

FEATURES

- Extremely efficient fluorescent luminaire replaces HID in retail and industrial applications
 - Energy savings up to 51%
 - Excellent lumen maintenance (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 CRI, versus 65-70 for metal halide)
 - Wide choice of lamp color
- Highly specular contoured reflectors drive light down to provide excellent vertical footcandles
- Choice of uplight option
- Battery pack option (-EL) provides instant-on emergency illumination
- Tool-free access to lamps and ballasts
- Rounded edges and corners for safe handling and installation

PROJECT INFORMATION

Project Name _____

Type _____

Catalog No. _____

Date _____

CONSTRUCTION

Riveted code gauge steel construction. Die-embossed for rigidity.

REFLECTOR

Multi-faceted 95% reflectance MIRO®-4 reflector provides precise control and excellent efficiency. Also available in white powder coat for broad light distribution. Optional 8% uplight may be specified. 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 pre-painted 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 LHR4-654-M4RU-4EPU-F0741

LHR 4 - 6							
MODEL	NO. OF LAMPS	REFLECTOR	UPLIGHT	VOLTAGE	OPTIONS		
LHR Ultra-Efficient Fluorescent High Bay	6 Six	M4R MIRO®-4, 95% Reflectance (S/MH = 0.8) GW Gloss White Powder Coat (S/MH = 1.4) LS Specular Anodized Aluminum	ST Solid Top (No Uplight) U 8% Uplight	U 120V-277V 347 347V 480 480V	F5835 T5 or T5HO Lamp Installed, 82CRI, 3500K F5841 T5 or T5HO Lamp Installed, 82CRI, 4100K F5850 T5 or T5HO Lamp Installed, 82 CRI, 5000K F0735 T8 Lamp Installed, 75 CRI, 3500K F0741 T8 Lamp Installed, 75 CRI, 4100K F0750 T8 Lamp Installed, 75 CRI, 5000K GLR Fast Blow Fuse EL Emergency Battery Pack F3C5 3-conductor 5' Feed Cord Wired to Fixture F3C10 3-conductor 10' Feed Cord Wired to Fixture F3C15 3-conductor 15' Feed Cord Wired to Fixture F4C5 4-conductor 5' Feed Cord Wired to Fixture F4C10 4-conductor 10' Feed Cord Wired to Fixture F4C15 4-conductor 15' Feed Cord Wired to Fixture C6TL15 6' Cord and Twist-Lock™ Plug 15A (Add Voltage: 1=120, 2=277) C6TL20 6' Cord and Twist-Lock™ Plug 20A (Specify Voltage 1=120, 2=277) C6P15 6' Cord and Straight Blade Plug 15A (Add Voltage: 1=120, 2=277) FSCA Flush Steel Door with Clear Acrylic Lens FSCP Flush Steel Door with Clear Polycarbonate Lens FSCAWG Flush Steel Door with Clear Acrylic Lens and Flat Wire Guard FSCPWG Flush Steel Door with Clear Polycarbonate Lens and Flat Wire Guard PAF Paint After Fabrication LHTD Safety Tether for Door Assembly, Fastened to Fixture Housing		
SIZE	LAMP TYPE	BALLAST					
4 48" x 23½"	28 4', T5: 28 Watt 32 4', T8: 32, 30, 28 or 25 Watt 54 4', T5HO: 54 or 51 Watt	3E (2) 3-Lamp Electronic T8, Instant Start 3EHL (2) 3-Lamp Electronic T8 High Light Output, Instant Start 24E (1) 2-Lamp and (1) 4-Lamp Electronic T8, Instant Start EP (3) 2-Lamp Electronic T5, Programmed Start 3EP 3-Lamp Electronic T5HO (N/A 347V) or T8, Programmed Start 24EP (1) 2-Lamp and (1) 4-Lamp Electronic T5HO (N/A 347V or 480V) or T8, Programmed Start					
ACCESSORIES (FIELD INSTALLED)							
LHTF Fixture Safety Tether LHHB-LHR4-6LT Universal Hanger Bracket Kit LHSH Metal Strut Hanger GLH5 5' Adjustable Cable Kit* GLH10 10' Adjustable Cable Kit* GLH15 15' Adjustable Cable Kit* LHRWG6K Wire Guard for LHR4-6 Light (Cage Type, not to be used with any door options) OS1K Occupancy Sensor Kit, 120/277/347V, one relay** OS2K Occupancy Sensor Kit, 120/277/347V, two relay**							

*Use with LHHB-LHR4-6LT

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



PHOTOMETRIC DATA

Test 13355 Test Date 5/20/03

LUMINAIRE DATA

Luminaire	LHR4-632-M4RU LHR Industrial 2' x 4' 6-Lamp with MIRO4 Reflector with 4 Rows Uplight Slots
Ballast	REL3P325C
Ballast Factor	0.87
Lamp	F32T8
Lumens per Lamp	2900
Total Input Watts	169
Shielding Angle	N/A
Spacing Criterion	Along = 1.27 Across = 0.84

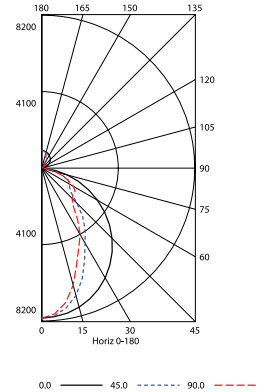
AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
Average Luminance Angle	0	11225	11225	11225	11225
	30	10945	9511	7475	6849
	40	10682	7936	6233	5037
	45	10495	7191	5281	4524
	50	10291	6582	4468	4627
	55	9988	5888	4426	5076
	60	9628	4907	4704	5449
	65	9166	4040	5235	5179
	70	8557	4042	4972	4833
	75	7648	4619	4527	4290
	80	6218	4201	3848	3446
	85	3745	3297	2401	1873

COEFFICIENTS OF UTILIZATION (%)

RCR	80					70					50					0
	RW	70	50	30	10	70	50	30	10	50	30	10	0	0		
1	105	101	97	93	101	98	94	91	92	89	87	76				
2	96	89	82	77	93	86	80	76	81	77	73	64				
3	88	79	71	65	85	76	70	64	72	67	62	55				
4	81	70	62	56	78	68	61	55	65	59	54	48				
5	75	63	55	49	72	62	54	48	59	52	47	42				
6	70	57	49	43	67	56	48	43	54	47	42	38				
7	65	52	44	39	63	51	44	38	49	42	37	34				
8	61	48	40	35	59	47	40	35	45	39	34	31				
9	57	44	37	32	55	44	36	31	42	35	31	28				
10	53	41	34	29	52	40	34	29	39	33	28	26				

INDOOR CANDELA PLOT



ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	5388	31.0	31.7
0-40	8144	46.8	47.9
0-60	12695	73.0	74.7
0-90	15474	87.9	88.6
0-180	16994	97.7	100.0

RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ENERGY DATA

Total Luminaire Efficiency	97.7%
Luminaire Efficacy Rating (LER)	88
IESNA RP-1-1993 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.73 based on 3000 hrs. and \$0.08 per KWH

LUMINAIRE DATA

Luminaire	LHR4-654-M4RU LHR Industrial 2' x 4' 6-Lamp with MIRO4 Reflector and 4 Rows Uplight Slots (3)ICN2S54
Ballast	
Ballast Factor	1.00
Lamp	F54T5
Lumens per Lamp	4400
Total Input Watts	360
Shielding Angle	N/A
Spacing Criterion	Along = 1.25 Across = 0.90

AVG. LUMINANCE (Candela/Sq. M.)

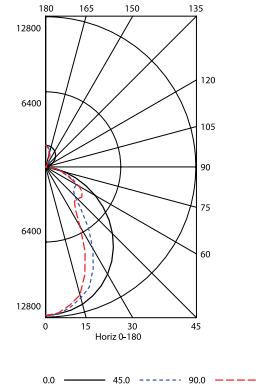
	0.0	22.5	45.0	67.5	90.0
Average Luminance Angle	0	17725	17725	17725	17725
	30	17041	15969	13007	10349
	40	16385	13810	8504	6905
	45	15930	12212	6972	7166
	50	15357	10298	6685	8164
	55	14578	7932	7381	9037
	60	13661	6292	8426	9270
	65	12490	5846	8695	8020
	70	11018	6484	7530	7068
	75	9135	6937	6445	7180
	80	6748	5532	6933	7295
	85	3754	5086	1219	850

COEFFICIENTS OF UTILIZATION (%)

RCR	80					70					50					0
	RW	70	50	30	10	70	50	30	10	50	30	10	0	0		
1	107	103	99	96	104	100	97	93	95	92	89	79				
2	98	91	85	79	95	88	83	78	84	79	75	68				
3	90	81	73	67	87	79	72	66	75	69	64	58				
4	83	72	64	58	81	71	63	57	67	61	56	51				
5	77	65	57	51	75	64	56	50	61	54	49	45				
6	72	59	51	45	69	58	50	45	56	49	44	40				
7	67	54	46	40	65	53	45	40	51	44	39	36				
8	62	50	42	36	61	49	41	36	47	40	36	33				
9	59	46	38	33	57	45	38	33	44	37	32	30				
10	55	43	35	30	54	42	35	30	41	34	30	27				

Test 13376 Test Date 9/03/04

INDOOR CANDELA PLOT



ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	8855	33.5	33.8
0-40	13140	49.8	50.2
0-60	20255	76.7	77.3
0-90	24437	92.6	93.3
0-180	26199	99.2	100.0

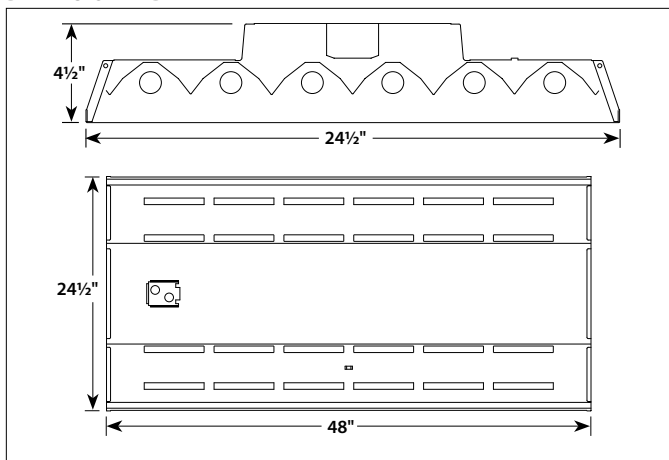
RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

ENERGY DATA

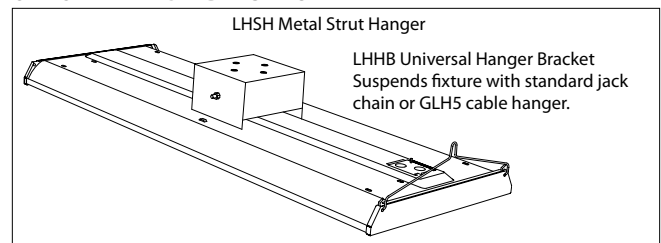
Total Luminaire Efficiency	99.2%
Luminaire Efficacy Rating (LER)	73
IESNA RP-1-1993 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.29 based on 3000 hrs. and \$0.08 per KWH

DIMENSIONAL DATA

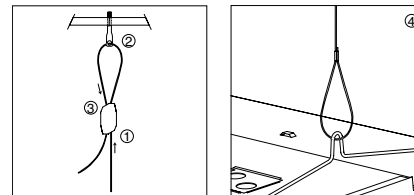


NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

OPTIONAL HANGER BRACKETS



GLH ADJUSTABLE CABLE KIT



- 1) Pass free end through grip fastener.
- 2) Feed free end around beam or through lag screw or eye bolt.
- 3) Return free end through grip fastener and adjust desired length.
- 4) Slip loop over LHHB bracket.