

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.

**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.

**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).

**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.

**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.

**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.

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



## PHOTOMETRIC DATA

Test 12476 Test Date 3/31/00

### LUMINAIRE DATA

Luminaire	P4D22-232U6G-MA33 P4D, Parabolic 2' X 2' 2 LAMP WITH 3X3 CELL MATTE ALUMINUM LOUVER
Ballast	B232I120RH
Ballast Factor	0.88
Lamp	F31T8U6
Lumens per Lamp	2850
Watts	60
Shielding Angle	0° = 20 90° = 48
Spacing Criterion	0° = 1.21 90° = 1.36

### ZONAL LUMEN SUMMARY

Zone	Lumens	Lamp	Fixt.
0-30	1229	21.6	32.4
0-40	2017	35.4	53.1
0-60	3426	60.1	90.3
0-90	3796	66.6	100.0
0-180	3796	66.6	100.0

### ENERGY DATA

Total Luminaire Efficiency	66.6%
Luminaire Efficacy Rating (LER)	56
IESNA RP-1-1993 Compliance	Noncompliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$4.29 based on 3000 hrs. and \$0.08 per KWH

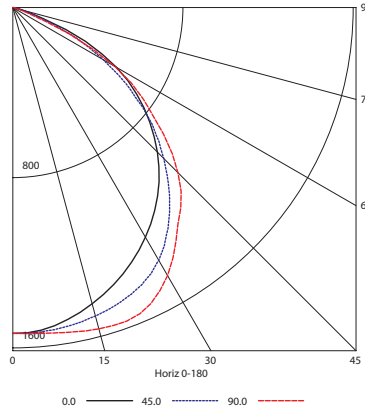
### AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	5443	5443	5443	5443	5443
30	5115	5312	5628	5829	5969
40	4961	5207	5314	5449	5695
45	4832	5053	5043	5259	5516
50	4652	4790	4729	4856	5111
55	4407	4395	4196	4246	4624
60	4003	3811	3498	3598	3946
65	3172	2885	2532	2406	2440
70	1590	1507	1320	811	676
75	728	632	481	412	398
80	409	369	287	266	246
85	245	245	163	163	122

### COEFFICIENTS OF UTILIZATION (%)

RCR	80					70					50					0					
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0	70	50	30	10	
1	74	71	69	67	72	70	68	66	67	65	64	59									
2	68	63	59	56	66	62	58	55	60	57	54	50									
3	62	56	51	48	61	55	51	47	53	50	46	44									
4	58	50	45	41	56	49	44	41	48	44	40	38									
5	53	45	40	36	52	44	39	35	43	39	35	33									
6	49	41	35	31	48	40	35	31	39	34	31	29									
7	46	37	32	28	44	37	31	28	36	31	27	26									
8	42	34	29	25	41	33	28	25	33	28	25	23									
9	40	31	26	22	39	31	26	22	30	25	22	21									
10	37	29	24	20	36	28	24	20	28	23	20	19									

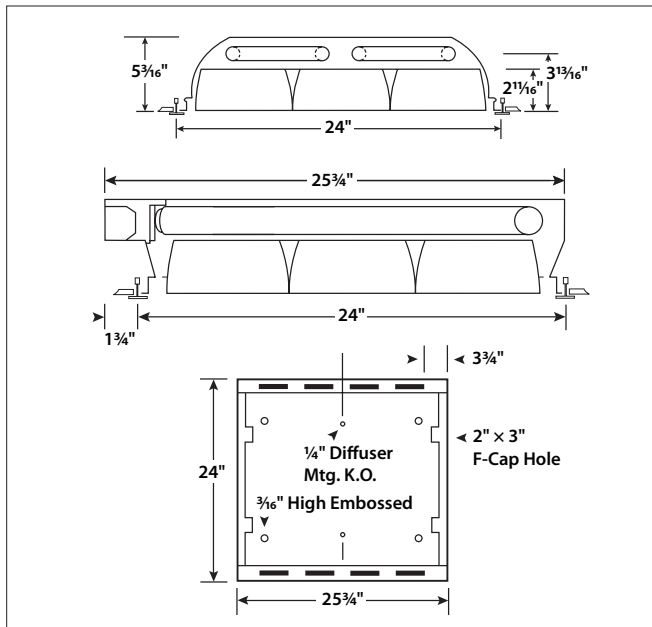
### INDOOR CANDELA PLOT



RCR = Room Cavity Ratio

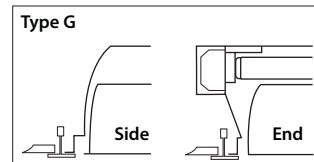
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

### DIMENSIONAL DATA

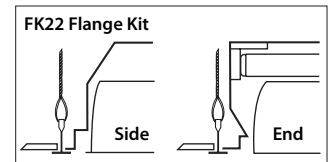


**NOTE:** All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

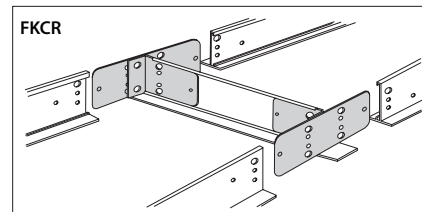
### CEILING COMPATIBILITY



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 FK22 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 FK22 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK22 & (1) FKCR)

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"