

Appendix: Comparison of T12, T8, TLED vs Alec Smart LED Conversion Kit



Application: **Enclosed Office:** 60 hrs/Week = 3120 hrs / year. Light Turned OFF after 20 min of vacancy

Currently Installed Fixture Type: **4-Tube** Fluorescent Lamps

Local Electricity Rate - Please enter your local rate (include all taxes and fees) **\$0.20** /kWh

1. Technology Comparison (Assume Ballast Factor = 1.0. T8-LED (17W) power adjusted to ballast factor 1.0 = 22W)

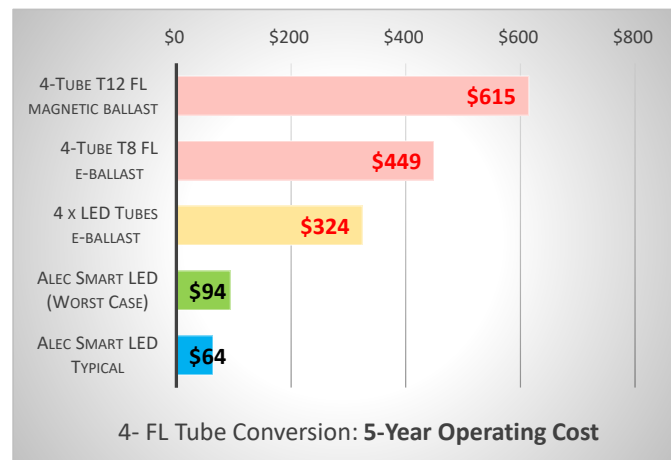
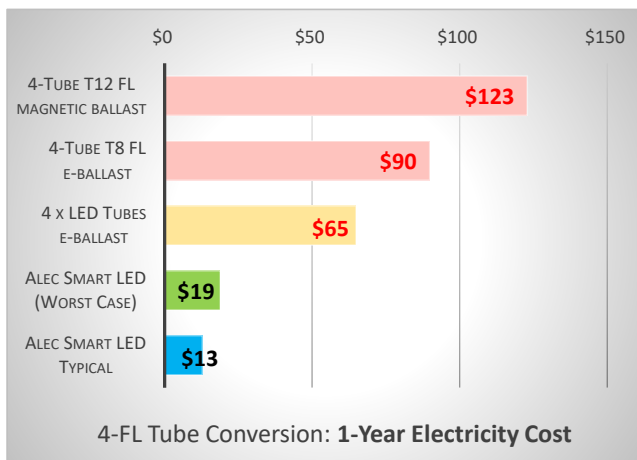
	T12 FL-40W magnetic ballast	T8 FL-32W e-ballast	T8-LED Tube-17W e-ballast factored	Alec Smart LED Conversion (SLC) Model SLC-24F40WDXXK
Lamp Power : 4-Tube FL	40Wx4 = 160W	32Wx4 = 128W	22W x 4 = 88W	1 to 40W ¹
Automatic Dimming	No	No	No	YES (0-100%)
Tube life	15000 hrs	25000 hrs	50000 hrs (L70)	> 50000 hrs
Ballast life	50000 hrs	20000 hrs	20000 hrs	n/a

¹ The maximum power limit can be set by the software app

2. Energy Evaluation:

	4-Tube T12 FL magnetic ballast	4-Tube T8 FL e-ballast	4 x LED Tubes e-ballast	Alec Smart LED (Worst Case)	Alec Smart LED Typical
Operating Conditions					
Annual Operating Hours	3120	3120	3120	3120	3120
Ballast Factor	1.00	1.00	1.00	-	-
Ballast power lost ²	37W	16W	16W	-	-
Maximum power (occupied)	160W	128W	88W	40W	40W
Minimum power (vacant or with daylight)	160W	128W	88W	1W	1W
% of time the light @ Full Brightness	100%	100%	100%	75%	50%
Average power	197W	144W	104W	30.3W	20.5W
1-year Operating cost					
Total Energy (kWh)	615 kWh	449 kWh	324 kWh	94 kWh	64 kWh
Electricity Cost @rate: \$0.20/kWh	\$123	\$90	\$65	\$19	\$13
5-year Operating cost					
Electricity Cost	\$615	\$449	\$324	\$94	\$64
No. of ballast replaced	0	0	0	0	0
No. of tubes replaced	0	0	0	0	0
Near end of life after 5 years	No	No	No	No	No
Ballast replacement (parts+labour)	\$0	\$0	\$0	\$0	\$0
Tube replacement (parts+labour)	\$0	\$0	\$0	0	0
Total 5-year Operating Costs	\$615	\$449	\$324	\$94	\$64

² https://www.ehow.com/info_12210865_much-wattage-ballast-lose.html



Appendix: Comparison of T12, T8, TLED vs Alec Smart LED Conversion Kit



Application: **Enclosed Office:** 60 hrs/Week = 3120 hrs / year. Light Turned OFF after 20 min of vacancy

Currently Installed Fixture Type: **3-Tube** Fluorescent Lamps

Local Electricity Rate - Please enter your local rate (include all taxes and fees) **\$0.20** /kWh

1. Technology Comparison (Assume Ballast Factor = 1.0. T8-LED (rated 17W) power adjusted to ballast factor 1.0 = 22W)

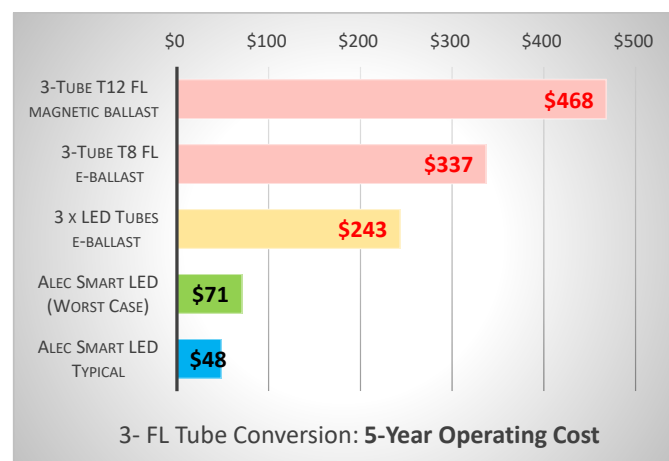
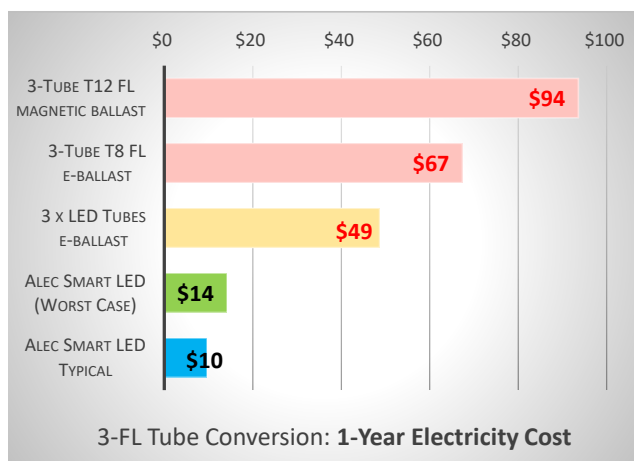
	T12 FL-40W magnetic ballast	T8 FL-32W e-ballast	T8-LED Tube-17W e-ballast factored	Alec Smart LED Conversion (SLC) Model SLC-24F40WDXXK
Lamp Power : 3-Tube FL	40Wx3 = 120W	32Wx3 = 96W	22W x 3 = 66W	1 to 40W ¹
Automatic Dimming	No	No	No	YES (0-100%)
Tube life	15000 hrs	25000 hrs	50000 hrs (L70)	> 50000 hrs
Ballast life	50000 hrs	20000 hrs	20000 hrs	n/a

¹ The maximum power limit can be set by the software app

2. Energy Evaluation:

	3-Tube T12 FL magnetic ballast	3-Tube T8 FL e-ballast	3 x LED Tubes e-ballast	Alec Smart LED (Worst Case)	Alec Smart LED Typical
Operating Conditions					
Annual Operating Hours	3120	3120	3120	3120	3120
Ballast Factor	1.00	1.00	1.00	-	-
Ballast power lost ²	30W	12W	12W	-	-
Maximum power (occupied)	120W	96W	66W	30W	30W
Minimum power (vacant or with daylight)	120W	96W	66W	1W	1W
% of time the light @ Full Brightness	100%	100%	100%	75%	50%
Average power	150W	108W	78W	22.8W	15.5W
1-year Operating cost					
Total Energy (kWh)	468 kWh	337 kWh	243 kWh	71 kWh	48 kWh
Electricity Cost @rate: \$0.20/kWh	\$94	\$67	\$49	\$14	\$10
5-year Operating cost					
Electricity Cost	\$468	\$337	\$243	\$71	\$48
No. of ballast replaced	0	0	0	0	0
No. of tubes replaced	0	0	0	0	0
Near end of life after 5 years	No	No	No	No	No
Ballast replacement (parts+labour)	\$0	\$0	\$0	\$0	\$0
Tube replacement (parts+labour)	\$0	\$0	\$0	0	0
Total 5-year Operating Costs	\$468	\$337	\$243	\$71	\$48

² https://www.ehow.com/info_12210865_much-wattage-ballast-lose.html



Appendix: Comparison of T12, T8, TLED vs Alec Smart LED Conversion Kit



Application: **Enclosed Office:** 60 hrs/Week = 3120 hrs / year. Light Turned OFF after 20 min of vacancy

Currently Installed Fixture Type: **2-Tube** Fluorescent Lamps

Local Electricity Rate - Please enter your local rate (include all taxes and fees) **\$0.20** /kWh

1. Technology Comparison (Assume Ballast Factor = 1.0. T8-LED (rated 17W) power adjusted to ballast factor 1.0 = 22W)

	T12 FL-40W magnetic ballast	T8 FL-32W e-ballast	T8-LED Tube-17W e-ballast factored	Alec Smart LED Conversion (SLC) Model SLC-24F40WDXXK
Lamp Power : 2-Tube FL	40Wx2 = 80W	32Wx2 = 64W	22W x 2 = 44W	1 to 40W ¹
Automatic Dimming	No	No	No	YES (0-100%)
Tube life	15000 hrs	25000 hrs	50000 hrs (L70)	> 50000 hrs
Ballast life	50000 hrs	20000 hrs	20000 hrs	n/a

¹ The maximum power limit can be set by the software app

2. Energy Evaluation:

	2-Tube T12 FL magnetic ballast	2-Tube T8 FL e-ballast	2 x LED Tubes e-ballast	Alec Smart LED (Worst Case)	Alec Smart LED Typical
Operating Conditions					
Annual Operating Hours	3120	3120	3120	3120	3120
Ballast Factor	1.00	1.00	1.00	-	-
Ballast power lost ²	22W	9W	9W	-	-
Maximum power (occupied)	80W	64W	44W	30W	25W
Minimum power (vacant or with daylight)	80W	64W	44W	1W	1W
% of time the light @ Full Brightness	100%	100%	100%	75%	50%
Average power	102W	73W	53W	22.8W	13.0W
1-year Operating cost					
Total Energy (kWh)	318 kWh	228 kWh	165 kWh	71 kWh	41 kWh
Electricity Cost @rate: \$0.20/kWh	\$64	\$46	\$33	\$14	\$8
5-year Operating cost					
Electricity Cost	\$318	\$228	\$165	\$71	\$41
No. of ballast replaced	0	0	0	0	0
No. of tubes replaced	0	0	0	0	0
Near end of life after 5 years	No	No	No	No	No
Ballast replacement (parts+labour)	\$0	\$0	\$0	\$0	\$0
Tube replacement (parts+labour)	\$0	\$0	\$0	0	0
Total 5-year Operating Costs	\$318	\$228	\$165	\$71	\$41

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