



ENERGY USAGE COMPARISON TABLE

Rasmi LED Lighting Ltd has set up two office areas in order to compare the costs of traditional lighting to LED equivalent replacements.

These showrooms represent typical office working environments into which we have installed both traditional and LED lighting. We use energy monitors and LUX level meters to compare respective performances.

The table below shows actual measurements taken in the two office areas and indicates theoretical annual energy consumption at four differing daily usage rates.

LARGE OFFICE AREA										
Description	Installed Quantity	Energy Use kWh	Average LUX Level	CRI	CCT (K)	Annual Energy Consumption kWh based on average usage				
						Type 1	Type 2	Type 3	Type 4	Type 5
TRADITIONAL LIGHTING										
4 x 18W Fluorescent CAT2	20	1.5	650	81	3966	2700	3375	4500	9828	13104
2 x 26W CFL	20	1.11	470	75	4272	1998	2498	3330	7273	9697
LED LIGHTING										
4 x 9W LED Tubes	20	0.73	610	81	4315	1314	1643	2190	4783	6377
600 x 600mm LED Panel	20	0.84	700	82	4052	1512	1890	2520	5504	7338
30W LED Downlight	20	0.62	571	82	6158	1116	1395	1860	4062	5416
SPOT LIGHTING										
50W GU10 Halogen	20	1.08	370	99	2768	1944	2430	3240	7076	9435
5W GU10 LED	20	0.102	456	81	4375	184	230	306	668	891

TYPE 1 - Schools, 9 hours/day, 5 days/week, 40 weeks/year (1800 Hours)

(North Durham Academy, Consett Academy, Durham Johnston Comprehensive School)

TYPE 2 - Typical office, 9 hours/day, 5 days/week, 50 weeks/year. (2250 Hours)

(Durham County Council - County Hall, Customer Access Points)

TYPE 3 - Public Buildings, 10 hours/day, 6 days/week, 50 weeks/year. (3000 Hours)

(Libraries, Register Offices)

TYPE 4 - Amenities, 18 hours/day, 7 days/week, 52 weeks/year. (6552 Hours)

(Sports Centres, Swimming Baths)

TYPE 5 - Hospitals, 24 hours/day, 7 days/week, 52 weeks/year. (8736 Hours)

(University Hospital of North Durham, Shotley Bridge Community Hospital)

All customers can visit our demonstration offices to see these results for themselves.



ENERGY COST COMPARISON TABLE

Please find below the cost savings of using our equivalent LED replacements.

The calculations in this table are based on an typical cost of £0.108 per kWh.

LARGE OFFICE AREA										
Description	Installed Quantity	Energy Use kWh	Average LUX Level	CRI	CCT (K)	Annual Energy Cost based on average usage				
						Type 1	Type 2	Type 3	Type 4	Type 5
TRADITIONAL LIGHTING										
4 x 18W Fluorescent CAT2	20	1.5	650	81	3966	£292	£365	£486	£1,061	£1,415
2 x 26W CFL	20	1.11	470	75	4272	£216	£270	£360	£785	£1,047
LED LIGHTING										
4 x 9W LED Tubes	20	0.73	610	81	4315	£142	£177	£237	£517	£689
600 x 600mm LED Panel	20	0.84	700	82	4052	£163	£204	£272	£594	£793
30W LED Downlight	20	0.62	571	82	6158	£121	£151	£201	£439	£585
SPOT LIGHTING										
50W GU10 Halogen	20	1.08	370	99	2768	£210	£262	£350	£764	£1,019
5W GU10 LED	20	0.102	456	81	4375	£20	£25	£33	£72	£96

As well as the energy savings indicated above, there is also the following savings.

MAINTENANCE / REPLACEMENT COSTS

LED replacements will typically last 5 times longer than traditional lighting.

This reduces the need for maintenance and lengthens the time between lamp replacement.

REDUCTION IN UNITS REQUIRED

Due to high performance of the LED replacements, the same LUX level can be achieved with fewer fittings.

All units supplied by RASMI have an unconditional guarantee of three years.



SAVINGS IN A THREE YEAR PERIOD

LARGE OFFICE AREA				
Description	From	To	Total Reduction	Percentage Saving
4 x 9W LED TUBES				
TYPE 1	£292	£142	£150	51%
TYPE 2	£365	£177	£188	
TYPE 3	£486	£237	£249	
TYPE 4	£1,061	£517	£544	
TYPE 5	£1,415	£689	£726	
600 x 600mm LED Panel				
TYPE 1	£292	£163	£129	44%
TYPE 2	£365	£204	£161	
TYPE 3	£486	£272	£214	
TYPE 4	£1,061	£594	£467	
TYPE 5	£1,415	£793	£622	
30W LED Downlights				
TYPE 1	£292	£121	£171	59%
TYPE 2	£365	£151	£214	
TYPE 3	£486	£201	£285	
TYPE 4	£1,061	£439	£622	
TYPE 5	£1,415	£585	£830	



TRADITIONAL & LED LIGHTING



4 x 18W Fluorescent CAT2

Watts	1500	CRI	81
LUX	650	CC	3966



2 x 26W CFL

Watts	1110	CRI	75
LUX	470	CT	4272



4 x 9W LED Tubes

Watts	730	CRI	81
LUX	610	CCT	4315



600 x 600mm LED Panel

Watts	840	CRI	79
LUX	700	CCT	4052



30W LED Downlight

Watts	620	CRI	82
LUX	571	CCT	6158



50W GU10 Halogen Spot Lighting

Watts	1080	CRI	99
LUX	370	CCT	2768



5W GU10 LED Spot Lighting

Watts	102	CRI	81
LUX	456	CCT	4375



SMALL OFFICE EXAMPLE

In our small office demonstration we show the improved lighting that our LED panels produce. This utilises fewer fittings than traditional fluorescent luminaires.

Fitting fewer, better performing and more efficient LED luminaires reduces overall cost further by lowering fitting, maintenance and energy costs.

SMALL OFFICE AREA										
Description	Installed Quantity	Energy Use kWh	Average LUX Level	CRI	CCT (K)	Annual Energy Consumption kWh based on average usage				
						Type 1	Type 2	Type 3	Type 4	Type 5
4 x 18W Fluorescent CAT2	6	0.43	510	80	3966	774	968	1290	2817	3756
600 x 600m LED Panel	4	0.19	596	82	3959	342	428	570	1245	1660

SMALL OFFICE AREA										
Description	Installed Quantity	Energy Use kWh	Average LUX Level	CRI	CCT (K)	Annual Energy Cost based on average usage				
						Type 1	Type 2	Type 3	Type 4	Type 5
4 x 18W Fluorescent CAT2	6	0.43	510	80	3966	£84	£104	£139	£304	£406
600 x 600m LED Panel	4	0.19	596	82	3959	£37	£46	£62	£134	£179

SAVINGS IN A THREE YEAR PERIOD				
Description	From	To	Total Reduction	Percentage Saving
TYPE 1	£252	£111	£141	56%
TYPE 2	£312	£138	£174	
TYPE 3	£417	£186	£231	
TYPE 4	£912	£402	£510	
TYPE 5	£1218	£537	£681	

As shown in the report, significant energy savings can be made using LED solutions over three years. These savings can be demonstrated in our show rooms.

Our three year guarantee means there will be no additional replacement costs during the first three years in operation. Also Rasmi has experienced electricians who can assist your existing staff when replacing any units.

As well as the energy savings, the following savings can also be made;

- Reduced amount of fittings
The LED solution is more efficient so fewer fittings are required to produce the same amount of light.
For example in the small showroom six traditional fittings are replaced by four LED fittings.
- Reduced maintenance costs
The LED solutions need replacing less often than traditional solutions due to longer lamp longevity.
This saving is significant, but difficult to value as it depends on many factors.

The direct energy savings themselves mean that the cost of the fittings can be reclaimed well within three years and sometimes within one year depending on your needs.

The fittings will operate for 30,000 hours, so further saving will continue to be made into the future.

For public sector bodies the Rasmi lighting solution goes a long way in helping to achieve the government targets of 40% energy and carbon footprint reductions by the end of 2015.

There are many options to pay for the new LED fittings. For example some payment can be deferred until the savings are realised or payment can be arranged to fit with your financial requirements.