

PROJECT INFORMATION

Project Name _____

Type _____

Catalog No. _____

Date _____

FEATURES

- Extremely efficient fluorescent luminaire replaces HID in retail and industrial 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)
- Damp label standard, wet location label option.
- Fully sealed housing for use in Class I Cleanroom applications
- Anodized extruded aluminum door frame
- One-piece, 18 gauge stainless or cold-rolled steel doors available

CONSTRUCTION

Riveted code gauge steel construction.

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 anodized aluminum with mitered corners, is retained by slide latches, is easily removed without tools, and hinges from either side.

REFLECTOR

Choice of MIRO®-4 95% reflectance multi-faceted specular aluminum reflector, low iridescent specular anodized aluminum, or high reflectance powder coat white paint. Retained with quarter-turn fasteners for tool-free ballast access.

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.

FINISH

All steel surfaces are painted after fabrication with high gloss baked white enamel, applied over iron phosphate pre-treatment for maximum adhesion and rust resistance.

MOUNTING

Choice of mounting hardware, including the fast and flexible GLH adjustable cable system for simplified mounting to wood, concrete or steel ceiling decks, or to beams, purlins or metal strut. Also available with hardware to mount with jack chain or directly to metal strut. Optional safety tether available.

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 LHC164-454-FACA-M4R-4EPU

LHC 164 - 4							
MODEL	NO. OF LAMPS	DOOR STYLE	REFLECTOR	BALLAST	VOLTAGE	OPTIONS	
LHC Enclosed & Gasketed Linear High Bay	4 Four	FA Flush Aluminum FCS Flush One-Piece Steel Door FSS Flush One-Piece Stainless Steel Door	M4R MIRO®-4, 95% Reflectance LS Specular Anodized Aluminum GW Gloss White Powder Coat	E (2) 2-Lamp Electronic T8, Instant Start EHL (2) 2-Lamp Electronic T8 High Light Output, Instant Start 4E (1) 4-Lamp Electronic T8, Instant Start EP (2) 2-Lamp Electronic T5 or T8, Programmed Start 4EP 4-Lamp Electronic T5 or T8, Programmed Start (N/A 347V or 480V)	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 F5835 T5 or T5HO Lamp Installed, 82 CRI, 3500K F5841 T5 or T5HO Lamp Installed, 82 CRI, 4100K F5850 T5 or T5HO Lamp Installed, 82 CRI, 5000K WL Wet Location GMF Slow Blow Fuse GLR Fast Blow Fuse EL Emergency Battery Pack WG Wire Guard (FA Door Frame Required) ²	
SIZE	LAMP TYPE	SHIELDING					
164 16" x 4'	28 4', T5: 28 Watt 32 4', T8: 32, 30, 28 or 25 Watt 54 4', T5HO: 54 Watt	CA Clear Acrylic CP Clear Polycarbonate A12 Acrylic Prismatic Pattern 12 A15 Acrylic Prismatic 15 A19 Acrylic Prismatic 19					
ACCESSORIES (ORDER SEPARATELY)							
LHHB-LHC	Universal Hanger Bracket Kit - LHC						
GLH5	5' Adjustable Cable Kit ¹						
GLH10	10' Adjustable Cable Kit ¹						
GLH15	15' Adjustable Cable Kit ¹						
LHTF	Fixture Safety Tether						

²Not available with FCS or FSS door.

¹Use with LHHB.



PHOTOMETRIC DATA

LUMINAIRE DATA

Luminaire	LHC164-454-FAA12-M4R-EP LHC Industrial 16" x 48" 4-lamp with acrylic A-12 lens and specular reflectors.
Ballast	ICN-2554
Ballast Factor	1.00
Lamp	F54T5HO
Lumens per Lamp	4450
Total Input Watts	186
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.15 90° = 0.84

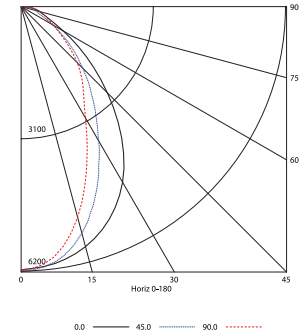
AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
Average Luminance Angle	0	15695	15695	15695	15695
	30	13966	12774	10686	9324
	40	11739	10219	8390	7491
	45	10284	8838	7353	6763
	50	8789	7428	6392	5929
	55	7274	6259	5364	5124
	60	5771	5202	4302	4419
	65	4675	4271	3507	3953
	70	4245	3791	3115	3858
	75	4362	3949	3487	4018
	80	4890	4627	4349	4641
	85	5572	5368	4814	5980

COEFFICIENTS OF UTILIZATION (%)

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

Test 14362 Test Date 8/10/06 INDOOR CANDELA PLOT



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

ENERGY DATA

Total Luminaire Efficiency	57.8%
Luminaire Efficacy Rating (LER)	55
IESNA RP-1-1993 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$4.36 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	LHC164-432-FAA12-M4R-E LHC Industrial 16" x 48" 4-lamp with A-12 prismatic lens and specular reflectors.
Ballast	REL-4P32-SC
Ballast Factor	0.88
Lamp	F32T8
Lumens per Lamp	2900
Total Input Watts	103
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.15 90° = 0.88

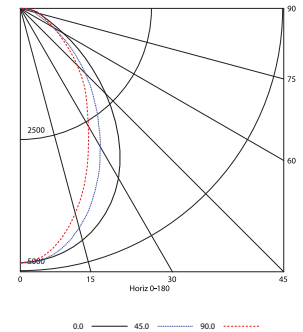
AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
Average Luminance Angle	0	12334	12334	12334	12334
	30	10980	10325	8954	7962
	40	9356	8566	7162	6399
	45	8277	7493	6314	5670
	50	7112	6348	5403	4928
	55	5953	5355	4521	4247
	60	4810	4439	3641	3626
	65	3935	3658	2924	3207
	70	3524	3219	2550	3100
	75	3546	3252	2839	3261
	80	3953	3631	3617	3719
	85	4405	4376	4055	4784

COEFFICIENTS OF UTILIZATION (%)

RCR	RC	80				70				50				0
		RW	70	50	30	10	70	50	30	10	50	30	10	0
1	80	77	74	72	78	76	73	71	72	70	69	63	63	
2	74	69	64	61	72	67	63	60	65	62	59	55	55	
3	68	62	56	52	67	61	56	52	59	54	51	48	48	
4	63	56	50	46	62	55	49	45	53	48	45	42	42	
5	59	51	45	40	57	50	44	40	48	43	40	38	38	
6	55	46	40	36	54	46	40	36	44	39	36	34	34	
7	51	42	37	33	50	42	36	32	41	36	32	30	30	
8	48	39	33	30	47	39	33	29	38	33	29	28	28	
9	45	36	31	27	44	36	31	27	35	30	27	25	25	
10	43	34	28	25	42	33	28	25	33	28	25	23	23	

Test 14386 Test Date 9/11/06 INDOOR CANDELA PLOT



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

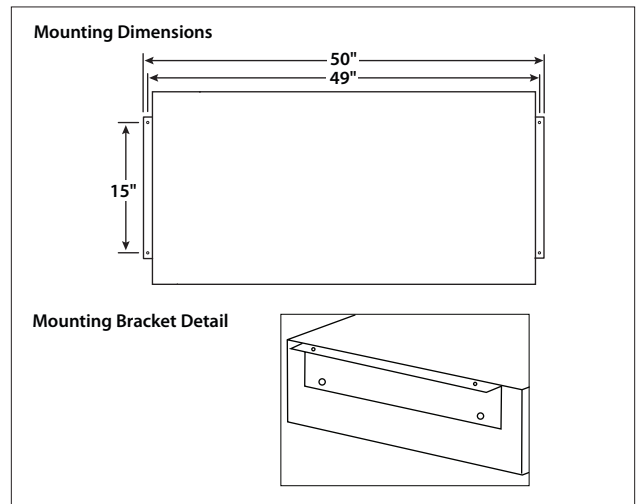
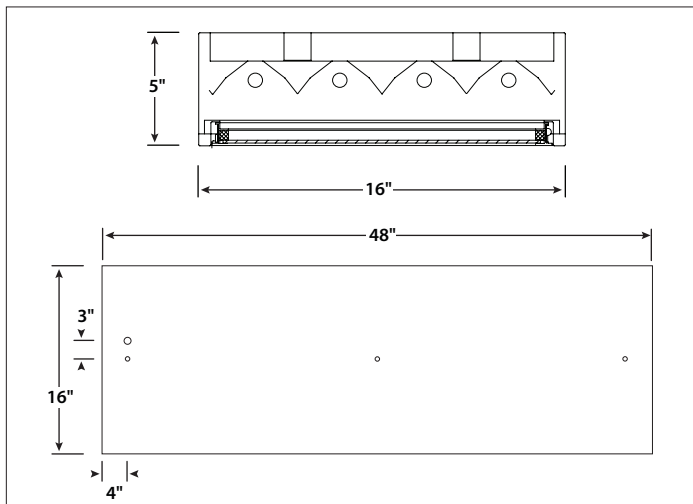
ENERGY DATA

Total Luminaire Efficiency	72.8%
Luminaire Efficacy Rating (LER)	72
IESNA RP-1-1993 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.33 based on 3000 hrs. and \$0.08 per KWH

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	3301	28.5	39.1
0-40	4975	42.9	58.9
0-60	7366	63.5	87.3
0-90	8441	72.8	100.0
0-180	8441	72.8	100.0

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.