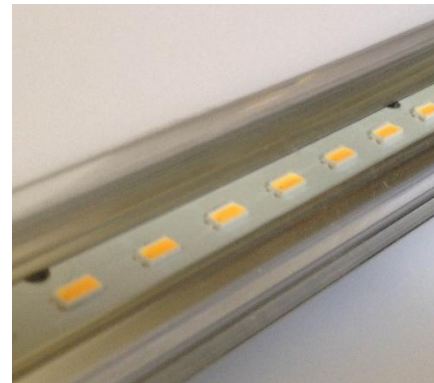


# Retro-Fit Kits

(most common - 2ft & 4ft)

# THE HIGH PERFORMANCE

*LED Replacement Series for Fluorescent Tubes, High Bays, and Parking Garages.*



## KEY FEATURES INCLUDE:



### Advanced Thermal Management

Industry Leading Deep Fin Heat Sinks with Aircraft Grade Aluminum and 9" (23cm) [min] of perimeter conductive surface.



### Multiple Color Options

Three color options ensure that the new lighting will match your current aesthetics, and allows for custom color options.



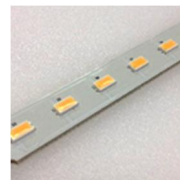
### 10 Year Warranty

Industry Leading 10 Year Warranty of operation on all LED Tubes and external drivers.



### Manufactured in America

With domestic and imported components. Factory: Southeastern PA. Higher quality control, faster delivery times, and new domestic job creation.

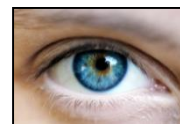


### Long Lasting LED Chips

Calculated  $L_{90}(10k) = 102kHrs$

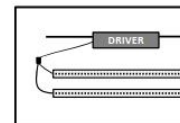


**Modular Design** A modular PC Boards allow for a wide range of sizes to be cost-effectively manufactured.



### High Color Rendering

Colors are enhanced due to the use of LEDs selected directly on the black body curve.



### Independent Class II Driver

Safety, improved thermal management, and extended lifetime are gained by locating the driver remote from the LED Tube.

INDEPENDENCE LED

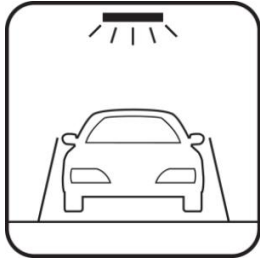


LED Lighting | Forged in America™

# Retro-Fit Kits

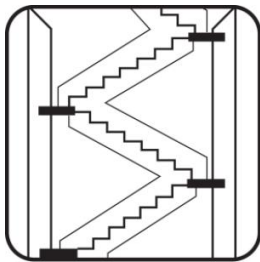
(most common - 2ft & 4ft)

## 24/7 APPLICATIONS



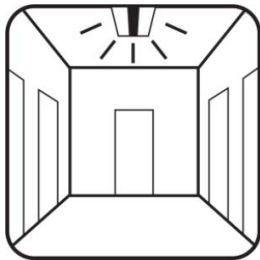
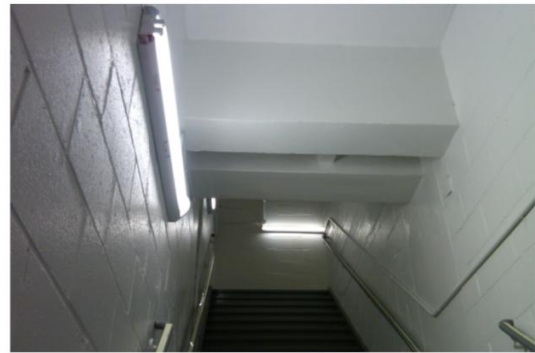
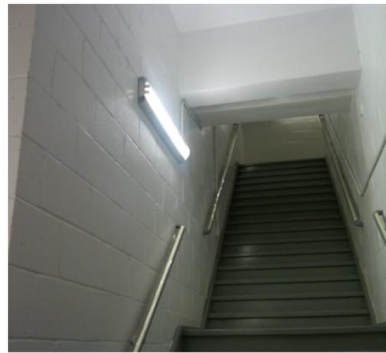
### PARKING

Structures, surface and underground garages



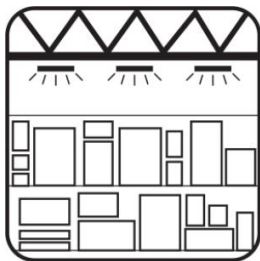
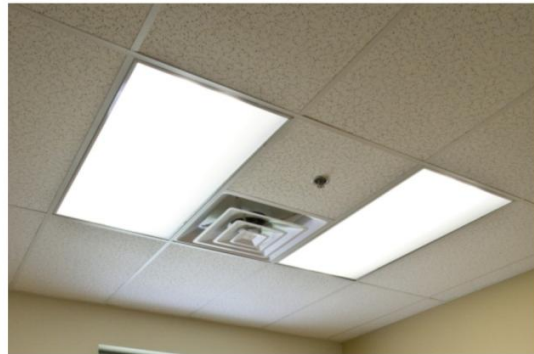
### STAIRWELL

24/7 fire stairs for any property type



### HALLWAY

Hotels, hospitals, multi-family & dorms



### INDUSTRIAL HIGH BAYS

Factories, warehouses & distribution centers



Philadelphia Headquarters: 487 Devon Park Drive, Suite 204, Wayne, PA 19087

[www.IndependenceLED.com](http://www.IndependenceLED.com) (484) 588-5401



# Retro-Fit Kits

(most common - 2ft & 4ft)

Specification Table		
Lamp Type	Linear LED Tube External Driver	
Base	Bi-Pin (G13)	
Environmental	Dry or damp locations only IP2X per EN60529	
Operation	V1	-4°F to 140°F/(-20°C to 60°C)
	V2	-25°F to >158°F/(-31°C to >70°C)
	V1PHA	-4°F to >122°F/(-20°C to >50°C)
Storage	-25°F to >185°F/(-31°C to >85°C)	
Wattage	See chart below <sup>10</sup>	
Input Voltage (nominal)	V1	100-277VAC 50/60Hz .32-.18A
	V2	100-277VAC 50/60Hz .8-.3A
	V1PHA	110-277VAC 50/60Hz .3-.15A
Power Factor (PF)	>0.9	
Total Harmonic Distortion (ATHD)	<20%	
Life Time	Retro-Fit Kit Rated Life >100kHrs LED Tube per TM-21 Calculated L <sub>70</sub> (10k) = 355kHrs <sup>13</sup> Calculated L <sub>90</sub> (10k) = 102kHrs <sup>13</sup> Reported L <sub>70</sub> (10k) >60kHrs LED Driver MTBF <sup>2</sup> >100kHrs, Full load, 25°C	
LM80 Data	NVLap Accreditation	
LED Type	SMD 5630	
Efficiency	>135lm/W <sup>8</sup> (See table below)	
Angle [nominal]	160°FW, 120°FWHM	
Energy Consumption [nominal]	16 kWh/1000 h	
Certifications	cUL, UL, FCC, ABS, CE	
Warranty <sup>15</sup>	LED Driver -	10 years
	LED Tube -	10 years
Dimming	V1, V2	0-10V
<20%-100%	V1PHA	Phase (ELV) <sup>9</sup> - Consult Factory
Tube Diameter in(mm) - (nominal)	T10/1.25 (31.75)	
Length ft(mm) -	(See table below)	
Off State Power Consumption	0 Watts	
On State	Instantaneous	
Tube Driver Distance	16" (400mm) standard Up to 12ft(3.5m) <sup>3</sup>	
Package Information		
Standard Package	Case	
Quantity	12 LED Tubes	
Sales Units	Varies	
Package Items	LED Tubes, Drivers, Installation Kit and Instructions	
Weight lbs(kg)	Others consult factory	
2ft(600mm)	10 (5)	
4ft(1200mm)	22 (10)	

**LENGTH OPTIONS:**

2ft (600mm), 4ft (1200mm) - standard

**OUTPUT WATTAGE OPTIONS**

See table below

**COLOR OPTIONS:**

ANSI BINNED

3000K, 3500K, 4000K, 5000K

(standard)

2700K, 6500K (special)

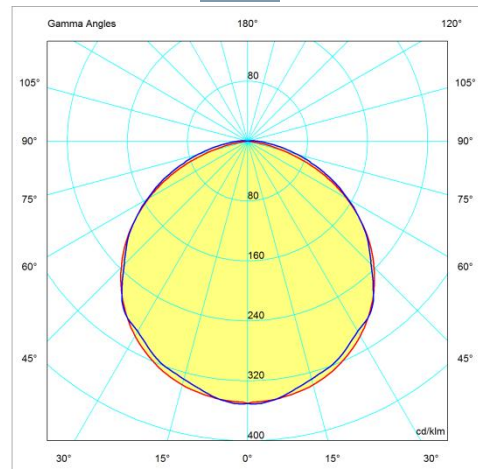
**COLOR RENDERING INDEX (CRI) - 85**

**DRIVER OPTIONS:**

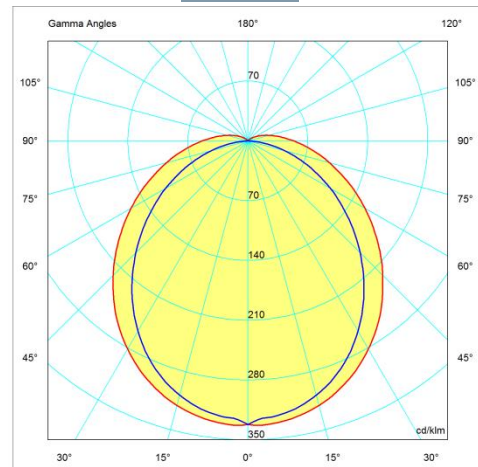
DIMMING STANDARD

MULTI TUBE DRIVER - 1, 2, 3, 4

**Clear**



**Frosted**

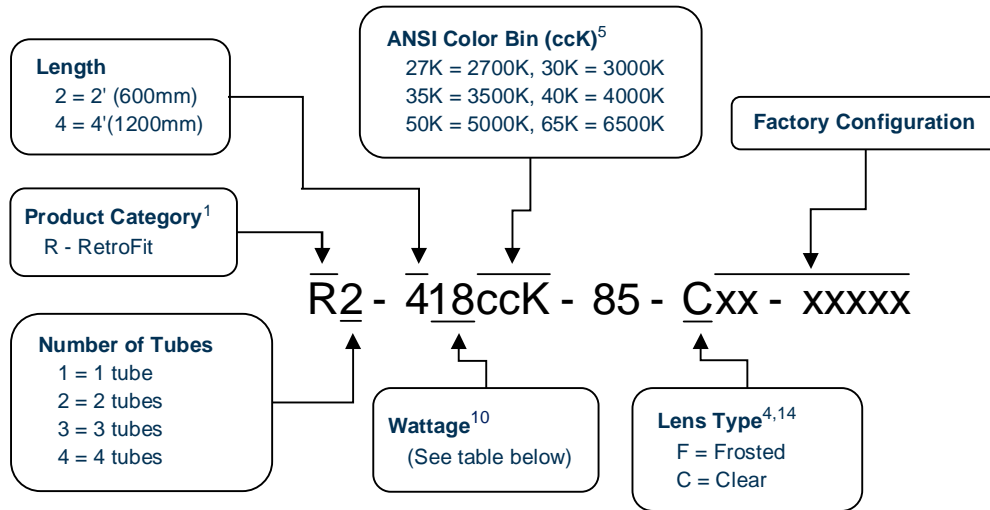






# Retro-Fit Kits

(most common - 2ft & 4ft)



**Accessories:**

- DeLamping Bag (PN: 125-1005000)
- DeLamping Kit, 12 lamp pack (PN: (125-1005010)
- Sensors [wired/wireless] (Consult Factory)

- In line battery backup, 4W (172-4100000)
- 6W (172-4100010)

**Most Popular:**

- R2-20940K-85-F
- R2-41840K-85-C
- R2-41340K-85-F

- R2-41840K-85-F
- R2-42850K-85-C
- R2-41335K-85-F

 <a href="#">Click Here</a>	R2-20927K-85-C R2-20927K-85-F R2-20930K-85-C R2-20930K-85-F R2-20935K-85-C R2-20935K-85-F R2-20940K-85-C R2-20940K-85-F R2-20950K-85-C R2-20950K-85-F	R3-20927K-85-C R3-20927K-85-F R3-20930K-85-C R3-20930K-85-F R3-20935K-85-C R3-20935K-85-F R3-20940K-85-C R3-20940K-85-F R3-20950K-85-C R3-20950K-85-F	R2-21427K-85-C R2-21427K-85-F R2-21430K-85-C R2-21430K-85-F R2-21435K-85-C R2-21435K-85-F R2-21440K-85-C R2-21440K-85-F R2-21450K-85-C R2-21450K-85-F	R3-21427K-85-C R3-21427K-85-F R3-21430K-85-C R3-21430K-85-F R3-21435K-85-C R3-21435K-85-F R3-21440K-85-C R3-21440K-85-F R3-21450K-85-C R3-21450K-85-F
	R3-41327K-85-C R3-41327K-85-F R3-41330K-85-C R3-41330K-85-F R3-41335K-85-C R3-41335K-85-F R3-41340K-85-C R3-41340K-85-F R3-41350K-85-C R3-41350K-85-F	R2-41327K-85-C R2-41327K-85-F R2-41330K-85-C R2-41330K-85-F R2-41335K-85-C R2-41335K-85-F R2-41340K-85-C R2-41340K-85-F R2-41350K-85-C R2-41350K-85-F	R2-41827K-85-C R2-41827K-85-F R2-41830K-85-C R2-41830K-85-F R2-41835K-85-C R2-41835K-85-F R2-41840K-85-C R2-41840K-85-F R2-41850K-85-C R2-41850K-85-F	R3-41827K-85-C R3-41827K-85-F R3-41830K-85-C R3-41830K-85-F R3-41835K-85-C R3-41835K-85-F R3-41840K-85-C R3-41840K-85-F R3-41850K-85-C R3-41850K-85-F

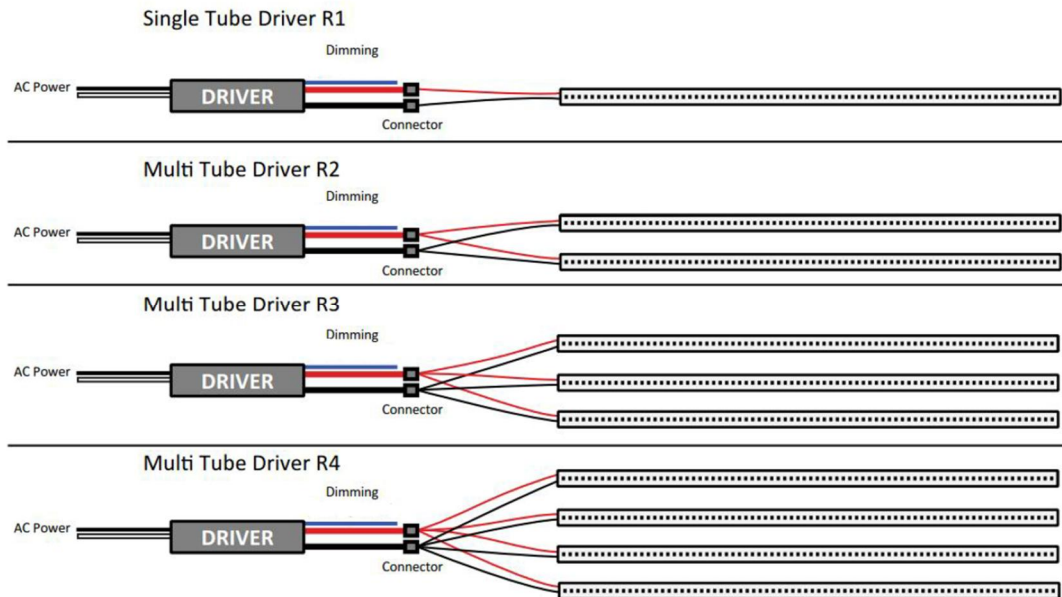
Length ft (mm)	Wattage <sup>10</sup>	Lumens <sup>10</sup> @50K (-12%/to 27K)			
		Tubes			
		1	2	3	4
2 (600)	09	1325	2650	3975	5300
	14	1825	3650	4905	7300
4 (1200)	09	1325	2650	3975	5300
	13	1900	3975	5000	7950
	18	2575	5150	7725	10300
	28	3875	7725	10300	





# Retro-Fit Kits

(most common - 2ft & 4ft)



## Notes

1. Not all model combinations are available
2. MBTF per MIL-HDBK-217F
3. Extended lead times and minimums maybe required for some models
4. Frosted lens has 3% lower lumens than clear lens
5. Other ANSI Color bins available
6. Extended warranties are available
7. Designed for Connecticut Light & Power United Illuminating
8. Specifications and availability subject to change without notice
9. Some models can use ELV Dimming with a special order, consult factory
10. Values are nominal, and will vary depending on color temperature (K), and LED driver ( $\pm 10\%$ )
11. Patent Pending: USA +40 Countries
12. EAct -179d tax incentive ready product given dimming bi-level switching requirements
13. Worst case temperature for R2-428 @25°C
14. Certain chemicals that may exist in end-user locations release airborne contaminants that can impact the integrity and safety of key fixture components that contain acrylic or polycarbonate material
15. Consult website for further details

## Compliance Standards

- UL 1993 - Self-Ballasted Lamps and Lamp Adapters, Ed. 4: 2012
- UL 1598 - Luminaires
- UL 1598C - Light-Emitting Diode (LED) Retrofit Luminaire Conversion Kits
- UL 8750 - Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products, Ed. 1: 2009
- CSA C22.2 No. 250.13 - Light emitting diode (LED) equipment for lighting applications, Ed. 1222012
- EN 62471:2008 - Photo Biological Safety of Lamps and Lamp Systems
- EN 62031:2008 - LED modules for general lighting. Safety specifications
- EN 61347-1:2008 - Lamp controlgear. General and safety requirements
- EN 55015:2006 - Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
- EN 61347-2-13:2006 - Lamp controlgear. Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules





# Retro-Fit Kits

(most common - 2ft & 4ft)

EN 61000-3-2:2006 - Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions

EN 61000-3-3:2008 - Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems

EN 60598-1:2008 - Luminaires. General requirements and tests

EN 61547:2009 - Equipment for general lighting purposes. EMC immunity requirements

FCC Part 15, Subpart B, Class B -

ANSI/ANSI G C78.81-2010 - Electric Lamps-Double-Capped Fluorescent Lamps-Dimensional and Electrical Characteristics

ANSI/NEMA/ANSI G C78.377-2008 - American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products

IEC 60529-2004 - Degrees of Protection Provided by Enclosures (IP Code)

