

Also available with 3 lamps

**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.

**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.

**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).

**ELECTRICAL**

Standard class "P", thermally protected, auto-resetting HPF ballast, sound rated A. 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.

**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.

**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 P4D22-217G-MA33-S-EU**

P4D		22 -		G -									
MODEL		NO. OF LAMPS		CEILING TYPE		NO. CELLS CROSSWISE		NO. CELLS LENGTHWISE		BALLAST		OPTIONS <sup>1</sup>	
P4D DuraLouver Parabolic		2 Two 4 Four		G Inverted T-bar <small>For hard ceilings use flange kit; see accessories.</small>		3 Three 4 Four		3 Three 4 Four		E Electronic T8, Instant Start 4E 4-Lamp Electronic T8, Instant Start ETT Electronic Twin Tube, Instant Start (Specify voltage) <small>For a specific ballast vendor show as option.</small>		GLR Fast Blow Fuse GMF Slow Blow Fuse EL Emergency Battery Pack 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	
SIZE		LAMP TYPE		LOUVER FINISH		AIR FUNCTIONS		VOLTAGE		ACCESSORIES			
22 2' x 2'		32U6 U-Bent, 6" Leg Spacing T8: 32 Watt* 31U1 U-Bent, 1 5/8" Leg Spacing T8: 31 Watt 40TT Twin Tube Compact, 2G11 Base: 40 Watt 17 2', T8: 17 Watt <small>*2-Lamp only.</small>		MA Matte Anodized Low Iridescent Semi-Specular Aluminum (std.) LS Low Iridescent Specular Aluminum		S Static A Air Handling AV Air Handling w/Supply Vanes C Combination Supply/Extract CV Combination Supply Vanes/Extract CD Combination Supply Extract Dampers CVD Combination Supply Vanes Extract Dampers H Heat Extract HD Heat Extract w/Dampers		U 120V-277V 347 347V		FK22 2' x 2' Single Flange Kit FKCR Flange Kit Row Adapter Brackets			

<sup>1</sup> EL or other options may increase fixture depth.

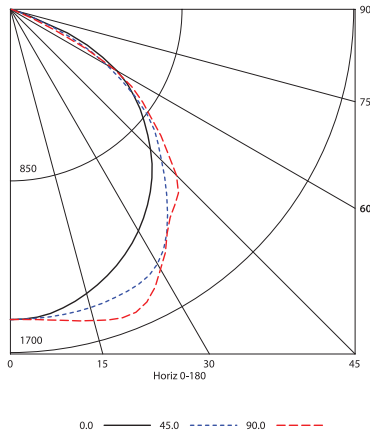
## PHOTOMETRIC DATA

Test 12448 Test Date 4/28/03

### LUMINAIRE DATA

Luminaire	P4D22-232U6G-LD33-E-PAF P4D Parabolic 2' x 2' 2-Lamp with 3 x 3 Cell Semi-Specular Louver
Ballast	B232I120RH
Ballast Factor	0.88
Lamp	F31T8U6
Lumens per Lamp	2850
Watts	59
Shielding Angle	N/A
Spacing Criterion	Along = 1.24 Across = 1.37

### INDOOR CANDELA PLOT



### ENERGY DATA

Total Luminaire Efficiency	69.4%
Luminaire Efficacy Rating (LER)	59
IESNA RP-1-1993 Compliance	Noncompliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$4.07 based on 3000 hrs. and \$0.08 per KWH

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

Average Luminance Angle	0.0	22.5	45.0	67.5	90.0
0	5461	5461	5461	5461	5461
30	5201	5493	5977	6063	6100
40	5059	5528	5588	5630	5876
45	4932	5455	5320	5656	5847
50	4784	5205	5149	5172	5376
55	4630	4810	4680	4568	4953
60	4337	4231	3904	3911	4238
65	3533	3197	2785	2196	2044
70	1227	1414	1164	551	416
75	412	412	330	275	261
80	246	246	225	184	164
85	163	163	163	122	82

### ZONAL LUMEN SUMMARY

Zone	Lumens	Lamp	Fixt.
0-30	1262	22.1	31.9
0-40	2080	36.5	52.6
0-60	3589	63.0	90.7
0-90	3957	69.4	100.0
0-180	3957	69.4	100.0

### COEFFICIENTS OF UTILIZATION (%)

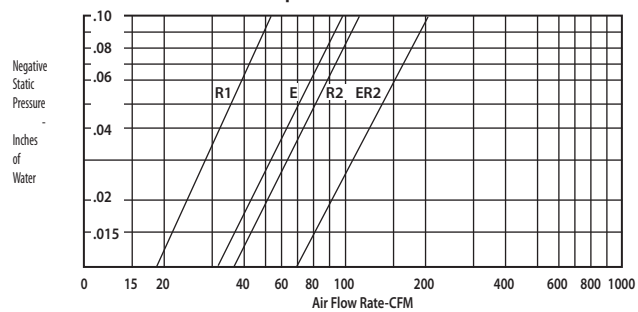
RC	80				70				50				0
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	77	74	72	70	75	73	71	69	70	68	66	61	61
2	71	66	62	59	69	65	61	58	62	59	57	53	53
3	65	59	54	50	64	58	53	49	56	52	48	45	45
4	60	52	47	43	58	51	46	42	50	45	42	39	39
5	55	47	41	37	54	46	41	37	45	40	36	34	34
6	51	42	37	32	50	42	36	32	41	36	32	30	30
7	47	39	33	29	46	38	33	29	37	32	28	27	27
8	44	35	30	26	43	35	29	26	34	29	25	24	24
9	41	32	27	23	40	32	27	23	31	26	23	21	21
10	39	30	24	21	38	29	24	21	29	24	21	19	19

RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

### EXTRACT AIR DATA

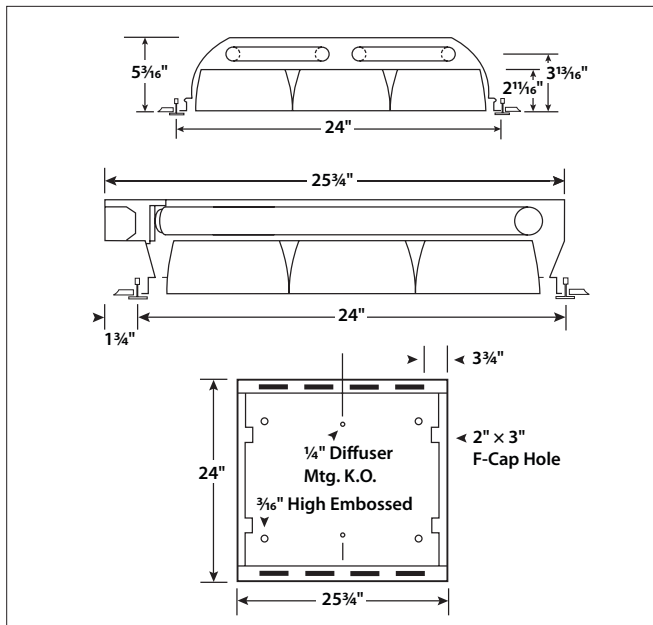
Report AL-526-1.1



R1 - Air Return thru One Side Passage  
R2 - Air Return thru Two Side Passages

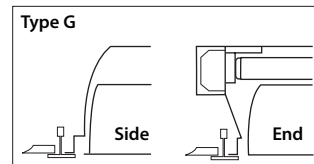
E - Heat Extract thru Lamp Compartment  
ER2 - Thru Both Sides and Lamp Compartment

### DIMENSIONAL DATA

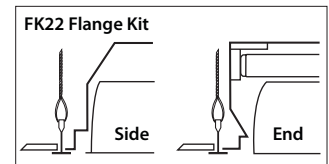


**NOTE:** All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

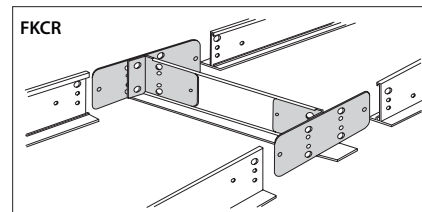
### CEILING COMPATIBILITY



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 FK22 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.



Row cut out dimensions using FK22s & FKCR adapters:  
Width 24 3/8", Length [24" x (# in row)] + 3/8". Example: (24" x 2) + 3/8" = 48 3/8"

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

For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK22 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK22 & (1) FKCR)