

FEATURES

- Precision optical design produces high efficiency in a high visual comfort architecturally styled lensed fixture
- Linear prism acrylic optic is backed by a high transmission lamp obscuring overlay
- Optimized coating process and unique paint formulation provide exceptional reflectivity in a matte finish for a soft visual image and balanced lens and reflector illumination
- Completely recessed, provides a clean ceiling with uniform illumination at mounting heights as low as 8 feet
- Available for use with T8, T5 or T5HO linear fluorescent lamps
- Optional acrylic dust guards pivot to protect lamp compartment against contaminants especially for schools, medical facilities and public spaces
- Available with exclusive wiHUBB technology preinstalled
 - Peer to peer, self-healing wireless mesh network
 - Integrated control system for 0-10VDC or step dimming, or On/Off

PROJECT INFORMATION

Project Name _____

Type _____

Catalog No. _____

Date _____

CONSTRUCTION

Luminaire housing and end caps are die formed code gauge cold rolled steel. The sturdy reflector is stiffened with linear forms, profiled to a precision curve. Linear prism basket with high transmission overlay for improved optical efficiency plus lamp obscuration. All reflective surfaces are finished after fabrication with unique formula high reflectivity matte white paint for soft, uniform indirect illumination.

Thermoplastic light seals snap into the housing at both ends of the lens to prevent light leaks. Lens hinges down for easy access to center wireway.

INSTALLATION

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

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.

CEILING COMPATIBILITY

NEC-compliant T-Bar clips supplied with all grid trim fixtures. See ceiling details on reverse. For type SG ceilings order G trim. Fixture will be regressed 3/8" from the face of the ceiling tee. For hard ceilings order G trim and FK flange accessory. Assemble then support FK accessory at the ceiling plane using tie wires (by others). Contact your Columbia representative for compatibility information for specific ceiling types or for continuous row applications in hard ceilings.

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 TRA24-232G-CLO-EU

MODEL	NO. OF LAMPS	CEILING TYPE	SHIELDING	VOLTAGE	OPTIONS
TRA Transition® High Efficiency Architectural Lensed	1 One 2 Two 3 Three	G Grid Lay-in SM Surface Mount	CLO Clear Linear Prism Acrylic with Overlay	U 120V-277V 347 347V	GLR Fast Blow Fuse GMF Slow Blow Fuse EL Emergency Battery Pack NYC NYC Compliant NYCU NYC Compliant, Union Label DG Dust Guard 4TB 4 Tee Bar Clips WIH wiHUBB Enabled ⁴
SIZE	LAMP TYPE	BALLAST			
24 2' x 4'	32 4', T8: 32, 30, 28 or 25 Watt	E Electronic T8, Instant Start ED Electronic Dimming T8* ² EP Electronic T8, Programmed Start ESD Electronic Step Dimming for 2-Lamp T8 or T5HO E104 Electronic T8, 1.04 Ballast Factor, Instant Start ¹ ESD104 Electronic T8, 1.04 Ballast Factor, Step Dimming, Programmed Start ^{2,3} EHL Electronic T8, 1.18 Ballast Factor, High Wattage, Instant Start 3E 3-Lamp Electronic T8, Instant Start 3EP 3-Lamp Electronic T5, T5HO, Instant or T8 Programmed Start			

¹ 1-lamp or 2-lamp T8 only

² 2-lamp T8 only

³ Not compatible with T8 25, 28, or 30 Watt energy-saving lamps

⁴ Not available with Surface Mount Ceiling Types

*Specify vendor and series.

**ACCESSORIES
(ORDER SEPARATELY)**

FK24 2' x 4' Single Flange Kit
(Shipped separately)



Test ITL67660 Test Date 3/7/11

PHOTOMETRIC DATA

LUMINAIRE DATA

Luminaire	TRA24-232G-CLO-E104U TRA Transition, Recessed Architectural 2 x 4 2-lamp with clear linear prismed lens with opal overlay
Ballast	B232IUNV104-A
Ballast Factor	1.04
Lamp	F28T8
Lumens per Lamp	2750
Watts	56
Mounting	Recessed
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.23 90° = 1.30
Luminous Opening in Feet	Length: 3.93 Width: 1.91 Height: 0.00

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	1346	24.5	26.1
0-40	2213	40.2	43.0
0-60	3975	72.3	77.2
0-90	5150	93.6	100.0
0-180	5150	93.6	100.0

ENERGY DATA

Total Luminaire Efficiency	93.6%
Luminaire Efficacy Rating (LER)	96
IESNA RP-1-1993 Compliance	Noncompliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.50 based on 3000 hrs. and \$0.08 per KWH

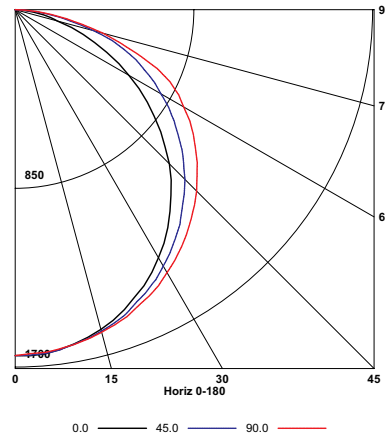
COEFFICIENTS OF UTILIZATION (%)

RCR	RW	80				70				50				0
		70	50	30	10	70	50	30	10	50	30	10	0	
1	102	97	93	89	89	99	95	91	88	91	88	85	78	
2	92	84	78	72	90	82	76	71	79	74	69	64		
3	84	74	66	59	81	72	65	59	69	63	58	54		
4	76	65	57	50	74	64	56	50	61	54	49	46		
5	70	58	49	43	68	57	49	43	55	48	42	39		
6	65	52	44	37	63	51	43	37	49	42	37	34		
7	60	47	39	33	58	46	38	33	45	38	33	30		
8	56	43	35	29	54	42	35	29	41	34	29	27		
9	52	39	32	26	51	39	31	26	38	31	26	24		
10	49	36	29	24	48	36	29	24	35	28	24	22		

RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

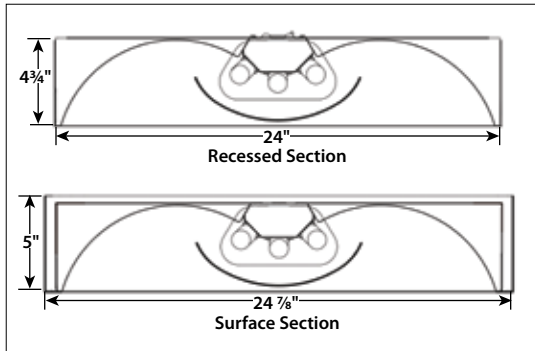
INDOOR CANDELA PLOT



AVG. LUMINANCE (Candela/Sq. M.)

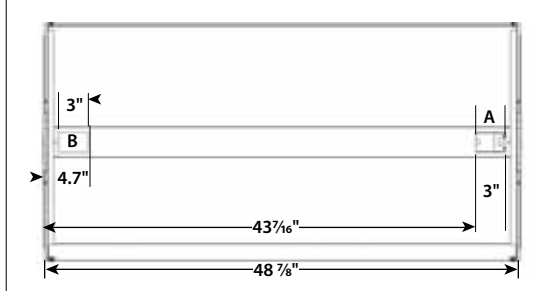
Average Luminance Angle	0.0	22.5	45.0	67.5	90.0
0	2474	2474	2474	2474	2474
30	2361	2386	2439	2487	2500
40	2250	2314	2417	2521	2548
45	2184	2267	2417	2545	2594
50	2077	2204	2407	2572	2635
55	1965	2138	2393	2610	2688
60	1827	2051	2386	2667	2756
65	1652	1975	2385	2748	2837
70	1476	1874	2369	2738	2658
75	1291	1762	2222	2399	2443
80	1098	1610	1932	2073	2065
85	856	1218	1530	1629	1612

DIMENSIONAL DATA

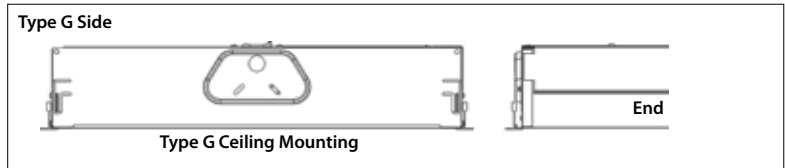


Top View

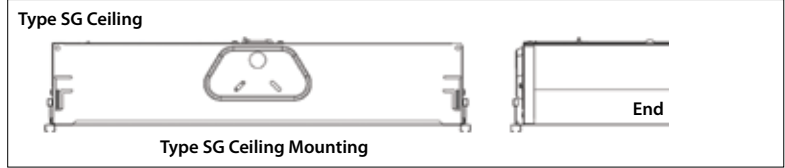
Surface K.O. Dimensions
A: 2" x 3" Access with (2) 7/8" Knockouts
B: 2" x 3" Rectangular Knockout



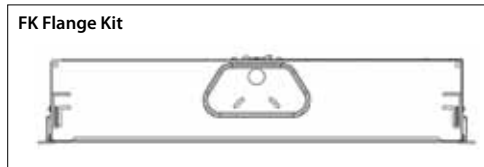
CEILING COMPATIBILITY



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



For 3/8" slot grid type ceilings. Luminaire will be recessed 3/8" horizontal surface of the tee. Slot grid tees must be field installed all around the fixture.



For hard ceiling applications, fixtures must be ordered with a flange kit that wires directly into the concealed ceiling opening for a clean finished appearance. For row configurations contact your local Columbia Representative.

Flange kit cut out dimension for single FK22 only: 24 3/8" x 24 3/8"

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