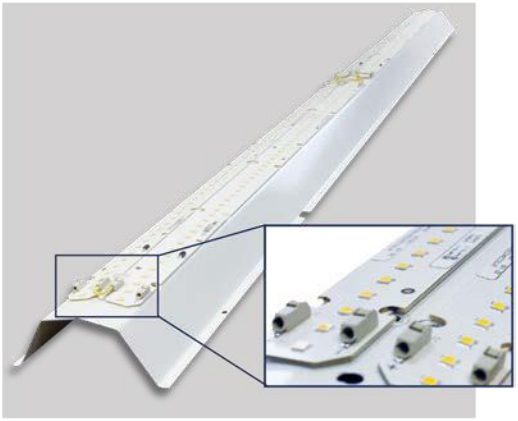
GREENLINE INDUSTRIES LLC "Tomorrow's Lighting Solutions Today"

Project Name: _____
Type: _____
Catalog #: _____

# LED Lay-In Troffer Retrofit

This retrofit was designed with the latest LED technology while conscientiously providing an easy installation for the installer. This retrofit is designed to snap (or tek screwed) in place of the current ballast cover in any 1x4, 2x4, or 2x2 existing linear T12, T8, or T5 fixture. The combination of LED technology and engineered design allows GreenLine Industries to supply the market with an LED retrofit that is the lowest cost per delivered lumen in the industry. In other words, we welcome the challenge to compare our LED retrofit to others. At 120+ raw lumens per watt, you will not find this anywhere else while providing a long term sustainable solution. Our 48 watt LED retrofit is 65% less energy than a 4-Lamp T8 fixture. Tired of replacing bulbs or ballasts? Our LED retrofit eliminates the ongoing maintenance found in today's linear fluorescent applications by providing a solution that will still provide 93% of the initial light even after 100,000 hours of use. Color temperatures available are 3000K, 4000K, and 5000K



Pictured: 2'x4' Troffer LED Retrofit
4' version = 46 5/8" L x 4 1/8" W x 1 1/2" T
2' version = 22 5/8" L x 4 1/8" W x 1 1/2" T

American Owned and Operated! | Intertek | RoHS

| System Configurations: | | | |
|---|---|---|---|
| Figure Config. | Wattage | Lumens | Efficacy |
| 2' x 2' 2 Module | 27w | 3,552 | 136.48 |
| 2' x 4' 2 Module | 52w | 6,689 | 131.75 |
| 2' x 4' 4 Module | 48w | 7,105 | 147.73 |
| 2'x4' 4 Module 4A | 98w | 13,239 | 134.11 |

| Regulatory: |
|---|
| Recognized - UL8750 CAN/ |
| CSA-C22.2 No. 250.13-12 / ETL Listed |
| RoHS Compliant |

| Notes: |
|---|
| Performance data taken at Tc = 45°C ambient. |
| Life expectancy = > 100,000 hours |
| Lumen maintenance value is based on LM80 testing and TM-21 calculation projections. |
| CRI = > 82 |
| Dry/Damp (IP-30) |
| Warranty : Limited 7 years |

| Part Number | GLRTF | 22 | 2 | MV | 40 |
|---|---|---|---|---|---|
| | Part Number | Troffer Size | # LED Modules | Voltage | Color Temperature |
| Example Part Number | GLRTF | | | | |
| Ordering Options | | 1'x4'=14<br>2'x2'=22<br>2'x4'=24 | 2=2<br>4=4<br>4=4A | MV=<br>120/277v<br>HV=<br>347/480v | 30 - 3000k<br>40 - 4000k<br>50 - 5000k |

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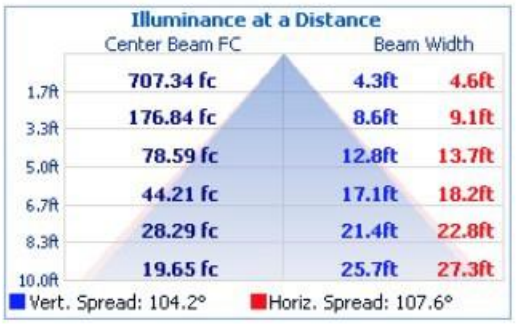
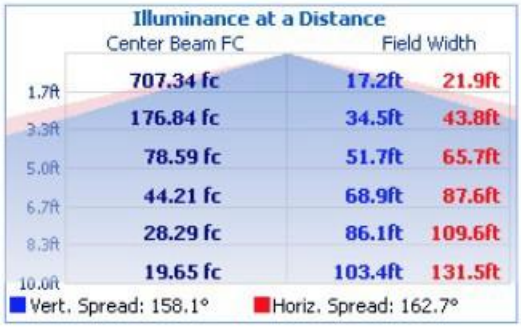
## Test Results – Illuminance Plots

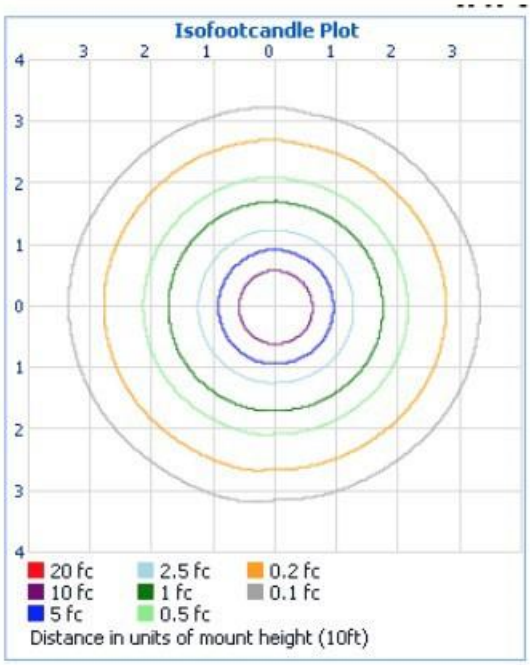
The following images depict the illuminance characteristics of the luminaire.




Beam Angle




Field Angle




Illuminance Plot (Footcandles)

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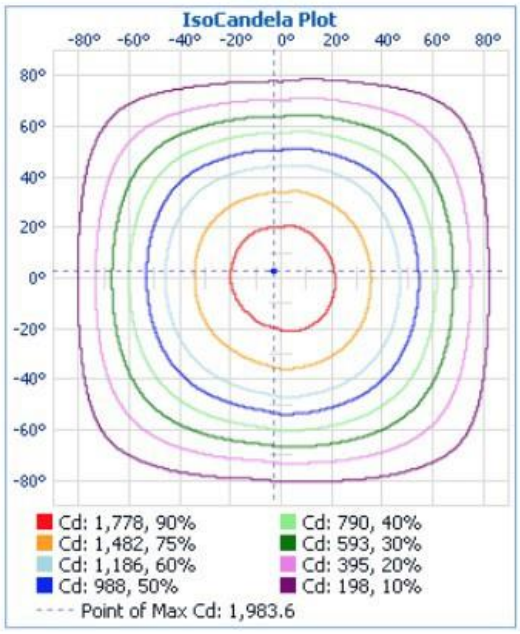
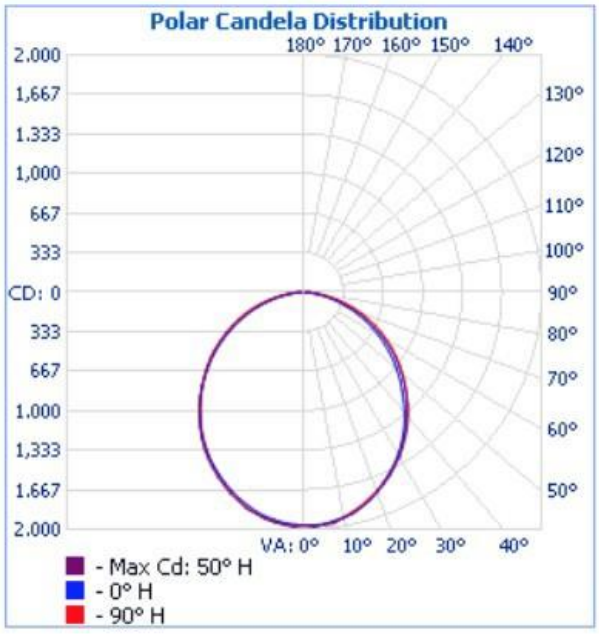
# LED Lay-In Troffer Retrofit

## Test Results – Candela Plots

The following images depict the luminous intensity distribution characteristics of the luminaire.




Isocandela Plot




Polar Candela Distribution

**Coefficients Of Utilization - Zonal Cavity Method**

Effective Floor Cavity Reflectance: 20%

| RCC %: | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW %: | 70 | 50 | 30 | 0 | 70 | 50 | 30 | 0 | 50 | 30 | 20 | 50 | 30 | 20 | 50 | 30 | 20 | 0 |
| RCR: 0 | 1.19 | 1.19 | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.00 | 1.11 | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | 1.00 |
| 1 | 1.09 | 1.04 | 1.00 | .96 | 1.06 | 1.02 | .98 | .85 | .97 | .94 | .91 | .94 | .91 | .89 | .90 | .88 | .86 | .84 |
| 2 | .99 | .91 | .84 | .78 | .96 | .89 | .83 | .71 | .85 | .80 | .76 | .82 | .78 | .74 | .79 | .75 | .72 | .70 |
| 3 | .90 | .80 | .72 | .65 | .88 | .78 | .71 | .61 | .75 | .69 | .63 | .72 | .67 | .62 | .70 | .65 | .61 | .59 |
| 4 | .83 | .71 | .62 | .55 | .80 | .69 | .61 | .52 | .67 | .60 | .54 | .65 | .58 | .53 | .62 | .57 | .53 | .51 |
| 5 | .76 | .63 | .54 | .48 | .74 | .62 | .54 | .46 | .60 | .53 | .47 | .58 | .52 | .46 | .56 | .51 | .46 | .44 |
| 6 | .70 | .57 | .48 | .42 | .68 | .56 | .48 | .40 | .54 | .47 | .41 | .53 | .46 | .41 | .51 | .45 | .40 | .38 |
| 7 | .65 | .52 | .43 | .37 | .64 | .51 | .43 | .36 | .49 | .42 | .37 | .48 | .41 | .36 | .47 | .41 | .36 | .34 |
| 8 | .61 | .47 | .39 | .33 | .59 | .47 | .39 | .32 | .45 | .38 | .33 | .44 | .37 | .32 | .43 | .37 | .32 | .30 |
| 9 | .57 | .43 | .35 | .30 | .55 | .43 | .35 | .29 | .42 | .35 | .29 | .41 | .34 | .29 | .40 | .34 | .29 | .27 |
| 10 | .53 | .40 | .32 | .27 | .52 | .40 | .32 | .26 | .39 | .32 | .27 | .38 | .31 | .27 | .37 | .31 | .27 | .25 |