

**MAINTENANCE ENGINEERING'S**

# **HYBRID™**

## **LAMP & BALLAST SYSTEMS**

- **LED ALTERNATIVE**
- **COMBINES LED & FLUORESCENT TECHNOLOGIES**



**WHITER &  
BRIGHTER**

**UP TO 53% ENERGY  
SAVINGS**

**20-YEAR  
GUARANTEE**

# HYBRID™

## LAMP & BALLAST SYSTEMS

### IMPROVED LED PHOSPHOR TECHNOLOGY

Featuring  
**XTRABRITE™**  
TECHNOLOGY

RESIDENTIAL

## FLUORESCENT & LED

vs.

MAINTENANCE ENGINEERING'S

## HYBRID T8

DULL  
YELLOW LIGHT

WHITER &  
BRIGHTER

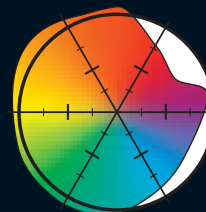


- DIM
- LOSES % 40% LIGHT OUTPUT
- DISTORTED COLOR

- % 54% BRIGHTER
- LESS THAN 5% LIGHT LOSS
- LIKE NATURAL SUNLIGHT

EXCESS

- 
- Excess Yellow
  - Causes Glare & Headaches
  - Deficient in Blue
  - Causes Eyestrain



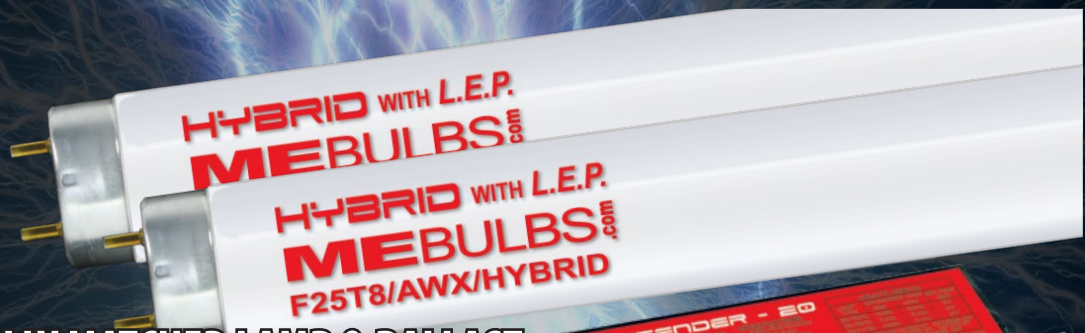
LIKE  
THE EYE  
NEEDS!



**UP TO 53% ENERGY SAVED**



**20 YEAR ELECTRONICS**



- ELECTRONICALLY MATCHED LAMP & BALLAST
- SOFT-START CIRCUITRY
- 20 YEAR LIGHT EMITTING PHOSPHORS (L.E.P.)

• 50,000-START TECHNOLOGY

**RESIDENTIAL L.E.D.S**

CAN BURN OUT AS EARLY AS 6 MONTHS

**6** MO. **30% LIGHT LOSS**

**RESIDENTIAL FLUORESCENTS**

CAN BURN OUT AS EARLY AS 1 YEAR

**1** YR. **40% LIGHT LOSS**

MAINTENANCE ENGINEERING'S

**HYBRID**™

LAMP & BALLAST

GUARANTEED

**20 YEARS**

**5% LIGHT LOSS**

**BEST IN LED & FLUORESCENT TECHNOLOGY**

# HYBRID™ SYSTEM

Best of LED & FLUORESCENT TECHNOLOGY

LED ALTERNATIVE

Compare

## RESIDENTIAL LED VS. M.E. HYBRID™

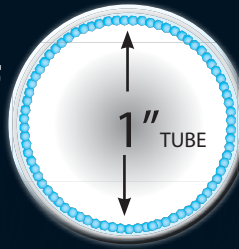
### LED 30% LIGHT LOSS

HOT TINY LED CHIP @500°F →

- HEAT DESTROYS PHOSPHOR
- 3 YR PHOSPHOR LIFE

### HYBRID™ Only 5% LIGHT LOSS

COOL TUBE 90°F



- 20 YEAR RARE EARTH LIGHT EMITTING PHOSPHORS (L.E.P.)

### LED UNNATURAL COLOR

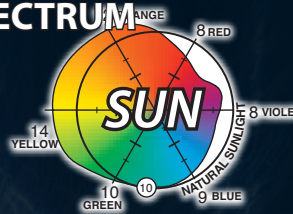
DISTORTED COLOR



- LIGHT HAS YELLOW-GREY COLOR

### HYBRID™ NATURAL LIGHT

FULL SPECTRUM



- WHITER BRIGHTER
- 85% APPROXIMATION OF SUNLIGHT
- CLOSEST TO NATURAL SUNLIGHT

### LED ENERGY SAVINGS

Same as

### HYBRID™ ENERGY SAVINGS

### LED DESIGNED TO FAIL - 3 YR

SHORT LIFE ELECTRONIC DRIVER



- 3 YEAR DESIGN

### HYBRID™ 20 YEAR DESIGN LIFE

ELECTRONICALLY MATCHED BALLAST & LAMP



- 50,000-START TECHNOLOGY

### RESIDENTIAL LED

CAN BURNOUT AS EARLY AS 6 MONTHS

6 MO. 30% LIGHT LOSS

M.E. HYBRID™  
GUARANTEED

20 YEARS

5% LIGHT LOSS

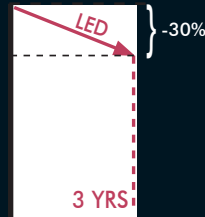


# MYTHS ABOUT SHORT LIFE LED TUBES



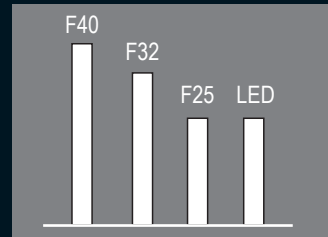
## MYTH #1 - LEDS LAST FOREVER

- FACT:**
- LEDS HAVE
    - 30% LIGHT LOSS
    - 6 MONTH TO 3 YEAR LIFE



## MYTH #2 - LEDS ARE BRIGHTER

- FACT:**
- LEDS ARE
    - 40% LESS THAN F40
    - 24% LESS THAN F32
    - SAME AS F25

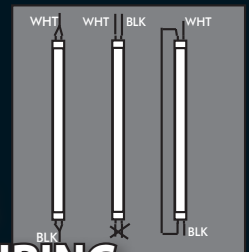


## MYTH #3 - LEDS SAVE ENERGY

- FACTS:**
- F32 COMPARED TO 22-watt LED
    - 24% ENERGY SAVINGS, BUT
    - 24% DIMMER!
  - ENERGY SAVINGS RESULTS IN LIGHT LOSS!

## MYTH #4 - LEDS ARE EASY TO INSTALL

- FACTS:**
- COMPLICATED WIRING
  - DANGEROUS LINE VOLTAGE AT SOCKETS
  - DIFFERENT WIRING BETWEEN SUPPLIERS
  - REPLACEMENT LAMPS MAY REQUIRE REWIRING



## MYTH #5 - LEDS PAY FOR THEMSELVES

- FACT:**
- 9-12 YEAR PAYBACK ON 3 YEAR LIFE!!!

# ENERGY & BRIGHTNESS GUIDE

## F40T12

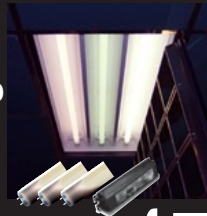
**4  
LAMP**



WHICH IS MORE IMPORTANT?

HYBRID™ SYSTEM	BRIGHTNESS	ENERGY	20YR SAVINGS	COMPONENT SAVINGS				
	% BRIGHTER VS. F40	% SAVED VS. F40	ENERGY+A/C+ LAMP+BALLAST+ LABOR TOTAL	ENERGY	A/C	LAMP + BALLAST	LABOR	
<b>CONVERT TO 4</b> 	<b>F25</b>	<b>+19%</b>	<b>53%</b>	<b>\$925</b>	\$273	\$114	\$340	\$198
	<b>F28</b>	<b>+33%</b>	<b>49%</b>	<b>\$890</b>	\$247	\$105	\$340	\$198
	<b>F32</b>	<b>+54%</b>	<b>39%</b>	<b>\$818</b>	\$197	\$83	\$340	\$198
<b>DELAMP TO 2</b> 	<b>F25</b>	<b>-40%</b>	<b>77%</b>	<b>\$1,090</b>	\$389	\$163	\$340	\$198
	<b>F28</b>	<b>-33%</b>	<b>75%</b>	<b>\$1,072</b>	\$376	\$158	\$340	\$198
	<b>F32</b>	<b>-23%</b>	<b>70%</b>	<b>\$1,035</b>	\$350	\$147	\$340	\$198

**3  
LAMP**



**CONVERT TO 3**

<b>F25</b>	<b>+19%</b>	<b>53%</b>	<b>\$616</b>	\$194	\$82	\$198	\$142
<b>F28</b>	<b>+33%</b>	<b>49%</b>	<b>\$586</b>	\$173	\$73	\$198	\$142
<b>F32</b>	<b>+54%</b>	<b>39%</b>	<b>\$560</b>	\$155	\$65	\$198	\$142
<b>DELAMP TO 2</b> 	<b>F25</b>	<b>-20%</b>	<b>\$713</b>	\$263	\$110	\$198	\$142
	<b>F28</b>	<b>-11%</b>	<b>\$695</b>	\$250	\$105	\$198	\$142
	<b>F32</b>	<b>+3%</b>	<b>60%</b>	<b>\$657</b>	\$223	\$94	\$198

**2  
LAMP**



**CONVERT TO 2**

<b>F25</b>	<b>+19%</b>	<b>53%</b>	<b>\$505</b>	\$136	\$57	\$170	\$142
<b>F28</b>	<b>+33%</b>	<b>49%</b>	<b>\$487</b>	\$123	\$52	\$170	\$142
<b>F32</b>	<b>+54%</b>	<b>39%</b>	<b>\$450</b>	\$97	\$41	\$170	\$142

**MAINTENANCE ENGINEERING RECOMMENDS DELAMPING WHEN IT IS OBVIOUSLY OVER-LIT.**

# ENERGY & BRIGHTNESS GUIDE

## F32T8

**4  
LAMP**



WHICH IS MORE IMPORTANT?

CONVERT TO 4



DELAMP TO 2



HYBRID™ SYSTEM	BRIGHTNESS	ENERGY	20YR SAVINGS ENERGY+A/C+ LAMP+BALLAST+ LABOR TOTAL	COMPONENT SAVINGS			
	% BRIGHTER VS. F32	% SAVED VS. F32		ENERGY	A/C	LAMP + BALLAST	LABOR
F25	+16%	25%	\$537	\$79	\$33	\$227	\$198
F28	+29%	17%	\$499	\$52	\$22	\$227	\$198
F32	+49%	SAME%	\$425	\$0	\$0	\$227	\$198
F25	-42%	63%	\$700	\$194	\$81	\$227	\$198
F28	-36%	58%	\$682	\$181	\$76	\$227	\$198
F32	-25%	50%	\$645	\$155	\$65	\$227	\$198

**3  
LAMP**



CONVERT TO 3



DELAMP TO 2



F25	+16%	25%	\$407	\$47	\$20	\$198	\$142
F28	+29%	17%	\$377	\$26	\$11	\$198	\$142
F32	+49%	SAME%	\$340	\$0	\$0	\$198	\$142
F25	-23%	50%	\$504	\$116	\$48	\$198	\$142
F28	-14%	44%	\$485	\$102	\$43	\$198	\$142
F32	SAME%	33%	\$448	\$76	\$32	\$198	\$142

**2  
LAMP**



CONVERT TO 2



F25	+16%	25%	\$368	\$39	\$17	\$170	\$142
F28	+29%	17%	\$349	\$26	\$11	\$170	\$142
F32	+49%	SAME%	\$312	\$0	\$0	\$170	\$142

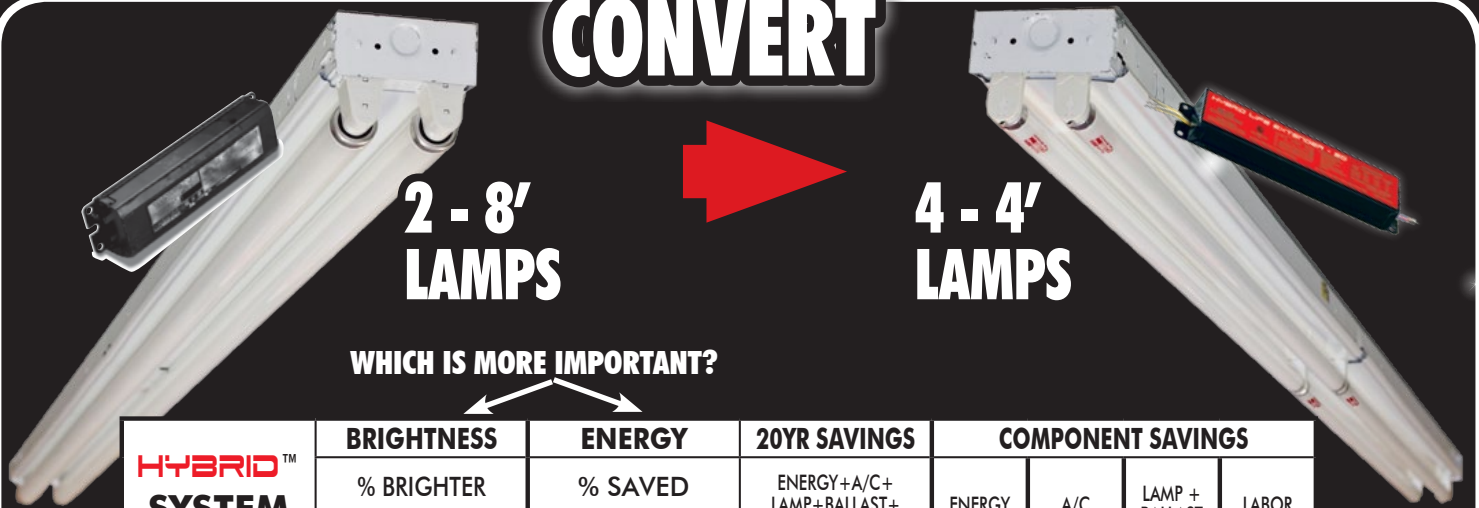
**MAINTENANCE ENGINEERING RECOMMENDS DELAMPING WHEN IT IS OBVIOUSLY OVER-LIT.**

BRIGHTNESS AND SAVINGS COMPARED TO 2-F32/730 59W SYSTEM, AND 2-F40T12/CWX 96W SYSTEM AT 12HR/DAY AT 15¢/KWh.

# ENERGY & BRIGHTNESS GUIDE

## 8' LAMPS SINGLE-PIN CONVERTING\* TO 4' HYBRID

### CONVERT



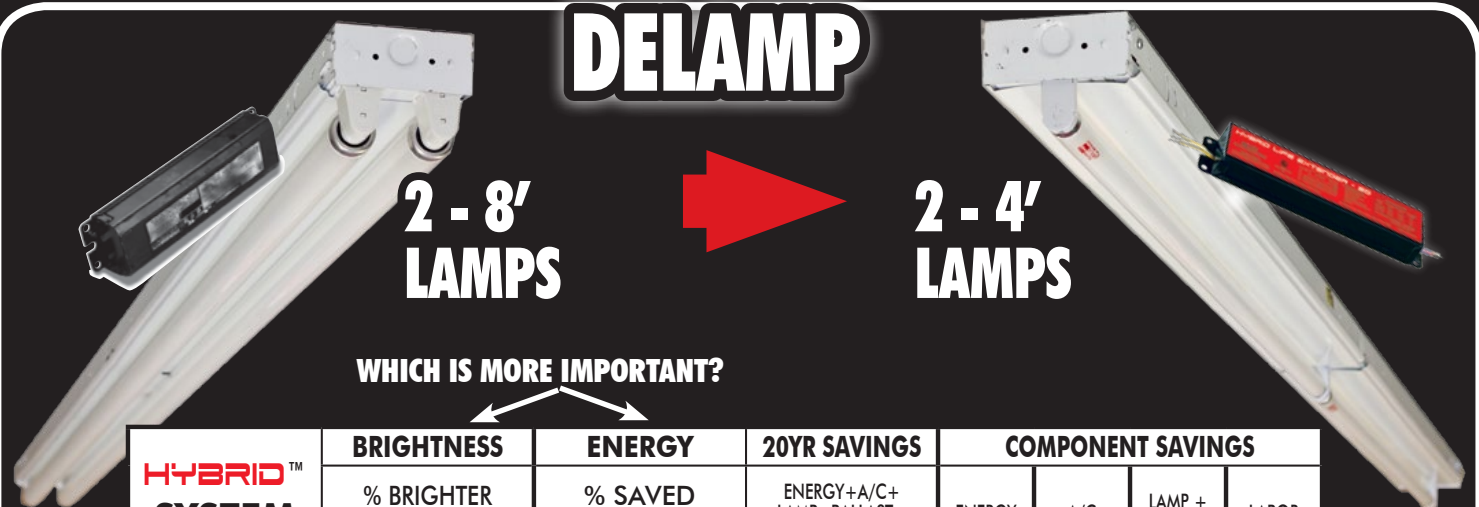
2 - 8'  
LAMPS

4 - 4'  
LAMPS

WHICH IS MORE IMPORTANT?

HYBRID™ SYSTEM	BRIGHTNESS	ENERGY	20YR SAVINGS	COMPONENT SAVINGS			
	% BRIGHTER vs. F96IS	% SAVED vs. F96IS	ENERGY+A/C+ LAMP+BALLAST+ LABOR TOTAL	ENERGY	A/C	LAMP + BALLAST	LABOR
F25	+17%	49%	\$1,202	\$223	\$94	\$502	\$383
F28	+59%	43%	\$1,165	\$197	\$83	\$502	\$383
F32	+84%	34%	\$1,091	\$145	\$61	\$502	\$383

### DELAMP



2 - 8'  
LAMPS

2 - 4'  
LAMPS

WHICH IS MORE IMPORTANT?

HYBRID™ SYSTEM	BRIGHTNESS	ENERGY	20YR SAVINGS	COMPONENT SAVINGS			
	% BRIGHTER vs. F96IS	% SAVED vs. F96IS	ENERGY+A/C+ LAMP+BALLAST+ LABOR TOTAL	ENERGY	A/C	LAMP + BALLAST	LABOR
F25	-42%	75%	\$1,366	\$339	\$142	\$502	\$383
F28	-35%	72%	\$1,348	\$326	\$137	\$502	\$383
F32	-25%	66%	\$1,310	\$299	\$126	\$502	\$383

\* SOCKET KITS FOR CONVERTING SINGLE PIN SOCKETS TO BIPIN SOCKETS SOLD SEPARATELY.  
MAINTENANCE ENGINEERING RECOMMENDS DELAMPING WHEN IT IS OBVIOUSLY OVER-LIT.