

### FEATURES

- Linear fluorescent reflector technology in a recessed troffer
- Extremely efficient fluorescent luminaire replaces HID in a variety of applications
  - Energy savings up to 51%
  - Excellent lumen maintenance (94%-95% versus ~65% for typical metal halide)
  - Higher maintained lumens per watt (up to 83, versus 40 for typical metal halide high bay)
  - Instant restrike
  - Consistent color
  - Superior color rendering (82-84 CRI, versus 65-70 for metal halide)
  - Wide choice of lamp color
- Highly specular contoured reflectors drive light down to provide excellent vertical footcandles
- Battery pack option (-EL) provides instant-on emergency illumination (not available for wet location)
- Tool-free access to lamps and ballasts on aluminum door units
- Rounded edges and corners for safe handling and installation
- UL listed 1598

### PROJECT INFORMATION

Project Name \_\_\_\_\_

Type \_\_\_\_\_

Catalog No. \_\_\_\_\_

Date \_\_\_\_\_

### CONSTRUCTION

Luminaire housing and end caps are die-formed code gauge cold rolled steel. Lampholders are rotary locking type.

### FINISH

All metal parts are processed with a 5-phase phosphate bonding treatment. Grid units are pre-painted with high gloss baked white enamel, 86% reflective. Polyester powder coat paint after fabrication (PAF) option available, reflectance 90%.

### SHIELDING

Standard lens is clear, smooth, 100% virgin acrylic. For other available lenses consult lens option sheet or contact your Columbia representative. Standard flush door is formed steel with mitered corners. Doors are retained by cam action latches, are easily removed without tools, and hinge from either side.

### INSTALLATION

For fast wiring connections without the necessity of opening fixture or wireway, a flex connector adapter plate is furnished with each luminaire.

### BALLAST AND ELECTRICAL

Energy-efficient electronic, thermally protected, automatic resetting, Class P, high power factor, sound rated A. Positive stop, anti-vibrational locking lampholders. All configurations have been heat tested to ensure reliable operation and performance under normal conditions. CEE NEMA Premium compliant.

### CEILING COMPATIBILITY

Luminaire is available to fit most standard ceiling types as shown at the left. For information on compatibility with specific ceilings, contact your Columbia representative. Luminaires are provided standard with integral T-bar clips or wing hangers as appropriate.

### 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 LHG24-654G-FACA-M4R-4EPU

LHG		24	-	-	-	-	-
MODEL	NO. OF LAMPS	CEILING TYPE	DOOR STYLE	REFLECTOR	VOLTAGE	OPTIONS	
LHG Recessed Fluorescent High Bay	4 Four 6 Six	G Inverted T-Bar F Flange SM Surface Mount	Blank None FS Flush Steel FA Flush Aluminum RA Regressed Aluminum	M4R MIRO®-4, 95% Reflectance (S/MH = 1.0) GW Gloss White Powder Coat (S/MH = 1.4)	U 120V-277V 347 347V (HO only) 480 480V (HO only)	F0735 T8 Lamp Installed, 75 CRI, 3500K F0741 T8 Lamp Installed, 75 CRI, 4100K F0750 T8 Lamp Installed, 75 CRI, 5000K F5830 T5 or T5HO Lamp Installed, 82 CRI, 3000K F5835 T5 or T5HO Lamp Installed, 82 CRI, 3500K F5841 T5 or T5HO Lamp Installed, 82 CRI, 4100K GMF Slow Blow Fuse GLR Fast Blow Fuse EL Emergency Battery Pack PAF Paint After Fabrication	
SIZE	LAMP TYPE	SHIELDING		BALLAST			
24 2' x 4'	28 4', T5: 28 Watt 32 4', T8: 32, 30, 28 or 25 Watt 54 4', T5HO: 54 Watt	Blank None CA Clear Acrylic CP Clear Polycarbonate A12.125 Acrylic Prismatic Pattern 12, 0.125" Thick A15 Acrylic Prismatic Pattern 15 A19 Acrylic Prismatic Pattern 19 CAWG Clear Acrylic with White Wire Guard CPWG Clear Polycarbonate with White Wire Guard	<b>T8</b> E (2) 2-Lamp Electronic T8, Instant Start EP (2) 2-Lamp Electronic T8, Programmed Start EHL (2) 2-Lamp Electronic T8 High Light Output, Instant Start 4E (1) 4-Lamp Electronic T8, Instant Start 4EP (1) 4-Lamp Electronic T8, Programmed Start 4EHL (1) 4-Lamp Electronic T8 High Light Output, Instant Start 3E (2) 3-Lamp Electronic T8, Instant Start 3EP (2) 3-Lamp Electronic T8, Programmed Start 3EHL (2) 3-Lamp Electronic T8 High Light Output, Instant Start 24E (1) 2-Lamp and (1) 4-Lamp Electronic T8, Instant Start 24EP (1) 2-Lamp and (1) 4-Lamp Electronic T8, Programmed Start 24EHL (1) 2-Lamp and (1) 4-Lamp Electronic T8 High Light Output, Instant Start <b>T5HO</b> EP (2 or 3) 2-Lamp T5 or (2) 2-Lamp T5HO, Programmed Start 4EP (1) 4-Lamp T5HO, Programmed Start 24EP (1) 2-Lamp and (1) 4-Lamp T5HO, Programmed Start				

### ACCESSORIES (ORDER SEPARATELY)

OS1K Occupancy Sensor Kit, 120/277/347V, one relay<sup>1</sup>

OS2K Occupancy Sensor Kit, 120/277/347V, two relay<sup>1</sup>

<sup>1</sup>Use programmed start ballast. Not recommended for use with an instant start. For more occupancy/daylight harvesting sensor accessories contact your Columbia Lighting representative.

<sup>1</sup> Only to be used in surface mount applications.

### PHOTOMETRIC DATA

#### LUMINAIRE DATA

Luminaire	LHG24-654G-M4R-24EP 2' x 4' 6-Lamp with MIRO4 Aluminum Reflectors
Ballast	ICN455490C2LS
Ballast Factor	1.00
Lamp	F54T5HO
Lumens per Lamp	4450
Total Input Watts	327
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.23 90° = 0.78

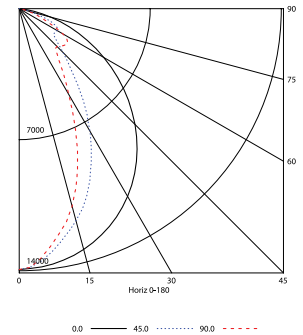
#### AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	20079	20079	20079	20079	20079
30	19257	16517	12574	9667	8785
40	18424	13854	8233	6223	5921
45	17817	12115	6763	5750	5817
50	17074	10069	5755	6663	6879
55	16161	8063	5736	7558	7980
60	15043	6353	6733	7978	7731
65	13709	5044	7461	6449	5674
70	12026	4972	6026	4597	4222
75	9817	5741	3981	2751	2328
80	6590	3743	2075	1477	1336
85	2067	2133	1968	2133	1968

#### COEFFICIENTS OF UTILIZATION (%)

RCR	80				70				50				0
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	94	90	87	84	91	88	85	83	85	82	80	74	
2	86	80	75	71	84	79	74	70	76	72	68	64	
3	80	72	66	61	78	70	65	60	68	63	59	55	
4	74	65	58	53	72	63	57	52	61	56	52	49	
5	68	58	52	47	67	58	51	46	56	50	46	43	
6	64	53	46	42	62	53	46	41	51	45	41	39	
7	59	49	42	37	58	48	42	37	47	41	37	35	
8	56	45	39	34	54	45	38	34	44	38	34	32	
9	52	42	35	31	51	41	35	31	40	35	31	29	
10	49	39	33	29	48	39	33	29	38	32	28	27	

#### Test 13870 Test Date 3/9/05 INDOOR CANDELA PLOT



RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

#### ENERGY DATA

Total Luminaire Efficiency	84.7%
Luminaire Efficacy Rating (LER)	69
ANSI/IESNA RP-1-2004 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.48 based on 3000 hrs. and \$0.08 per KWH

#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	4127	23.2	40.1
0-40	6131	34.4	59.6
0-60	8983	50.5	87.3
0-90	10289	57.8	100.0
0-180	10289	57.8	100.0

#### LUMINAIRE DATA

Luminaire	LHG24-632GH-M4R-3E 2' x 4' 6-Lamp with MIRO4 Reflectors
Ballast	REL-2P32-SC
Ballast Factor	0.88
Lamp	F32T8
Lumens per Lamp	2900
Total Input Watts	170
Shielding Angle	0° = 0 90° = 0
Spacing Criterion	0° = 1.22 90° = 0.80

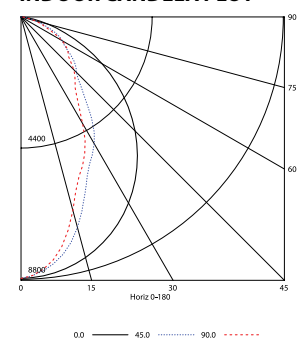
#### AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	12642	12642	12642	12642	12642
30	11998	9519	8173	7096	6876
40	11425	8103	6000	5326	5313
45	11030	7439	5356	5191	5104
50	10520	6363	5233	4773	4686
55	9867	5329	4691	4759	4782
60	9039	4831	4600	4626	4580
65	7983	4423	4430	3905	3782
70	6654	4071	3565	3232	3207
75	5257	3631	2935	2589	2517
80	3610	2614	2133	1701	1677
85	2034	1753	1736	1736	1654

#### COEFFICIENTS OF UTILIZATION (%)

RCR	80				70				50				0
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	94	91	87	85	92	89	86	83	85	83	81	74	
2	87	80	75	71	85	79	74	70	76	72	69	64	
3	80	72	66	61	78	71	65	60	68	63	59	55	
4	74	65	58	53	72	63	57	52	61	56	52	49	
5	68	58	51	46	67	58	51	46	56	50	46	43	
6	64	53	46	41	62	52	46	41	51	45	41	38	
7	59	49	42	37	58	48	42	37	47	41	37	35	
8	56	45	38	34	54	44	38	33	43	37	33	31	
9	52	42	35	31	51	41	35	31	40	34	30	29	
10	49	39	32	28	48	38	32	28	37	32	28	26	

#### Test 13877 Test Date 3/16/05 INDOOR CANDELA PLOT



RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

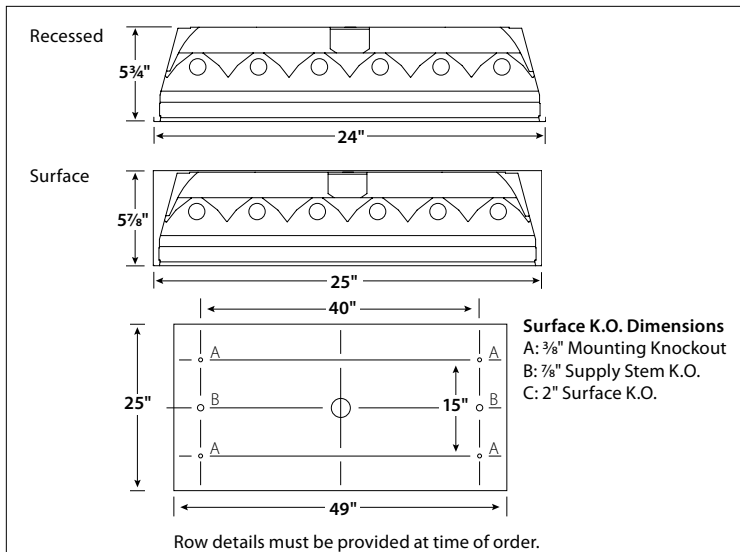
#### ENERGY DATA

Total Luminaire Efficiency	85.4%
Luminaire Efficacy Rating (LER)	77
ANSI/IESNA RP-1-2004 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.12 based on 3000 hrs. and \$0.08 per KWH

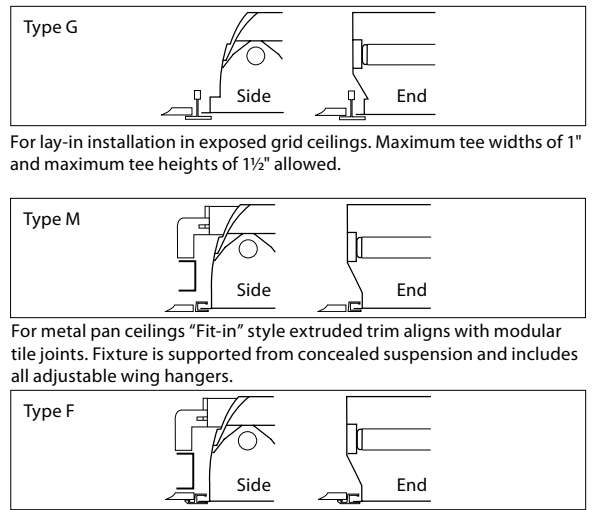
#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	5583	32.1	37.6
0-40	8308	47.7	55.9
0-60	12751	73.3	85.8
0-90	14856	85.4	100.0
0-180	14856	85.4	100.0

#### DIMENSIONAL DATA



#### CEILING COMPATIBILITY



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

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