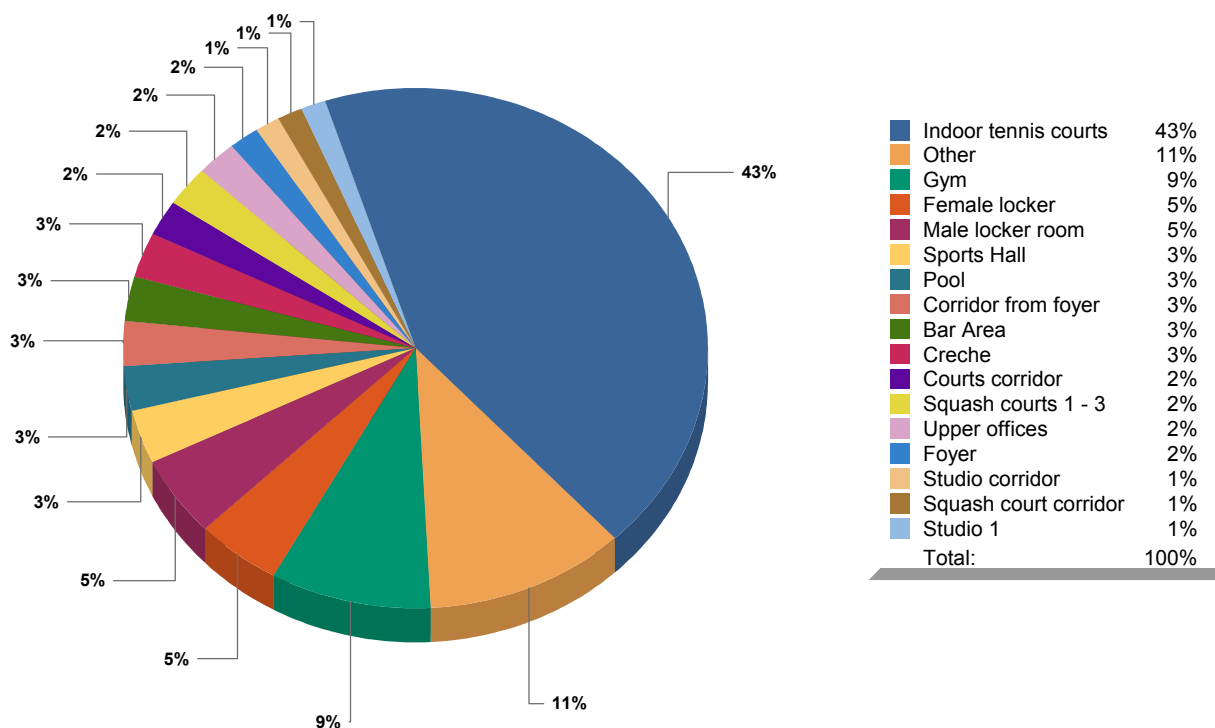
## Proposed Annual Lamp Replacement Costs

Lamp Description	Quantity	On Time	Lifespan	Replacements / yr	Unit Cost	Total Cost
2 Foot T8 LED Tube	20	5,010.9	50,000	0.0	£0.00	£0.00
2D Lamp Fluorescent - 28W	13	5,918.2	8,000	4.8	£3.00	£14.43
4 Foot T5 Tube - 28W	40	3,650.0	15,000	4.9	£2.50	£12.17
4 Foot T8 LED Tube	8	5,918.2	50,000	0.0	£0.00	£0.00
5 Foot T8 LED Tube	46	5,918.2	50,000	0.0	£0.00	£0.00
6 Foot T8 LED Tube	1,137	5,918.2	50,000	0.0	£0.00	£0.00
AR111 - 50W	46	5,918.2	4,000	34.0	£4.00	£136.12
CDMT Powerball - 70W	40	5,918.2	8,000	14.8	£17.00	£251.52
Energy Saver - Softone	5	5,918.2	8,000	1.9	£3.00	£5.55
GU10 3X CREE LED Spot	8	5,918.2	50,000	0.0	£0.00	£0.00
MR16 3X CREE LED Spot	103	5,542.4	50,000	0.0	£0.00	£0.00
Multitube CFL - 11W	24	5,445.7	8,000	8.2	£2.50	£20.42
PLC / DE Fluorescent - 4 Pin - 26W	684	5,639.7	8,000	241.1	£4.00	£964.38
PLL Fluorescent - 217mm - 18W	10	5,918.2	8,000	3.7	£3.00	£11.10
PLL Fluorescent - 533mm	27	5,918.2	8,000	10.0	£5.00	£49.94
T5 Exit Box - 6W	20	5,804.8	8,000	7.3	£1.50	£10.88
<b>Totals</b>	<b>2,231</b>			<b>330.58</b>		<b>£1,477</b>

# Replacement Energy Usage Per Area

Area Description	kWh per week	Weekly	Monthly	Annual
Indoor tennis courts	2,746	£247.12	£1,073.74	£12,884.89
Gym	557	£50.11	£217.74	£2,612.93
Male locker room	314	£28.30	£122.94	£1,475.31
Female locker	314	£28.30	£122.94	£1,475.31
Sports Hall	205	£18.45	£80.16	£961.89
Pool	184	£16.59	£72.08	£864.94
Corridor from foyer	177	£15.90	£69.10	£829.18
Bar Area	176	£15.80	£68.66	£823.88
Creche	169	£15.17	£65.91	£790.89
Courts corridor	153	£13.81	£60.00	£720.03
Squash courts 1 - 3	147	£13.24	£57.52	£690.23
Upper offices	138	£12.42	£53.97	£647.63
Foyer	115	£10.33	£44.87	£538.48
Studio corridor	92	£8.29	£36.04	£432.47
Squash court corridor	90	£8.13	£35.32	£423.88
Studio 1	83	£7.44	£32.33	£387.94
Other	701	£63.13	£274.28	£3,291.71
<b>Totals</b>	<b>6,361.42</b>	<b>£573</b>	<b>£2,488</b>	<b>£29,852</b>

## Energy Usage per Area Comparison



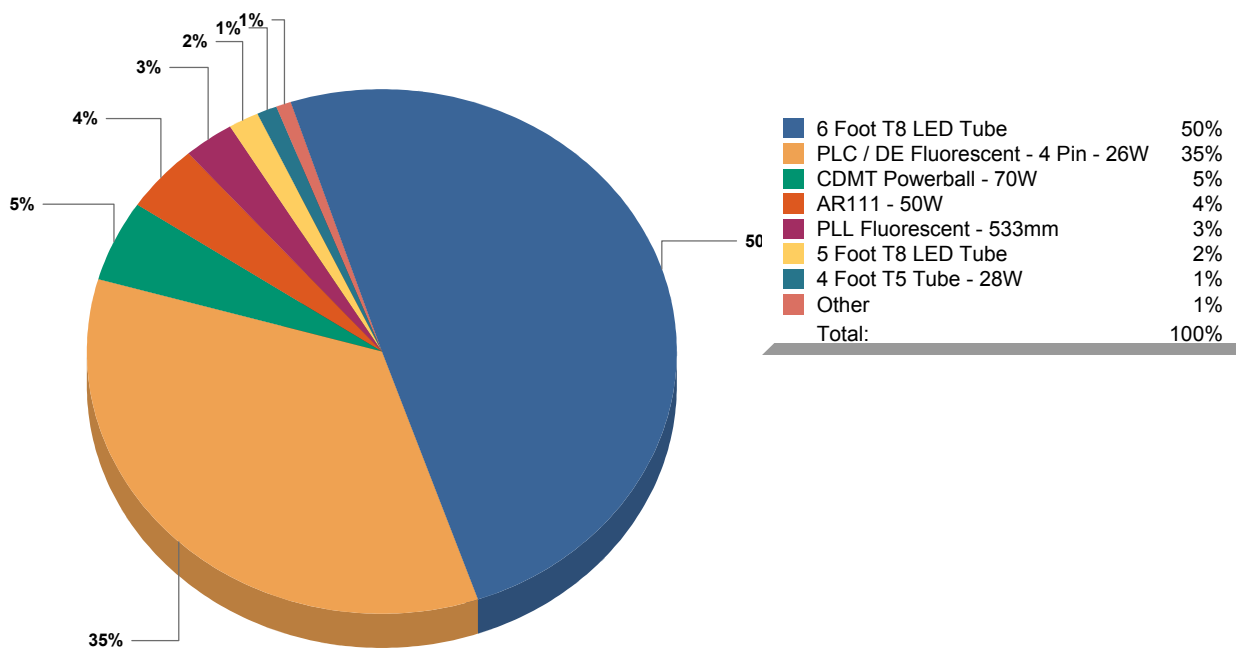
## Summary

Replacement Annual Lighting Energy Costs: £29,852, a saving of £36,184 per year

# Replacement Energy Usage Per Lamp Type

Lamp Description	Quantity	kWh per week	Weekly	Monthly	Annual
6 Foot T8 LED Tube	1,137	3,097	£278.75	£1,211.15	£14,533.83
PLC / DE Fluorescent - 4 Pin - 26W	684	2,145	£193.08	£838.92	£10,066.99
CDMT Powerball - 70W	40	318	£28.60	£124.28	£1,491.31
AR111 - 50W	46	261	£23.49	£102.08	£1,225.00
PLL Fluorescent - 533mm	27	169	£15.17	£65.91	£790.89
5 Foot T8 LED Tube	46	104	£9.40	£40.83	£490.00
4 Foot T5 Tube - 28W	40	78	£7.06	£30.66	£367.90
2D Lamp Fluorescent - 28W	13	44	£3.98	£17.30	£207.65
MR16 3X CREE LED Spot	103	44	£3.94	£17.11	£205.30
Multitube CFL - 11W	24	28	£2.48	£10.78	£129.33
PLL Fluorescent - 217mm - 18W	10	20	£1.84	£7.99	£95.87
2 Foot T8 LED Tube	20	15	£1.38	£6.01	£72.13
4 Foot T8 LED Tube	8	14	£1.22	£5.32	£63.87
T5 Exit Box - 6W	20	13	£1.20	£5.22	£62.60
Energy Saver - Softone	5	7	£0.61	£2.66	£31.91
GU10 3X CREE LED Spot	8	4	£0.33	£1.42	£17.03
<b>Totals</b>	<b>2,231</b>	<b>6,361</b>	<b>£573</b>	<b>£2,488</b>	<b>£29,852</b>

## Energy Usage per Lamp Type



## Summary

Replacement Annual Lighting Energy Costs: £29,852, a saving of £36,184 per year

## Appendix A - Current Lamp Statistics

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### Bar - Conservatory

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
Multitube CFL - 11W	2	11.0	22.00	113.5	2.49
GLS Bulb - 60W	4	60.0	240.00	113.5	27.24
MR16 Low Voltage Halogen - 50W	6	50.0	300.00	113.5	34.04
<b>Totals</b>	<b>12</b>	<b>121.00</b>	<b>562.00</b>		<b>63.77</b>

### Bar Area

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	20	29.0	580.00	113.5	65.83
GU10 Halogen - 50W	8	50.0	400.00	113.5	45.40
GLS Bulb - 60W	1	60.0	60.00	113.5	6.81
Multitube CFL - 11W	17	11.0	187.00	113.5	21.22
MR16 Low Voltage Halogen - 50W	59	50.0	2,950.00	113.5	334.82
AR111 - 50W	10	50.0	500.00	113.5	56.75
<b>Totals</b>	<b>115</b>	<b>250.00</b>	<b>4,677.00</b>		<b>530.83</b>

### Bar Toilets

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	22	29.0	638.00	113.5	72.41
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.68
<b>Totals</b>	<b>23</b>	<b>35.00</b>	<b>644.00</b>		<b>73.09</b>

### Corridor from foyer

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.36
PLC / DE Fluorescent - 4 Pin - 26W	53	29.0	1,537.00	113.5	174.44
MR16 Low Voltage Halogen - 50W	2	50.0	100.00	113.5	11.35
<b>Totals</b>	<b>57</b>	<b>85.00</b>	<b>1,649.00</b>		<b>187.15</b>

### Courts corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	46	29.0	1,334.00	113.5	151.40
T5 Exit Box - 6W	3	6.0	18.00	113.5	2.04
<b>Totals</b>	<b>49</b>	<b>35.00</b>	<b>1,352.00</b>		<b>153.44</b>

## Appendix A - Current Lamp Statistics

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### Courts upper viewing

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	14	29.0	406.00	113.5	46.08
2D Lamp Fluorescent - 28W	2	30.0	60.00	113.5	6.81
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.36
<b>Totals</b>	<b>18</b>	<b>65.00</b>	<b>478.00</b>		<b>54.25</b>

### Creche

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLL Fluorescent - 533mm	27	60.0	1,620.00	113.5	183.87
<b>Totals</b>	<b>27</b>	<b>60.00</b>	<b>1,620.00</b>		<b>183.87</b>

### Female locker

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	94	29.0	2,726.00	113.5	309.40
MR16 Low Voltage Halogen - 50W	8	50.0	400.00	113.5	45.40
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.36
<b>Totals</b>	<b>104</b>	<b>85.00</b>	<b>3,138.00</b>		<b>356.16</b>

### Female locker toilets

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	113.5	39.49
4 Foot T8 Tube - 36W	2	40.0	80.00	113.5	9.08
<b>Totals</b>	<b>14</b>	<b>69.00</b>	<b>428.00</b>		<b>48.57</b>

### Foyer

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
MR16 Low Voltage Halogen - 50W	9	50.0	450.00	60.0	27.00
PLC / DE Fluorescent - 4 Pin - 26W	28	29.0	812.00	113.5	92.16
PLL Fluorescent - 217mm - 18W	10	20.0	200.00	113.5	22.70
<b>Totals</b>	<b>47</b>	<b>99.00</b>	<b>1,462.00</b>		<b>141.86</b>

## Appendix A - Current Lamp Statistics

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### Foyer offices

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	6	29.0	174.00	113.5	19.74
2 Foot T8 Tube - 18W	12	20.0	240.00	113.5	27.24
<b>Totals</b>	<b>18</b>	<b>49.00</b>	<b>414.00</b>		<b>46.98</b>

### Front Entrance

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	16	29.0	464.00	113.5	52.66
<b>Totals</b>	<b>16</b>	<b>29.00</b>	<b>464.00</b>		<b>52.66</b>

### Gym

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
CDMT Powerball - 70W	40	70.0	2,800.00	113.5	317.80
AR111 - 50W	36	50.0	1,800.00	113.5	204.30
2D Lamp Fluorescent - 28W	10	30.0	300.00	113.5	34.04
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.68
<b>Totals</b>	<b>87</b>	<b>156.00</b>	<b>4,906.00</b>		<b>556.82</b>

### Gym office

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
MR16 Low Voltage Halogen - 50W	2	50.0	100.00	113.5	11.35
<b>Totals</b>	<b>2</b>	<b>50.00</b>	<b>100.00</b>		<b>11.35</b>

### Gym rest area

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	1	29.0	29.00	113.5	3.29
MR16 Low Voltage Halogen - 50W	1	50.0	50.00	113.5	5.67
<b>Totals</b>	<b>2</b>	<b>79.00</b>	<b>79.00</b>		<b>8.96</b>

## Appendix A - Current Lamp Statistics

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### Hair dressers

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	8	29.0	232.00	113.5	26.33
4 Foot T8 Tube - 36W	4	40.0	160.00	113.5	18.16
<b>Totals</b>	<b>12</b>	<b>69.00</b>	<b>392.00</b>		<b>44.49</b>

### Health & Beauty

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.68
MR16 Low Voltage Halogen - 50W	6	50.0	300.00	70.0	21.00
PLC / DE Fluorescent - 4 Pin - 26W	16	29.0	464.00	70.0	32.47
<b>Totals</b>	<b>23</b>	<b>85.00</b>	<b>770.00</b>		<b>54.15</b>

### Indoor tennis courts

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
6 Foot T8 Tube - 70W	1,008	77.0	77,616.00	113.5	8,809.41
<b>Totals</b>	<b>1,008</b>	<b>77.00</b>	<b>77,616.00</b>		<b>8,809.41</b>

### Kitchen

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 Tube - 58W	24	64.0	1,536.00	113.5	174.33
<b>Totals</b>	<b>24</b>	<b>64.00</b>	<b>1,536.00</b>		<b>174.33</b>

### Kitchen fire exit

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.36
PLC / DE Fluorescent - 4 Pin - 26W	14	29.0	406.00	113.5	46.08
<b>Totals</b>	<b>16</b>	<b>35.00</b>	<b>418.00</b>		<b>47.44</b>

### Lower plant

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 Tube - 58W	8	64.0	512.00	113.5	58.11
<b>Totals</b>	<b>8</b>	<b>64.00</b>	<b>512.00</b>		<b>58.11</b>

## Appendix A - Current Lamp Statistics

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### Male locker room

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.36
PLC / DE Fluorescent - 4 Pin - 26W	94	29.0	2,726.00	113.5	309.40
MR16 Low Voltage Halogen - 50W	8	50.0	400.00	113.5	45.40
<b>Totals</b>	<b>104</b>	<b>85.00</b>	<b>3,138.00</b>		<b>356.16</b>

### Male locker toilets

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
4 Foot T8 Tube - 36W	2	40.0	80.00	113.5	9.08
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	113.5	39.49
<b>Totals</b>	<b>14</b>	<b>69.00</b>	<b>428.00</b>		<b>48.57</b>

### Misc store room

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 Tube - 58W	2	64.0	128.00	113.5	14.52
<b>Totals</b>	<b>2</b>	<b>64.00</b>	<b>128.00</b>		<b>14.52</b>

### Pool

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	56	29.0	1,624.00	113.5	184.32
<b>Totals</b>	<b>56</b>	<b>29.00</b>	<b>1,624.00</b>		<b>184.32</b>

### Side office 1

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
2 Foot T8 Tube - 18W	8	20.0	160.00	70.0	11.20
<b>Totals</b>	<b>8</b>	<b>20.00</b>	<b>160.00</b>		<b>11.20</b>

### Sports Hall

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
6 Foot T8 Tube - 70W	75	77.0	5,775.00	113.5	655.46
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.68
<b>Totals</b>	<b>76</b>	<b>83.00</b>	<b>5,781.00</b>		<b>656.14</b>



## Appendix A - Current Lamp Statistics

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### Squash court corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	26	29.0	754.00	113.5	85.57
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.36
2D Lamp Fluorescent - 28W	1	30.0	30.00	113.5	3.40
<b>Totals</b>	<b>29</b>	<b>65.00</b>	<b>796.00</b>		<b>90.33</b>

### Squash courts 1 - 3

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
6 Foot T8 Tube - 70W	54	77.0	4,158.00	113.5	471.93
<b>Totals</b>	<b>54</b>	<b>77.00</b>	<b>4,158.00</b>		<b>471.93</b>

### Stairs to studio & gym

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
MR16 Low Voltage Halogen - 50W	2	50.0	100.00	113.5	11.35
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	113.5	39.49
<b>Totals</b>	<b>14</b>	<b>79.00</b>	<b>448.00</b>		<b>50.84</b>

### Studio 1

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
Multitube CFL - 11W	5	11.0	55.00	70.0	3.85
T5 Exit Box - 6W	1	6.0	6.00	70.0	0.42
4 Foot T5 Tube - 28W	40	30.0	1,200.00	70.0	84.00
<b>Totals</b>	<b>46</b>	<b>47.00</b>	<b>1,261.00</b>		<b>88.27</b>

### Studio corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	28	29.0	812.00	113.5	92.16
<b>Totals</b>	<b>28</b>	<b>29.00</b>	<b>812.00</b>		<b>92.16</b>

### Upper office corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	24	29.0	696.00	113.5	78.99
<b>Totals</b>	<b>24</b>	<b>29.00</b>	<b>696.00</b>		<b>78.99</b>

## Appendix A - Current Lamp Statistics

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### Upper offices

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	70.0	24.36
PLC / DE Fluorescent - 4 Pin - 26W	16	29.0	464.00	70.0	32.47
PLC / DE Fluorescent - 4 Pin - 26W	32	29.0	928.00	70.0	64.95
PLC / DE Fluorescent - 4 Pin - 26W	8	29.0	232.00	70.0	16.23
<b>Totals</b>	<b>68</b>	<b>116.00</b>	<b>1,972.00</b>		<b>138.01</b>

### Upper plant room

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 Tube - 58W	12	64.0	768.00	113.5	87.16
<b>Totals</b>	<b>12</b>	<b>64.00</b>	<b>768.00</b>		<b>87.16</b>

### Upper staff room 1

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	14	29.0	406.00	113.5	46.08
<b>Totals</b>	<b>14</b>	<b>29.00</b>	<b>406.00</b>		<b>46.08</b>

## Appendix B - Replacement Lamp Statistics

### Bar - Conservatory

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
Multitube CFL - 11W	2	11.0	22.00	113.5	2.5
Energy Saver - Softone	4	12.0	48.00	113.5	5.4
MR16 3X CREE LED Spot	6	4.0	24.00	113.5	2.7
<b>Totals</b>	<b>12</b>	<b>27.00</b>	<b>94.00</b>		<b>10.65</b>

### Bar Area

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	20	29.0	580.00	113.5	65.8
GU10 3X CREE LED Spot	8	4.0	32.00	113.5	3.6
Energy Saver - Softone	1	12.0	12.00	113.5	1.4
Multitube CFL - 11W	17	11.0	187.00	113.5	21.2
MR16 3X CREE LED Spot	59	4.0	236.00	113.5	26.8
AR111 - 50W	10	50.0	500.00	113.5	56.8
<b>Totals</b>	<b>115</b>	<b>110.00</b>	<b>1,547.00</b>		<b>175.57</b>

### Bar Toilets

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	22	29.0	638.00	113.5	72.4
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.7
<b>Totals</b>	<b>23</b>	<b>35.00</b>	<b>644.00</b>		<b>73.09</b>

### Corridor from foyer

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.4
PLC / DE Fluorescent - 4 Pin - 26W	53	29.0	1,537.00	113.5	174.4
MR16 3X CREE LED Spot	2	4.0	8.00	113.5	0.9
<b>Totals</b>	<b>57</b>	<b>39.00</b>	<b>1,557.00</b>		<b>176.70</b>

### Courts corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	46	29.0	1,334.00	113.5	151.4
T5 Exit Box - 6W	3	6.0	18.00	113.5	2.0
<b>Totals</b>	<b>49</b>	<b>35.00</b>	<b>1,352.00</b>		<b>153.44</b>

## Appendix B - Replacement Lamp Statistics

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### Courts upper viewing

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	14	29.0	406.00	113.5	46.1
2D Lamp Fluorescent - 28W	2	30.0	60.00	113.5	6.8
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.4
<b>Totals</b>	<b>18</b>	<b>65.00</b>	<b>478.00</b>		<b>54.25</b>

### Creche

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLL Fluorescent - 533mm	27	55.0	1,485.00	113.5	168.5
<b>Totals</b>	<b>27</b>	<b>55.00</b>	<b>1,485.00</b>		<b>168.54</b>

### Female locker

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	94	29.0	2,726.00	113.5	309.4
MR16 3X CREE LED Spot	8	4.0	32.00	113.5	3.6
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.4
<b>Totals</b>	<b>104</b>	<b>39.00</b>	<b>2,770.00</b>		<b>314.39</b>

### Female locker toilets

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	113.5	39.5
4 Foot T8 LED Tube	2	15.0	30.00	113.5	3.4
<b>Totals</b>	<b>14</b>	<b>44.00</b>	<b>378.00</b>		<b>42.89</b>

### Foyer

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
MR16 3X CREE LED Spot	9	4.0	36.00	60.0	2.2
PLC / DE Fluorescent - 4 Pin - 26W	28	29.0	812.00	113.5	92.2
PLL Fluorescent - 217mm - 18W	10	18.0	180.00	113.5	20.4
<b>Totals</b>	<b>47</b>	<b>51.00</b>	<b>1,028.00</b>		<b>114.75</b>

## Appendix B - Replacement Lamp Statistics

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### Foyer offices

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	6	29.0	174.00	113.5	19.7
2 Foot T8 LED Tube	12	8.0	96.00	113.5	10.9
<b>Totals</b>	<b>18</b>	<b>37.00</b>	<b>270.00</b>		<b>30.63</b>

### Front Entrance

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	16	29.0	464.00	113.5	52.7
<b>Totals</b>	<b>16</b>	<b>29.00</b>	<b>464.00</b>		<b>52.66</b>

### Gym

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
CDMT Powerball - 70W	40	70.0	2,800.00	113.5	317.8
AR111 - 50W	36	50.0	1,800.00	113.5	204.3
2D Lamp Fluorescent - 28W	10	30.0	300.00	113.5	34.0
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.7
<b>Totals</b>	<b>87</b>	<b>156.00</b>	<b>4,906.00</b>		<b>556.82</b>

### Gym office

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
MR16 3X CREE LED Spot	2	4.0	8.00	113.5	0.9
<b>Totals</b>	<b>2</b>	<b>4.00</b>	<b>8.00</b>		<b>0.90</b>

### Gym rest area

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	1	29.0	29.00	113.5	3.3
MR16 3X CREE LED Spot	1	4.0	4.00	113.5	0.5
<b>Totals</b>	<b>2</b>	<b>33.00</b>	<b>33.00</b>		<b>3.74</b>

## Appendix B - Replacement Lamp Statistics

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### Hair dressers

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	8	29.0	232.00	113.5	26.3
4 Foot T8 LED Tube	4	15.0	60.00	113.5	6.8
<b>Totals</b>	<b>12</b>	<b>44.00</b>	<b>292.00</b>		<b>33.14</b>

### Health & Beauty

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
MR16 3X CREE LED Spot	6	4.0	24.00	70.0	1.7
PLC / DE Fluorescent - 4 Pin - 26W	16	29.0	464.00	70.0	32.5
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.7
<b>Totals</b>	<b>23</b>	<b>39.00</b>	<b>494.00</b>		<b>34.83</b>

### Indoor tennis courts

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
6 Foot T8 LED Tube	1,008	24.0	24,192.00	113.5	2,745.8
<b>Totals</b>	<b>1,008</b>	<b>24.00</b>	<b>24,192.00</b>		<b>2,745.79</b>

### Kitchen

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 LED Tube	24	20.0	480.00	113.5	54.5
<b>Totals</b>	<b>24</b>	<b>20.00</b>	<b>480.00</b>		<b>54.48</b>

### Kitchen fire exit

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.4
PLC / DE Fluorescent - 4 Pin - 26W	14	29.0	406.00	113.5	46.1
<b>Totals</b>	<b>16</b>	<b>35.00</b>	<b>418.00</b>		<b>47.44</b>

### Lower plant

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 LED Tube	8	20.0	160.00	113.5	18.2
<b>Totals</b>	<b>8</b>	<b>20.00</b>	<b>160.00</b>		<b>18.16</b>

## Appendix B - Replacement Lamp Statistics

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### Male locker room

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.4
PLC / DE Fluorescent - 4 Pin - 26W	94	29.0	2,726.00	113.5	309.4
MR16 3X CREE LED Spot	8	4.0	32.00	113.5	3.6
<b>Totals</b>	<b>104</b>	<b>39.00</b>	<b>2,770.00</b>		<b>314.39</b>

### Male locker toilets

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
4 Foot T8 LED Tube	2	15.0	30.00	113.5	3.4
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	113.5	39.5
<b>Totals</b>	<b>14</b>	<b>44.00</b>	<b>378.00</b>		<b>42.89</b>

### Misc store room

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 LED Tube	2	20.0	40.00	113.5	4.5
<b>Totals</b>	<b>2</b>	<b>20.00</b>	<b>40.00</b>		<b>4.54</b>

### Pool

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	56	29.0	1,624.00	113.5	184.3
<b>Totals</b>	<b>56</b>	<b>29.00</b>	<b>1,624.00</b>		<b>184.32</b>

### Side office 1

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
2 Foot T8 LED Tube	8	8.0	64.00	70.0	4.5
<b>Totals</b>	<b>8</b>	<b>8.00</b>	<b>64.00</b>		<b>4.48</b>

### Sports Hall

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
6 Foot T8 LED Tube	75	24.0	1,800.00	113.5	204.3
T5 Exit Box - 6W	1	6.0	6.00	113.5	0.7
<b>Totals</b>	<b>76</b>	<b>30.00</b>	<b>1,806.00</b>		<b>204.98</b>

## Appendix B - Replacement Lamp Statistics

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### Squash court corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	26	29.0	754.00	113.5	85.6
T5 Exit Box - 6W	2	6.0	12.00	113.5	1.4
2D Lamp Fluorescent - 28W	1	30.0	30.00	113.5	3.4
<b>Totals</b>	<b>29</b>	<b>65.00</b>	<b>796.00</b>		<b>90.33</b>

### Squash courts 1 - 3

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
6 Foot T8 LED Tube	54	24.0	1,296.00	113.5	147.1
<b>Totals</b>	<b>54</b>	<b>24.00</b>	<b>1,296.00</b>		<b>147.09</b>

### Stairs to studio & gym

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
MR16 3X CREE LED Spot	2	4.0	8.00	113.5	0.9
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	113.5	39.5
<b>Totals</b>	<b>14</b>	<b>33.00</b>	<b>356.00</b>		<b>40.39</b>

### Studio 1

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
T5 Exit Box - 6W	1	6.0	6.00	70.0	0.4
4 Foot T5 Tube - 28W	40	28.0	1,120.00	70.0	78.4
Multitube CFL - 11W	5	11.0	55.00	70.0	3.9
<b>Totals</b>	<b>46</b>	<b>45.00</b>	<b>1,181.00</b>		<b>82.67</b>

### Studio corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	28	29.0	812.00	113.5	92.2
<b>Totals</b>	<b>28</b>	<b>29.00</b>	<b>812.00</b>		<b>92.16</b>



## Appendix B - Replacement Lamp Statistics

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### Upper office corridor

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	24	29.0	696.00	113.5	79.0
<b>Totals</b>	<b>24</b>	<b>29.00</b>	<b>696.00</b>		<b>78.99</b>

### Upper offices

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	12	29.0	348.00	70.0	24.4
PLC / DE Fluorescent - 4 Pin - 26W	16	29.0	464.00	70.0	32.5
PLC / DE Fluorescent - 4 Pin - 26W	32	29.0	928.00	70.0	65.0
PLC / DE Fluorescent - 4 Pin - 26W	8	29.0	232.00	70.0	16.2
<b>Totals</b>	<b>68</b>	<b>116.00</b>	<b>1,972.00</b>		<b>138.01</b>

### Upper plant room

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
5 Foot T8 LED Tube	12	20.0	240.00	113.5	27.2
<b>Totals</b>	<b>12</b>	<b>20.00</b>	<b>240.00</b>		<b>27.24</b>

### Upper staff room 1

Lamp Description	Quantity	Power	Total Power	On Time	Weekly kWh
PLC / DE Fluorescent - 4 Pin - 26W	14	29.0	406.00	113.5	46.1
<b>Totals</b>	<b>14</b>	<b>29.00</b>	<b>406.00</b>		<b>46.08</b>