

Also available with 12, 16, 24, or 32 cells

FEATURES

- Nominal 3" deep louver
- Black reveal with full air handling capabilities
- Matte anodized low iridescent, semi-specular (MA) louver finish virtually eliminates visibility of fingerprints and construction dust
- Shallow housing height
- Lightweight

PROJECT INFORMATION

Project Name _____

Type _____

Catalog No. _____

Date _____

CONSTRUCTION

Luminaire housing and end caps are die formed code gauge cold rolled steel. Louver is formed from DuraLouver® anodized aluminum and secured in open or closed position by die formed steel hinges. Louver hinges from either side. Mechanical light trap prevents light leaks. Latches are finger-tip actuated, positive feed type, fabricated of spring steel, and completely concealed in the black reveal.

FINISH

Parts are treated with a five stage phosphate bonding process and finished with a high temperature baked white enamel. For post painted housing, suffix catalog number with PAF. Regressed slots are flat black. Anodized aluminum DuraLouver standard finish is matte anodized low iridescent (MA). Also available in low-iridescent semi-specular natural anodized aluminum (LD) or low-iridescent specular aluminum (LS).

AIR HANDLING

All supply/return and air extract functions are available as a specified option. Directional control vanes and/or extract damper features available. Air extract slots are located out of sight in end caps. See air removal data on reverse.

INSTALLATION

An access plate is furnished with each luminaire for fast wiring access from the plenum. No need to open fixture.

Product ships standard with mylar dust cover to eliminate job site contamination.

BALLASTS

Energy efficient, thermally protected, automatic resetting, Class P, high power factor, sound rated A, magnetic or electronic ballasts. CEE NEMA Premium compliant.

ELECTRICAL

Standard class "P", thermally protected, autoresetting 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.

CEILING COMPATIBILITY

Luminaire is available to fit exposed grid ceilings. For hard ceilings order accessory flange kit. Some options may increase fixture depth. For information on compatibility with specific ceilings, or where plenum depth is a problem, contact your Columbia representative. Four integral T-bar clips are standard. Two or four non-integral T-bar clips are available as an option.

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 P4D24-232G-MA26-S-U

| P4D | | 24 | | - | | G | | - | | - | | - | |
|--------------------------|----------------------------|---|----------------------------|----------------------|--|--|------------|--|---|--|-------------------------|--|--|
| MODEL | NO. OF LAMPS | CEILING TYPE | NO. CELLS CROSSWISE | NO. CELLS LENGTHWISE | BALLAST | OPTIONS | SIZE | LAMP TYPE | LOUVER FINISH | AIR FUNCTIONS | VOLTAGE | ACCESSORIES | |
| P4D DuraLouver Parabolic | 2 Two 3 Three 4 Four | G Inverted T-bar <small>For hard ceilings use flange kit; see accessories.</small> | 2 Two 3 Three 4 Four | 6 Six 8 Eight | E Electronic T8, Instant Start 3E 3-Lamp Electronic T8, Instant Start EP Electronic T5 or T8, Programmed Start 3EP 3-Lamp Electronic T5 or T8, Programmed Start <small>For a specific ballast vendor show as option.</small> | GLR Fast Blow Fuse GMF Slow Blow Fuse EL Emergency Battery Pack F0735 35K 75 CRI T8 Lamps Installed F0835 35K 80 CRI T8 Lamps Installed F5835 35K 80 CRI T5 Lamps Installed C388 3-Wire Flex C488 4-Wire Flex TB Two Bulk T-bar Clips TB4 Four Bulk T-bar Clips MS9 Master/Satellite w/9' Harness PAF Paint After Fabrication NYC NYC Compliant NYCU NYC Compliant, Union Label | 24 2' x 4' | 28 4', T5: 28 Watt 32 4', T8: 32, 30, 28 or 25 Watt 54 4', T5HO: 54 or 51 Watt | MA Matte Anodized Low Iridescent Semi-Specular Aluminum (std.) LS Low Iridescent Specular Aluminum | S Static ¹ A Air Handling ¹ AV Air Handling w/Supply Vanes ¹ C Combination Supply/Extract ² CV Combination Supply Vanes/Extract ² CD Combination Supply Extract Dampers ² CVD Combination Supply Vanes Extract Dampers ² H Heat Extract ² HD Heat Extract w/Dampers ² | U 120V-277V 347 347V | FK24 2' x 4' Single Flange Kit FKCR Flange Kit Row Adapter Brackets | |

¹ Fixtures supplied with integral T-bar clips.
² Fixtures supplied with two non-integral, screw-type T-bar clips.

Protected by US Patent 6,582,098.
Specifications subject to change without notice.

PHOTOMETRIC DATA

Test 12454 Test Date 3/14/00

LUMINAIRE DATA

| | |
|-------------------|--|
| Luminaire | P4D24-232-MA26 P4D, Parabolic 2' X 4' 2 LAMP WITH 2X6 CELL MATTE ALUMINUM LOUVER |
| Ballast | B2321120RH |
| Ballast Factor | 0.88 |
| Lamp | F32T8 |
| Lumens per Lamp | 2900 |
| Watts | 56 |
| Shielding Angle | 0° = 20 90° = 29 |
| Spacing Criterion | 0° = 1.22 90° = 1.56 |

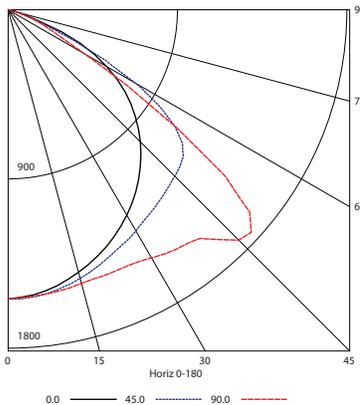
ZONAL LUMEN SUMMARY

| Zone | Lumens | Lamp | Fixt. |
|-------|--------|------|-------|
| 0-30 | 1214 | 20.9 | 27.7 |
| 0-40 | 2057 | 35.5 | 46.9 |
| 0-60 | 3934 | 67.8 | 89.8 |
| 0-90 | 4381 | 75.5 | 100.0 |
| 0-180 | 4381 | 75.5 | 100.0 |

ENERGY DATA

| | |
|---|--|
| Total Luminaire Efficiency | 75.5% |
| Luminaire Efficacy Rating (LER) | 69 |
| IESNA RP-1-1993 Compliance | Noncompliant |
| Comparative Yearly Lighting Energy Cost per 1000 Lumens | \$3.48 based on 3000 hrs. and \$0.08 per KWH |

INDOOR CANDELA PLOT



AVG. LUMINANCE (Candela/Sq. M.)

| Average Luminance Angle | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|-------------------------|------|------|------|------|------|
| 0 | 2535 | 2535 | 2535 | 2535 | 2535 |
| 30 | 2402 | 2446 | 2587 | 2785 | 2901 |
| 40 | 2352 | 2448 | 2765 | 3170 | 3418 |
| 45 | 2317 | 2466 | 2919 | 3567 | 4038 |
| 50 | 2264 | 2479 | 3116 | 3886 | 4299 |
| 55 | 2174 | 2473 | 3109 | 3328 | 3152 |
| 60 | 1999 | 2336 | 2590 | 1871 | 1541 |
| 65 | 1647 | 1866 | 1518 | 976 | 952 |
| 70 | 839 | 965 | 695 | 613 | 617 |
| 75 | 363 | 351 | 325 | 312 | 280 |
| 80 | 219 | 209 | 171 | 162 | 152 |
| 85 | 151 | 132 | 114 | 114 | 95 |

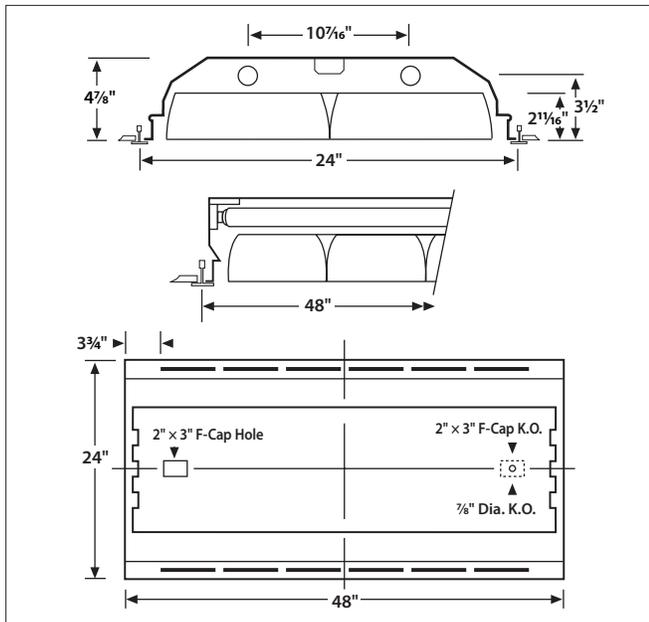
COEFFICIENTS OF UTILIZATION (%)

| RCR | RW | 80 | | | | 70 | | | | 50 | | | | 0 | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|----|---|--|
| | | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | 30 | 10 | 0 | |
| 1 | 83 | 80 | 78 | 75 | 81 | 79 | 76 | 74 | 76 | 73 | 72 | 66 | | | | | |
| 2 | 77 | 71 | 66 | 63 | 75 | 70 | 65 | 62 | 67 | 63 | 60 | 56 | | | | | |
| 3 | 70 | 63 | 57 | 53 | 68 | 62 | 56 | 52 | 59 | 55 | 51 | 48 | | | | | |
| 4 | 64 | 56 | 49 | 45 | 62 | 55 | 49 | 44 | 53 | 48 | 44 | 41 | | | | | |
| 5 | 59 | 50 | 43 | 38 | 57 | 49 | 43 | 38 | 47 | 42 | 38 | 35 | | | | | |
| 6 | 54 | 45 | 38 | 33 | 53 | 44 | 38 | 33 | 43 | 37 | 33 | 31 | | | | | |
| 7 | 50 | 40 | 34 | 29 | 49 | 40 | 34 | 29 | 39 | 33 | 29 | 27 | | | | | |
| 8 | 47 | 37 | 30 | 26 | 46 | 36 | 30 | 26 | 35 | 30 | 26 | 24 | | | | | |
| 9 | 44 | 34 | 27 | 23 | 42 | 33 | 27 | 23 | 32 | 27 | 23 | 21 | | | | | |
| 10 | 41 | 31 | 25 | 21 | 40 | 30 | 25 | 21 | 30 | 24 | 21 | 19 | | | | | |

RCR = Room Cavity Ratio

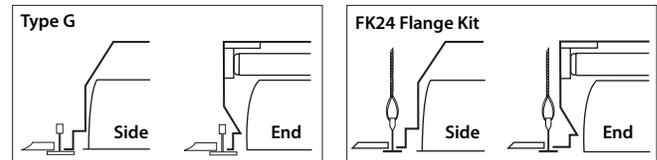
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

DIMENSIONAL DATA



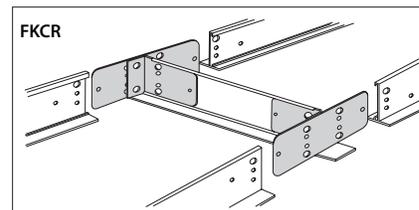
NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

CEILING COMPATIBILITY



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

For hard ceiling applications order FK24 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.



For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK24 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK24 & (1) FKCR)

Row cut out dimensions using FK24s & FKCR adapters:
Width 24 3/8", Length [48" x (# in row)] + 3/8". Example: (48" x 2) + 3/8" = 96 3/8"

Flange kit rough in dimensions for single unit only: 24 3/8" x 48 3/8"