LED vs. Incandescent: Return on Investment (ROI) Analysis

9.5 Watt, 800 lumen LED (60 Watt equivalent) vs. 60 Watt, 860 lumen A19 incandescent

* Comparisons with fluorescent bulbs is a seperate conversation and gets into materials used, etc.

NYC kWh Costs: 2012-12	Cents per kWh
Supply	10.5662
Delivery	11.7591
SBC/RPS	0.4968
Temporary NY State Surcharge	0.4678
Total Cost	**23.2899**

$s per kWh (approximate)	0.23

Comparison:	A19 Incandescent	LED
Lumens	860	800
Watts	60	9.5
Lifetime in hours	1,000	25,000
Watts per LED bulb life	1,500,000	237,500
KW per LED bulb life	1,500	238
Cost to run per LED bulb life	$ 345.00	$ 54.63
Cost per bulb	$ 1.73	$ 11.00
Number of bulbs per LED bulb life	25	1
Cost of bulbs	$ 43.25	$ 11.00
Labor to change bulbs	more	less

LED vs. Incandecent Delta	
Slightly less	
Fewer Watts used	50.5
Fewer Watts	1,262,500
Fewer KiloWatts	1,262.5
kWh saving	**$ 290.38**
Saving on bulbs	**$ 32.25**
Save per LED	**$ 322.63**

* ROI is higher if we factor in labor saved changing bulbs less frequently

How fast we get the ROI

Average hours per day	Hours per year	Watts saved per hour	Watts saved/year	kWh saved/year	$/kWh	$ Saved/year	Bulb years of life
1	365.25	50.50	18,445	18.445	0.23	$ 4.24	68.4
2	730.50	50.50	36,890	36.890	0.23	$ 8.48	34.2
3	1,095.75	50.50	55,335	55.335	0.23	$ 12.73	22.8
4	1,461.00	50.50	73,781	73.781	0.23	$ 16.97	17.1
5	1,826.25	50.50	92,226	92.226	0.23	$ 21.21	13.7
6	2,191.50	50.50	110,671	110.671	0.23	$ 25.45	11.4
7	2,556.75	50.50	129,116	129.116	0.23	$ 29.70	9.8
8	2,922.00	50.50	147,561	147.561	0.23	$ 33.94	8.6
9	3,287.25	50.50	166,006	166.006	0.23	$ 38.18	7.6
10	3,652.50	50.50	184,451	184.451	0.23	$ 42.42	6.8
11	4,017.75	50.50	202,896	202.896	0.23	$ 46.67	6.2
12	4,383.00	50.50	221,342	221.342	0.23	$ 50.91	5.7
13	4,748.25	50.50	239,787	239.787	0.23	$ 55.15	5.3
14	5,113.50	50.50	258,232	258.232	0.23	$ 59.39	4.9
15	5,478.75	50.50	276,677	276.677	0.23	$ 63.64	4.6
16	5,844.00	50.50	295,122	295.122	0.23	$ 67.88	4.3
17	6,209.25	50.50	313,567	313.567	0.23	$ 72.12	4.0
18	6,574.50	50.50	332,012	332.012	0.23	$ 76.36	3.8
19	6,939.75	50.50	350,457	350.457	0.23	$ 80.61	3.6
20	7,305.00	50.50	368,903	368.903	0.23	$ 84.85	3.4
21	7,670.25	50.50	387,348	387.348	0.23	$ 89.09	3.3
22	8,035.50	50.50	405,793	405.793	0.23	$ 93.33	3.1
23	8,400.75	50.50	424,238	424.238	0.23	$ 97.57	3.0
24	8,766.00	50.50	442,683	442.683	0.23	$ 101.82	2.9

Tony White Designs, Inc. 718-797-4175 tony_white@twdesigns.com twdesigns.com