

Also available with 3, 4, or 6 lamps

**FEATURES**

- 4½" deep troffer eliminates lens shadowing
- Contoured housing maximizes photometric performance with uniform lens brightness
- Mitered corners on door present a clean uninterrupted appearance
- Full black reveal presents a floating door appearance
- Full air handling capabilities available
- Mechanical light trap prevents light leaks
- Unique stepped ballast cover prevents any shadow being seen through the lens
- Heavy duty post-painted door frame enhances appearance
- Snug door fit eliminates light leaks

**PROJECT INFORMATION**

Project Name \_\_\_\_\_

Type \_\_\_\_\_

Catalog No. \_\_\_\_\_

Date \_\_\_\_\_

**HOUSING**

Fixture is constructed of die formed and embossed code gauge steel. End caps are hinged and riveted to the housing for added rigidity. Designed for installation in all ceilings as shown in Ceiling Compatibility on reverse side. Specify exact ceiling type. Integral T-bar clips are located in the end cap of the housing.

**BALLASTS**

Energy efficient, thermally protected, automatic resetting, Class P, high power factor, sound rated A, unless otherwise specified. CEE NEMA Premium compliant.

**ELECTRICAL**

Standard class "P", thermally protected, auto-resetting HPF ballast, sound rated A. CEE NEMA Premium compliant. All ballast leads extend a minimum of 6" through access location. NEC/CEC-compliant ballast disconnect is standard.

**FINISH**

All metal parts are processed with a multi-stage phosphate bonding treatment and finished with a high reflectance baked white enamel. Regressed air slots and control vanes are finished in flat black. For a post painted housing finish suffix catalog number with PAF.

**SHIELDING**

Standard lens is a 100% clear prismatic acrylic pattern 12. For other available lenses consult lens option sheet or contact your Columbia representative. Steel or aluminum door frames are retained by steel hinges and spring steel latches. Door hinges and latches from either side of fixture and can be easily removed without tools. Door frames feature snug fitting mitered corner joints and are available in flush or regress design. All door frames are painted after fabrication. Doors are surrounded by a uniform black reveal. A mechanical light trap prevents light leaks.

**AIR COMPATIBILITY**

All units may be used for heated or cooled air outlet or return air vent in ceiling. Also may be used for direct air return to plenum of non-combustible construction. Fixtures are compatible with air diffusers by all major air boot manufacturers. Air removal options must be specified.

**CERTIFICATION**

All luminaires are built to UL 1598 standards and bear appropriate UL and cUL or CSA labels. Damp location labeling is standard. Emergency-equipped fixtures labeled UL 924.

**ORDERING INFORMATION**

**EXAMPLE 5PA24-232G-FAA12-S-EU-GLR**

| MODEL           | NO. OF LAMPS   | CEILING TYPE   | DOOR  | AIR HANDLING  | AIR CONTROL  | VOLTAGE                 | OPTIONS  |
|-----------------|--|--|---|---|--|-------------------------|--|
| 5PA 4½" Housing | 2 Two  | G Grid<br>F Overlap Flange<br>M Modular Fit-in Trim<br>SG Slot Grid  | FA Flush Aluminum<br>RA Regressed Aluminum  | S Static<br>A Air Supply/Return<br>H Heat Extract<br>C Combination Supply/Extract | Blank None<br>V Air Supply/Return Vanes<br>D Heat Extract Dampers<br>VD Supply/Return Vanes & Heat Extract Dampers | U 120V-277V<br>347 347V | F0735 35K 75 CRI T8 Lamps Installed<br>F0835 35K 80 CRI T8 Lamps Installed<br>F5835 35K 80 CRI T5 Lamps Installed<br>GLR Fast Blow Fuse<br>GMF Slow Blow Fuse<br>EL Emergency Battery Pack<br>MS9 Master/Satellite w/9' Harness<br>PAF Paint After Fabrication<br>NYC NYC Compliant<br>NYCU NYC Compliant, Union Label |
| SIZE            | LAMP TYPE  | SHIELDING  | BALLAST   |   |  |                         |  |
| 24 2' x 4'      | 28 4', T5: 28 Watt<br>32 4', T8: 32, 30, 28 or 25 Watt<br>54 4', T5HO: 54 or 51 Watt | A12 Acrylic Prismatic Pattern 12<br>A19 Acrylic Prismatic Pattern 19<br>PC1 ½" x ½" x ½" Specular Silver Polystyrene Louver<br>PC2 1½" x 1½" x 1" Specular Silver Polystyrene Louver<br><small>For thicker lens, specify - i.e. A12.125.</small> | E Electronic T8, Instant Start<br>4E 4-Lamp Electronic T8, Instant Start (Master/Satellite only)<br>EP Electronic T5 or T8, Programmed Start<br>4EP 4-Lamp Electronic T5HO (N/A 347V) or T8, Programmed Start (Master/Satellite only) |   |  |                         |  |

For a specific ballast vendor, show as option.



Test 10598 Test Date 1/8/03

### PHOTOMETRIC DATA

#### LUMINAIRE DATA

|                          |  |
|--------------------------|--|
| Luminaire                | 5PA24-232G-FAA12-E<br>5PA Lensed Troffer<br>2' x 4' 2-Lamp with A12 Pattern<br>Acrylic Prisms Lens |
| Ballast                  | B232I120RH   |
| Ballast Factor           | 0.95   |
| Lamp                     | FO32/741   |
| Lumens per Lamp          | 2850   |
| Total Input Watts        | 60   |
| Shielding Angle          | N/A  |
| Spacing Criterion        | 0° = 1.22 90° = 1.33   |
| Luminous Opening in Feet | Length: 3.67<br>Width: 1.71<br>Height: 0.00  |

#### ZONAL LUMEN SUMMARY

| Zone  | Lumens | % Lamp | % Fixt. |
|-------|--------|--------|---------|
| 0-30  | 1390   | 24.4   | 33.5    |
| 0-40  | 2277   | 39.9   | 54.9    |
| 0-60  | 3593   | 63.0   | 86.6    |
| 0-90  | 4150   | 72.8   | 100.0   |
| 0-180 | 4150   | 72.8   | 100.0   |

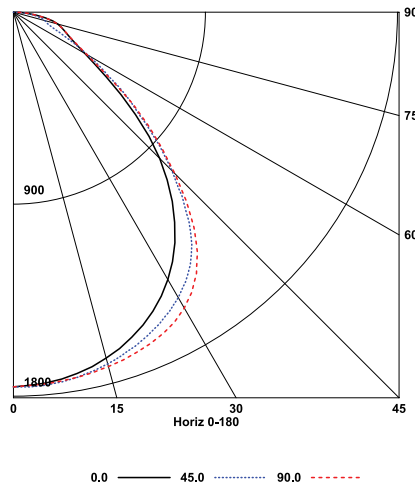
#### ENERGY DATA

|   |  |
|---|--|
| Total Luminaire Efficiency                              | 72.8%  |
| Luminaire Efficacy Rating (LER)                         | 66   |
| IESNA RP-1-1993 Compliance                              | Noncompliant                                 |
| ANSI/IESNA RP-1-2004 Compliance                         | Noncompliant                                 |
| Comparative Yearly Lighting Energy Cost per 1000 Lumens | \$3.64 based on 3000 hrs. and \$0.08 per KWH |

#### COEFFICIENTS OF UTILIZATION (%)

| RCR | RC | 80 |    |    |    | 70 |    |    |    | 50 |    |    |    | 0 |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
|     |    | RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| 1   | 80 | 77 | 74 | 72 | 78 | 75 | 73 | 70 | 72 | 70 | 68 | 63 |    |   |
| 2   | 74 | 68 | 64 | 60 | 72 | 67 | 63 | 59 | 64 | 61 | 58 | 54 |    |   |
| 3   | 68 | 61 | 55 | 51 | 66 | 60 | 55 | 51 | 58 | 53 | 50 | 47 |    |   |
| 4   | 62 | 54 | 49 | 44 | 61 | 54 | 48 | 44 | 52 | 47 | 43 | 41 |    |   |
| 5   | 58 | 49 | 43 | 39 | 56 | 48 | 43 | 38 | 47 | 42 | 38 | 36 |    |   |
| 6   | 54 | 45 | 38 | 34 | 52 | 44 | 38 | 34 | 43 | 38 | 34 | 32 |    |   |
| 7   | 50 | 41 | 35 | 30 | 49 | 40 | 34 | 30 | 39 | 34 | 30 | 28 |    |   |
| 8   | 47 | 37 | 31 | 27 | 45 | 37 | 31 | 27 | 36 | 31 | 27 | 26 |    |   |
| 9   | 44 | 34 | 29 | 25 | 43 | 34 | 28 | 25 | 33 | 28 | 25 | 23 |    |   |
| 10  | 41 | 32 | 26 | 23 | 40 | 31 | 26 | 23 | 31 | 26 | 22 | 21 |    |   |

#### INDOOR CANDELA PLOT



#### AVG. LUMINANCE (Candela/Sq. M.)

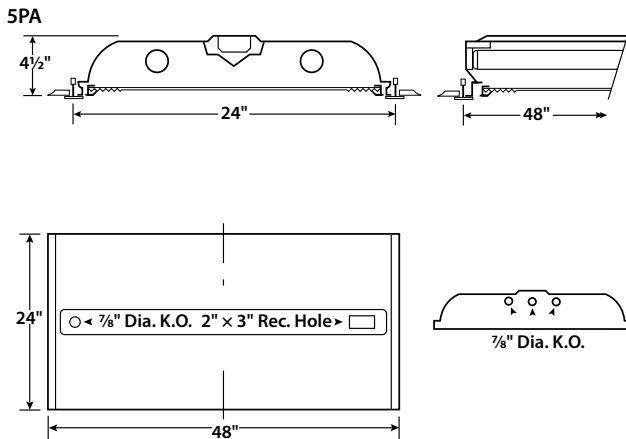
|    | 0.0  | 22.5 | 45.0 | 67.5 | 90.0 |
|----|------|------|------|------|------|
| 0  | 3012 | 3012 | 3012 | 3012 | 3012 |
| 30 | 2866 | 2933 | 3060 | 3155 | 3171 |
| 40 | 2593 | 2716 | 2864 | 2935 | 2947 |
| 45 | 2350 | 2426 | 2549 | 2574 | 2595 |
| 50 | 1993 | 2065 | 2153 | 2161 | 2196 |
| 55 | 1594 | 1699 | 1767 | 1764 | 1722 |
| 60 | 1321 | 1393 | 1389 | 1417 | 1358 |
| 65 | 1222 | 1197 | 1059 | 1238 | 1238 |
| 70 | 1274 | 1138 | 893  | 1199 | 1279 |
| 75 | 1425 | 1153 | 1014 | 1219 | 1418 |
| 80 | 1491 | 1166 | 1136 | 1235 | 1472 |
| 85 | 1358 | 1319 | 1240 | 1319 | 1417 |

RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

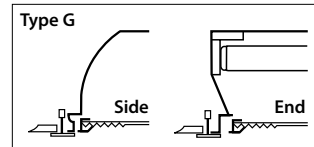
#### DIMENSIONAL DATA

##### 2' x 4' 2-Lamp, Lay-In

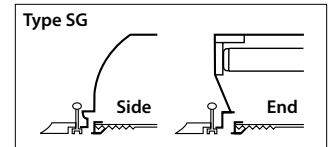


**NOTE:** All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

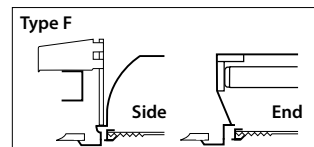
#### CEILING COMPATIBILITY



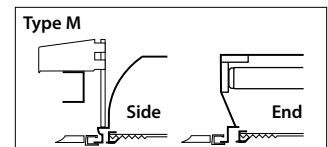
For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 1 1/2" allowed.



For 3/8" slot grid type ceilings. Louver will be level with the ceiling plane. Shoulder heights of tee or exact slot grid must be specified.



For tile, plaster or plasterboard type ceilings. Overlapping extruded aluminum trim conceals edges of ceiling opening. Wing hanger suspension system included. For row mounting, row information is required.



For metal pan ceilings "Fit-in" style extruded trim aligns with modular tile joints. Fixture is supported from concealed suspension and includes all adjustable wing hangers.

Flange kit rough in dimensions for single unit only: 24 1/8" x 48 1/8"