

createchange

FEATURES

- Enclosed high transmission acrylic lens features linear prisms with lamp-obscuring frost to provide visual comfort with high performance
- Appropriate for schools, medical facilities, dining areas, locker rooms, and public spaces
- Enclosed lens protects against intrusion of contaminants
- Lens gasket option and wet location listing available
- High performance matte white paint standard
- Optional Antimicrobial® paint (AM option) resists bacterial growth on exposed painted surfaces
- T5, or T5HO lamps available; for LED see LTRE series
- Controls compatible for code compliance and energy savings
- Mounting heights from 8' to 20' using a wide variety of available lumen packages
- Completely recessed, provides a smooth ceiling aesthetic with uniform illumination

PROJECT INFORMATION

Project Name _____

Type _____

Catalog No. _____

Date _____

CONSTRUCTION

Luminaire housing and end caps are die formed code gauge cold rolled steel. Reflector is stiffened with linear forms, profiled to a precision curve. High transmission extruded acrylic enclosed lens features linear prisms custom frost for superior lamp diffusion. All reflective surfaces are finished after fabrication with unique frosted high reflectivity matte white paint for soft, uniform indirect illumination. Optional Antimicrobial® paint (AM option) resists bacterial growth on exposed painted surfaces.

SHIELDING

Enclosed thermoplastic light shields snap into the housing at both ends of the lens to prevent light leaks. Lens hinges down for easy access to center wiring. Lens gaskets gasketing available to surround the lamp.

INSTALLATION

An access plate is furnished with the luminaire for easy wiring access from the ceiling. With the access plate removed, the fixture is ready for installation.

BALLAST

Energy efficient, thermally protected, automatic power factor correction, high power factor, sound reduction, unless otherwise specified, NEMA Premium® compliant.

ELECTRICAL

Standard Class "P", thermally protected, resetting HPIV ballast, sound reduction, NEMA Premium® compliant. Ballast leads are 18 AWG, 6" through hole, standard location. NEC/CEC approved ballast connection is standard.

CEILING COMPATIBILITY

IEC-compliant Bar Clips supplied with all trim fixtures. Screws and nuts on reverse. End of Row Slot Grid™ Screw Mountings (SG) order mounting type; fixture in SG will be recessed 3/8" from surface of the ceiling. For recessed mounting on grid ceilings order G ceiling type. For surface mounting on grid ceilings order G ceiling type. Surface Mount (SM) allows placement at ceiling below ceiling plane. Cable Mount (CM) option allows suspension below ceiling plane. Contact Hubbell Lighting representative for in-row mounting of SM or CM.

CERTIFICATION

All luminaires are built to UL 1598 standards and bear appropriate UL and cUL or CSA labels. Damp location listing is standard. Wet location listing available on most configurations. Emergency-equipped fixtures labeled UL 924 and dry location unless specified. For IC rated configurations, contact your local Hubbell Lighting representative. UL Sanitation Approved.

ORDERING INFORMATION

EXAMPLE TRE24-228G-RFA-EPU

MODEL	NO. OF LAMPS	CEILING TYPE	SHIELDING	VOLTAGE	OPTIONS
TRE Transition® Enclosed High Efficiency Architectural Lens	1 2 3	Grid Lay-in ¹ SM Surface Mount ² CM Cable Mount ²	RFA Ribbed Frosted Acrylic	U 120V-277V 347 347V	GLR Fast Blow Fuse GMF Slow Blow Fuse EL5 Emergency Battery Pack NYC NYC Compliant NYCU NYC Compliant, Union Label AM Antimicrobial® Paint ⁴ G1 Lens Gasketing WL Wet Label ^{5,7} EOR End of Row (SM and CM only. Provides end wiring access for continuous row mounting.) INT Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.) CP Chicago Plenum
SIZE	LAMP TYPE	BALLAST			
24"	28 40 or 28 Watt 50 T5HO: 54 or 51 Watt	ED Electronic Dimming EP Electronic, Programmed Start ESD95 Electronic T5 0.95 Ballast Factor, Step Dimming for 2-Lamp T5, Programmed Start (N/A T5HO, 1-Lamp) ³ EP85 Electronic T5, 0.85 Ballast Factor, Programmed Start (N/A T5HO) EP95 Electronic T5, 0.95 Ballast Factor, Programmed Start (N/A T5HO, 1-Lamp) ESD80 Electronic T5HO, 0.80 Ballast Factor, Step Dimming, Programmed Start (2-Lamp 54W only) ³ EP115 Electronic T5, 1.15 Ballast Factor, Programmed Start (N/A T5HO, 1-Lamp) ESD115 Electronic T5, 1.15 Ballast Factor, Step Dimming, Programmed Start (N/A T5HO, 1-Lamp) ³			

ACCESSORIES (ORDER SEPARATELY)

- FK24** 2' x 4' Single Flange Kit (Shipped separately)
- CM48Y2SC3F-KIT** 48" Cable Mount Kit for 2' wide CM Trim fixtures, 3 Wire

¹ For drywall order FK24 accessories separately.
² Order hanger accessories separately.
³ Can be converted to fixed output by tying hot leads together.
⁴ Optional Antimicrobial® paint (AM option) resists bacterial growth on exposed painted surfaces.
⁵ Not available with Cable Mount Ceiling Types.
⁶ In-Fixture Module Antenna adds 2" to overall fixture height at power feed location.
⁷ Not available with Surface Mount ceiling types.



PHOTOMETRIC DATA

LUMINAIRE DATA

Luminaire	TRE24-228G-RFA TRE Transition Enclosed, Recessed Architectural 2 x 4 2-lamp with frosted linear prisms lens
Ballast	ICN-2528-N
Ballast Factor	1.03
Lamp	F28T5
Lumens per Lamp	2730
Watts	62
Mounting	Recessed
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.24 90° = 1.38
Luminous Opening in Feet	Length: 3.92 Width: 1.88 Height: 0.00

COEFFICIENTS OF UTILIZATION (%)

RCR	RC	80				70				50				0				
		RW	70	50	30	10	70	50	30	10	50	30	10	0	50	30	10	0
1	100	95	91	87	98	93	89	86	89	86	83	76						
2	90	82	75	70	88	80	74	69	77	72	67	62						
3	82	72	64	57	80	70	63	57	67	61	56	52						
4	75	63	54	48	73	62	54	48	59	52	47	43						
5	69	56	47	41	67	55	47	41	53	46	40	37						
6	63	50	42	35	61	49	41	35	48	40	35	32						
7	59	45	37	31	57	45	37	31	43	36	31	28						
8	54	41	33	28	53	41	33	28	40	32	27	25						
9	51	38	30	25	49	37	30	25	36	29	25	23						
10	48	35	27	22	46	34	27	22	34	27	22	20						

RCR = Room Cavity Ratio
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ZONAL LUMEN SUMMARY

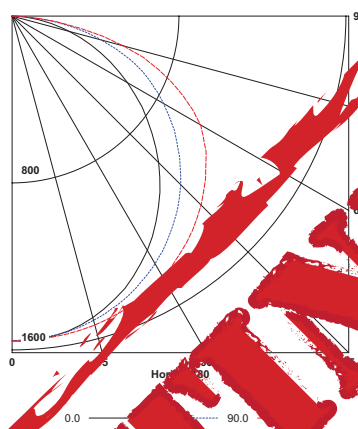
Zone	Lumens	% Lamp	% Fixt.
0-30	1233	22.6	24.3
0-40	2048	37.5	40.4
0-60	3773	69.1	74.4
0-90	5070	92.9	100.0
0-180	5070	92.9	100.0

Test 6794 Test Date 4/12/2013

ENERGY DATA

Total Luminaire Efficiency	92.9%
Luminaire Efficacy Rating (LER)	84
IESNA RP-1-1993 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.86 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	2273	2273	2273	2273	2273
10	2188	2188	2188	2402	2402
20	2168	2168	2359	2498	2498
30	2144	2144	2359	2563	2646
40	2112	2112	2379	2646	2749
50	2078	2078	2402	2748	2888
60	2045	2045	2402	2874	3047
65	1794	2008	2402	2972	3124
70	1704	1994	2545	3006	3182
75	1591	1994	2500	2997	3138
80	1452	1867	2389	2675	2708
85	1276	1676	1994	2112	2195

PHOTOMETRIC DATA

LUMINAIRE DATA

Luminaire	TRE24-328G-RFA TRE Transition Enclosed, Recessed Architectural 2 x 4 3-lamp with frosted linear prisms lens
Ballast	ICN-2528-N
Ballast Factor	1.03
Lamp	F28T5
Lumens per Lamp	2730
Watts	92
Mounting	Recessed
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.24 90° = 1.38
Luminous Opening in Feet	Length: 3.92 Width: 1.88 Height: 0.00

COEFFICIENTS OF UTILIZATION (%)

RCR	RC	80				70				50				0				
		RW	70	50	30	10	70	50	30	10	50	30	10	0	50	30	10	0
1	97	93	88	84	95	90	87	83	87	83	80	74						
2	88	80	73	67	88	80	72	67	75	70	65	60						
3	80	69	62	55	80	70	61	55	65	59	54	50						
4	73	61	53	46	70	60	52	46	58	51	45	42						
5	67	54	46	40	65	53	45	39	51	44	39	36						
6	61	49	40	34	60	48	40	34	46	39	34	31						
7	57	44	36	30	55	43	36	30	42	35	30	27						
8	53	40	32	27	51	40	32	27	38	31	26	24						
9	49	37	29	24	48	36	29	24	35	28	24	22						
10	46	34	27	22	45	33	26	22	32	26	21	20						

RCR = Room Cavity Ratio
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ZONAL LUMEN SUMMARY

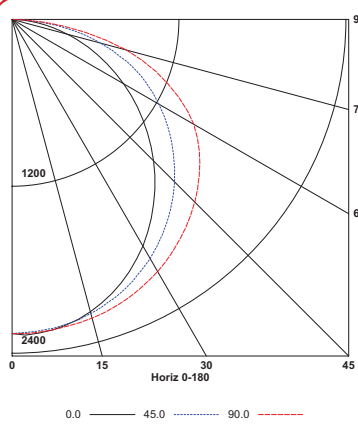
Zone	Lumens	% Lamp	% Fixt.
0-30	1789	24.2	24.2
0-40	2969	40.2	40.2
0-60	5469	74.0	74.0
0-90	7393	100.0	100.0
0-180	7393	100.0	100.0

Test 6793 Test Date 4/12/2013

ENERGY DATA

Total Luminaire Efficiency	90.3%
Luminaire Efficacy Rating (LER)	83
IESNA RP-1-1993 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.89 based on 3000 hrs. and \$0.08 per KWH

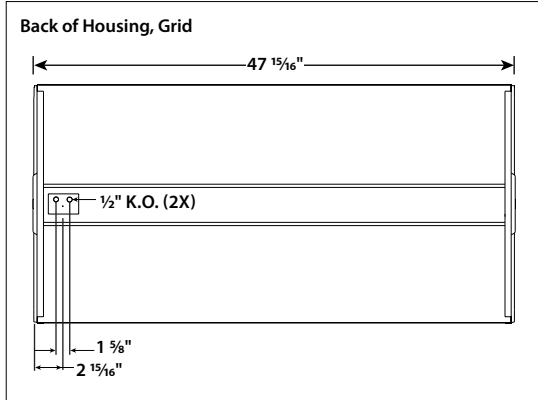
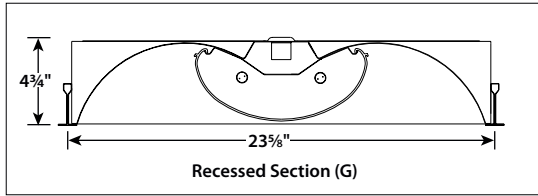
INDOOR CANDELA PLOT



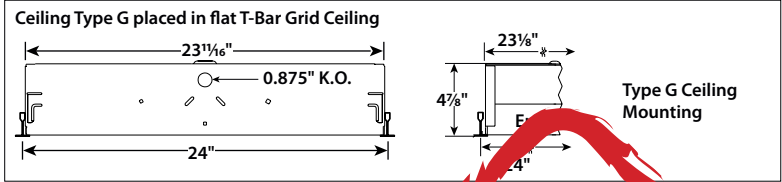
AVG. LUMINANCE (Candela/Sq. M.)

Average Luminance Angle	0.0	22.5	45.0	67.5	90.0
0	3298	3298	3298	3298	3298
10	3172	3172	3346	3481	3528
20	3043	3135	3382	3619	3708
30	2970	3094	3410	3716	3834
40	2886	3047	3440	3831	3988
50	2801	3005	3494	3988	4181
60	2705	2956	3561	4169	4405
65	2595	2907	3646	4330	4562
70	2481	2861	3720	4441	4710
75	2325	2822	3730	4537	4797
80	2153	2751	3676	4323	4492
85	1927	2564	3335	3771	3905

DIMENSIONAL DATA — GRID



CEILING COMPATIBILITY



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

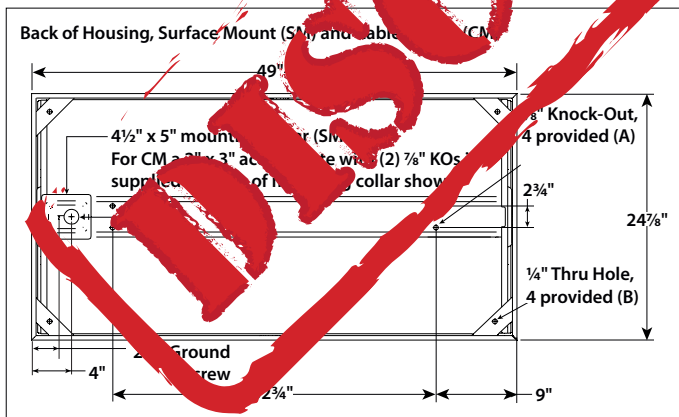


For 3/8" slot grid type ceilings. Luminaire will be recessed 3/8" above the face of the ceiling.



For hard ceiling applications, the fixture must be ordered with a flange kit that wires directly into the concealed ceiling. The ceiling will have a clean, finished appearance. For row configurations contact your local Columbia Representative.
Flange kit dimensions: Flange Kit Angle FK24 2 1/8" x 48 3/8"

DIMENSIONAL DATA — SURFACE MOUNT



Surface Mount:
Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, 3/8", provided in center channel as indicated at left, marked "A".

Cable Mount:
Order CM ceiling type. Use CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide CM ceiling type fixtures. Mounting holes are provided in diagonal straps shown at left, marked "B".

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