

3/11/2013

# Fluorescent Troffer Retrofit Kit

## Two Lamp



### Benefits

- Lower cost of ownership through energy savings
- Modern look
- Modern efficient lamp and ballast technology
- Utility rebates
- Reduced cost & waste relative to installing new fixture

**34%**  
 Power reduction with  
 Same light of 64% savings at  
 reduced lumens!

Lamp Type	Existing Fixture 4x 40W T12 (Base Case)	Retrofit to: 2x 28W T5	Retrofit to: 2x 54W T5	Existing Fixture: 4x34W "Energy Saver" T12 (Base Case)	Retrofit to: 2x28WT5	Retrofit to: 2x54W T5
Watts	176	64	117	156	64	117
Raw lamp lumens	11520	5800	10000	10600	5800	10000
Ballast factor	90%	100%	100%	90%	100%	100%
Effective Lamp Lumens (BF * raw lumens)	10368	5800	10000	9540	5800	10000
Lumens per Watt	59	91	85	61	91	85
Lumens relative to base case (%)	100%	56%	96%	100%	61%	105%
Energy Savings	NA	64%	34%	NA	59%	25%

Specifications subject to change without notice.

Project:

Catalog#:

Approved by:

### Description

FTR1 allows for the conversion of a standard lay-in troffer fixture into a sleek and efficient 2-lamp T5 direct/indirect. This combines significant energy savings with a fresh new look.

*(Please see Note page 2 before ordering)*

### Features

#### Housing Construction

- Die-formed code-gauge steel
- High gloss, baked enamel finish
- High quality lamp holders

#### Diffuser

- 100% Acrylic extruded lens
- Ribbed pattern minimizes lamp image for more uniform appearance and even light distribution

#### Installation

- Shipped fully wired
- NEC compliant luminaire power disconnect standard
- Easy access to wiring compartment and ballast via tool-free removable ballast cover

#### Installs in 6 easy steps:

1. Remove existing door, ballast cover, ballast, and socket bars.
2. Screw retrofit endcaps into existing fixture
3. Hang retrofit body from endcap using provided tethers, make electrical connections.
4. Screw body to endcaps.
5. Attach ballast cover , insert lamps, attach lenses.
6. Power on

#### Ballast

- Electronic, Inherent Thermal Protection, Class P, Sound rated A UL Listed

#### Fixture Listing

- UL Classified

#### Quality Assurance

- System Tested, Designed, Approved, and Manufactured in Mendenhall, Mississippi.



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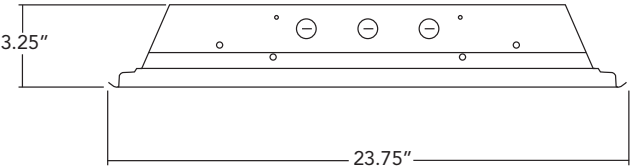
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Ordering Information

Model Family	Fixture Length	No. of Lamps	Lamp Type/ Wattage <sup>(1)</sup>	Ballast	Input Volts	Factory Installed Options	Body Material	Pack.
FTR1	4	2	28A	PS	MV	000	0	I
FTR1	2: 2' x 2'	2	14A: F14T5	PS: Program Rapid Start T5	MV: 120-277v HV: 347-480v (T5HO)	000: No FIOs B: Emergency Ballast <sup>(2)</sup>	0: White Steel	I: Single
	4: 2' x 4'	2	28A: F28T5 54A: F54T5HO					

(1) Lamps not included.  
(2) 500 Lumen ballast is standard for T8. 120 or 277v input only. Advise Customer Service at time of quote for higher lumen rated ballast.

Sample Ordering Number:  
FTR1 4 2 28A PS MV 000 0 I  
FTR1 Fluorescent Troffer Retrofit Kit  
2ft by 4ft  
2-lamps (none installed)  
F28T5 Program Rapid Start Ballast  
Multi-volt (120-277v)  
No Factory Installed Options  
White Steel Body  
Single Packaging



Minimum Required Width & Depth

Note:  
A. Customers should purchase one sample and verify the kit will fit into existing troffer.  
B. Howard Industries bears no responsibility for scratches or damage to product during installation.

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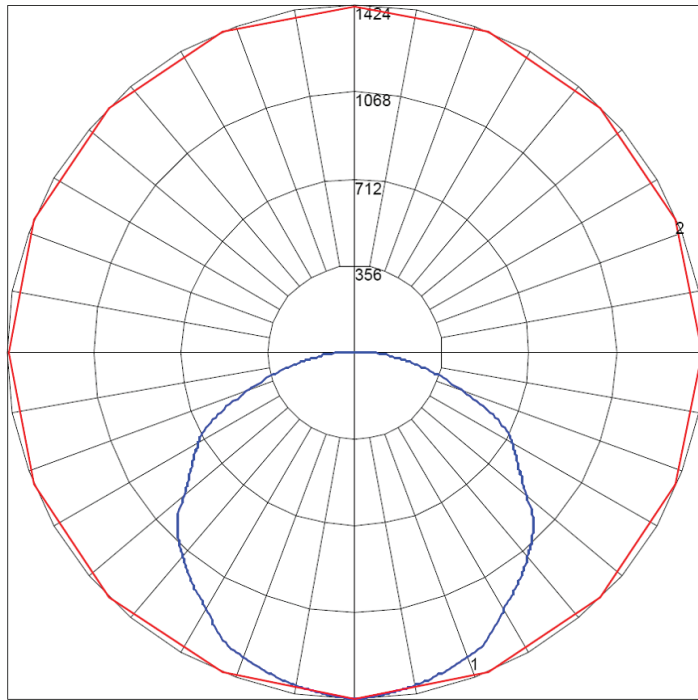
Project:

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## Photometric Data

### Iso-Footcandle Plot



FTR1 Series

Test Report: LTL23827.ies

Spacing Criteria (0-180): 1.26

Spacing Criteria (90-270): 1.30

Spacing Criteria (Diagonal): 1.42

Maximum Candela = 1424

Located at Horizontal Angle = 67.5, Vertical Angle = .5

#1 - Vertical Plane Through Horizontal Angle (67.5 - 247.5) (Through Max Cd.)

#2 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)

### Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	1106.79	20.50	25.40
0-40	1823.81	33.80	41.90
0-60	3304.15	61.20	75.80
0-90	4357.78	80.70	100.00
90-120	0.09	0.00	0.00
90-130	0.09	0.00	0.00
90-150	0.09	0.00	0.00
90-180	0.09	0.00	0.00
0-180	4357.87	80.70	100.00

### Luminance Data (cd/Sq.m)

Angle In Degrees	Average 0-deg	Average 45-deg	Average 90-deg
45	2166	2226	2329
55	2137	2260	2318
65	2078	2267	2373
75	1851	2081	2104
85	1035	1972	2254

## Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	96	96	96	96	94	94	94	94	90	90	90	86	86	86	82	82	82	81
1	87	83	79	76	85	81	78	75	78	75	73	75	72	70	72	70	68	66
2	79	72	66	61	77	70	65	61	68	63	59	65	61	58	62	59	56	55
3	72	63	56	51	70	62	55	50	59	54	49	57	52	48	55	51	47	46
4	66	55	48	42	64	54	48	42	52	46	42	50	45	41	49	44	40	39
5	60	49	42	36	58	48	41	36	47	41	36	45	40	35	44	39	35	33
6	55	44	37	32	54	44	37	31	42	36	31	41	35	31	39	34	31	29
7	51	40	33	28	50	39	33	28	38	32	27	37	31	27	36	31	27	25
8	48	37	30	25	46	36	29	25	35	29	24	34	28	24	33	28	24	23
9	45	34	27	22	43	33	27	22	32	26	22	31	26	22	30	25	22	20
10	42	31	24	20	41	30	24	20	30	24	20	29	24	20	28	23	20	18

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