



McDonalds Restaurants Ltd installed QuarterLites in the training area of their East Finchley, London HQ. QL4 Quarterlites were fitted in the rotating menu signs above the counters.

The QL4's use the latest high power LEDs to reduce energy consumption by 69%. The light output more than matched the fluorescent tubes they were replacing in this high (ambient) brightness area. They require no maintenance for over 50,000 hours.

**Energy saving 69%**

**Maintenance free 6.2 years**



The installation used two specially manufactured brackets to fit the existing rotating menu signs. These had 3 or 6 QL4 lights, LED drivers and used the same fixings as the fluorescent brackets they were replacing. White vinyl was applied to the ends of each light fitting to increase internal reflection

### QL4 Specification:



Light output	400 - 428 Lm
Half life	50,000 + hours
Input current	350mA, 4-12v, 4w
Wave guides	Silver ABS plastic
Heat Sink	Aluminium
Op/temperature	Ambient + 6° C
Size	80 x 80 x 24 mm
Weight	75 g
Guarantee	2 years

Fluorescent	Qty	Item	Wh	Wh	22/365	Total	CO2	Carbon	
Size			Unit	Total	kWh	5Y	Kgs	Kgs	
2 x 600	4	18"Fluorescent tubes	15	60	482	247.26			
5 x 1200	10	4'Fluorescent tubes	36	360	2,891	1483.56			
	12	Ballast	10	120	964	494.52			
<b>Total kWh per year</b>					<b>4,336</b>	<b>1812.10</b>			
					NewTubes	186.00			
					Tube Disposal	156.70			
<b>Total cost</b>						<b>£2,134.80</b>	<b>11,643</b>	<b>3,176</b>	
QuarterLite	Qty	Item	Wh	Wh	22/365	Total	CO2	Carbon	
Size			Unit	Total	kWh	5Y	Kgs	Kgs	
2 x 600	2	QL-M600	14	28	225	115.39			
5 x 1200	5	QL-M1200	27	135	1,084	556.33			
<b>Total kWh per year</b>					<b>1,309</b>	<b>671.72</b>			
<b>Total cost</b>						<b>£671.72</b>	<b>3,514</b>	<b>959</b>	
					<b>Saving</b>	<b>3,027</b>	<b>£1,463.08</b>	<b>8,128</b>	<b>2,218</b>
					<b>69.81%</b>	<b>68.53%</b>	<b>69.81%</b>	<b>69.81%</b>	

### Key:

Wh (Unit) = Watts of electricity used per hour by each tube or QL4

Wh (Total) = Qty x Wh (unit)

12/365\* (kWh) = Wh (total) x 12 hours x 365 days / 1000 = kWh per year

Energy (cost 5/Y) = kWh x cost of energy\*\* of 5 years.

CO2 = The amount of CO2 (Kgs) produced as a result of generating the Total kWh per year

Carbon = the equivalent Carbon (Kgs) produced from the Total kWh per year

Total kWh per year = Total energy use in 1 year for each lighting system

New Tubes / Disposal = cost of replacing and disposing of fluorescent tubes over 5 years

Saving = difference between the two lighting systems in kWh, Energy costs, CO2 and Carbon (note: This excludes the savings in maintenance)

\*\*Over 6.2 years maintenance free. \*Energy cost forecasts from UK Government source.

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