

**FEATURES**

- Used in high and low bay, aisle and task lighting applications
- Ideal for mounting heights ranging 8 to 40 feet
- Rugged 20 gauge riveted full body steel housing
- 95% specular aluminum reflectors for precise control or finished white reflectors available for wide light distribution
- Tool-less ballast access for easy service
- V-hangers included for chain hanging

**PROJECT INFORMATION**

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

Type \_\_\_\_\_

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

Date \_\_\_\_\_

**HOUSING**

20 gauge riveted steel housing

**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.

**FINISH**

Painted parts are treated with a five stage phosphate bonding process and finished with a high reflectance baked white enamel. End caps are painted after fabrication as standard.

**REFLECTOR**

Choice of 95% specular aluminum or finished white aluminum.

**CERTIFICATION**

All luminaires are built to UL 1598 standards and bear appropriate UL and cUL or CSA labels. Damp location labeling is standard.

**ORDERING INFORMATION**

**EXAMPLE LHS4-454-M4R-4EPU**

LHS		4 -				U -	
MODEL	NO. OF LAMPS IN CROSS SECTION	LAMP TYPE	BALLAST	VOLTAGE	OPTIONS	LAMPS INSTALLED	
LHS Slim Body Linear High Bay	4 Four 6 Six	32 4', T8: 32, 30, 28, or 25 Watt 54 4', T5HO: 54, 51, or 49 Watt	T8 4EHL (1) 4-Lamp Electronic T8 High Light Output, Instant Start 3EHL (2) 3-Lamp Electronic T8 High Light Output, Instant Start 4EPHL (1) 4-Lamp Electronic T8 High Light Output, Programmed Start 3EPHL (2) 3-Lamp Electronic T8 High Light Output, Programmed Start T5HO 4EP (1) 4-Lamp Electronic T5HO, Programmed Start 24EP (1) 4-Lamp and (1) 2-Lamp Electronic T5HO, Programmed Start	U 120V-277V	F3C5 3-Conductor Cord F4C5 4-Conductor Cord C8TL15 8' Cord and Twist-Lock™ Plug 15A (Add Voltage: 1=120, 2=277) C8P151 8' Cord and Straight Blade Plug 15A EL Emergency Battery Pack, T8 1100-1200 Lumens, 1 Lamp or T5HO 1150 Lumens, 1 Lamp WG Cage Type Wire Guard	T8 F0841 85 CRI, 4100K F0850 85 CRI, 5000K T5HO F5841 85 CRI, 4100K F5850 85 CRI, 5000K	
	SIZE 4 4'	REFLECTOR M4R Aluminum 95% Reflective, Specular Silver (Narrow Beam) GW Gloss White (Wide Beam)					
<b>ACCESSORIES (ORDER SEPARATELY)</b>							
LHTG5 Y-Fit Toggle Hanger, 5' Adjustable, Pair							
LHTG10 Y-Fit Toggle Hanger, 10' Adjustable, Pair							
LHS432WGK Wire Guard for 4-Lamp T8 Fixture							
LHS454WGK Wire Guard for 4-Lamp T5HO Fixture							
LHS632WGK Wire Guard for 6-Lamp T8 Fixture							
LHS654WGK Wire Guard for 6-Lamp T5HO Fixture							
GLH5 5', Adjustable Cable Kit							
GLH10 10', Adjustable Cable Kit							
GLH15 15', Adjustable Cable Kit							
OS1K Occupancy Sensor Kit, 120/277/347V, one relay*							
OS2K Occupancy Sensor Kit, 120/277/347V, two relay*							

\*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

### LUMINAIRE DATA

Luminaire	LHS4-632-M4R-3EU Linear Fluorescent High Bay Industrial 17" x 48", 6-lamp T8 with specular reflectors
Ballast	(2) GE-332-MAX-H/ ULTRA
Ballast Factor	1.18
Lamp	F32T8
Lumens per Lamp	2950
Watts	217
Mounting	Suspended
Shielding Angle	0° = 0 90° = 0
Spacing Criterion	0° = 1.24 90° = 1.57
Luminous Opening in Feet	Length: 4.00 Width: 1.33 Height: 0.00

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

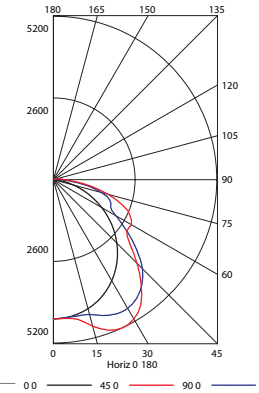
	0.0	22.5	45.0	67.5	90.0
Average Luminance Angle	0	8963	8963	8963	8963
	30	8675	9289	11051	11787
	40	8373	9910	11558	11637
	45	8166	10184	11463	10988
	50	7913	10353	10866	10205
	55	7595	10392	10085	9694
	60	7203	10197	9263	10687
	65	6712	9532	9604	12203
	70	6081	8359	11287	13358
	75	5261	7622	12399	13743
	80	4125	9496	12607	13854
	85	2577	9704	13024	15346

### COEFFICIENTS OF UTILIZATION (%)

RC	80				70				50				0
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	98	94	89	85	96	91	87	84	87	84	81	74	
2	89	81	74	68	86	79	73	67	75	70	66	60	
3	81	70	62	56	78	69	61	55	66	60	54	50	
4	74	62	54	47	71	61	53	47	58	51	46	42	
5	68	55	47	40	65	54	46	40	52	45	39	36	
6	62	49	41	35	60	49	40	35	47	40	34	31	
7	58	45	36	31	56	44	36	30	42	35	30	28	
8	54	41	33	27	52	40	32	27	39	32	27	24	
9	50	37	29	24	49	37	29	24	35	29	24	22	
10	47	34	27	22	45	34	27	22	33	26	22	20	

Test 19448 Test Date 04/13/09

### INDOOR CANDELA PLOT



RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

### ENERGY DATA

Total Luminaire Efficiency	91.8%
Luminaire Efficacy Rating (LER)	88
IESNA RP-1-2004 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.73 based on 3000 hrs. and \$0.08 per KWH

### ZONAL LUMEN SUMMARY

Zone	Lumens	Lamp	Fixt.
0-30	3822	21.6	23.5
0-40	6549	37.0	40.3
0-60	11875	67.1	73.1
0-90	16051	90.7	98.8
0-180	16244	91.8	100.0

### LUMINAIRE DATA

Luminaire	LHS4-454-M4R-4EPU Linear Fluorescent High Bay Industrial 12" x 48", 4-lamp T5HO with specular reflectors
Ballast	ICN-4554-90C-2LS-G
Ballast Factor	1.00
Lamp	F54T5HO
Lumens per Lamp	4500
Watts	226
Shielding Angle	0° = 0 90° = 0
Spacing Criterion	0° = 1.21 90° = 1.05
Luminous Opening in Feet	Length: 4.00 Width: 0.92 Height: 0.00

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

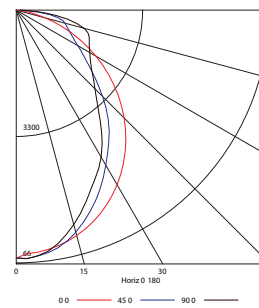
	0.0	22.5	45.0	67.5	90.0
Average Luminance Angle	0	18928	18928	18928	18928
	30	17776	17104	15776	15178
	40	16991	15640	14273	13078
	45	16476	14747	13204	12124
	50	15840	13838	12004	11708
	55	15039	12948	11178	11647
	60	14046	11823	10869	12250
	65	12776	10319	11150	13531
	70	11066	8997	12315	15924
	75	8872	8487	14895	19416
	80	6232	9601	18495	22066
	85	3121	12518	19399	22386

### COEFFICIENTS OF UTILIZATION (%)

RC	80				70				50				0
	RW	70	50	30	10	70	50	30	10	50	30	10	0
1	94	90	86	82	92	88	84	81	84	81	79	72	
2	86	78	72	67	83	77	71	66	74	69	65	60	
3	78	69	62	56	76	68	61	56	65	59	55	51	
4	72	61	54	48	70	60	53	47	58	52	47	44	
5	66	55	47	41	65	54	47	41	52	46	41	38	
6	61	50	42	36	60	49	42	36	47	41	36	34	
7	57	45	38	32	56	45	37	32	43	37	32	30	
8	53	42	34	29	52	41	34	29	40	33	29	27	
9	50	38	31	26	49	38	31	26	37	31	26	24	
10	47	35	29	24	46	35	28	24	34	28	24	22	

Test 22716 Test Date 04/13/09

### INDOOR CANDELA PLOT



RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

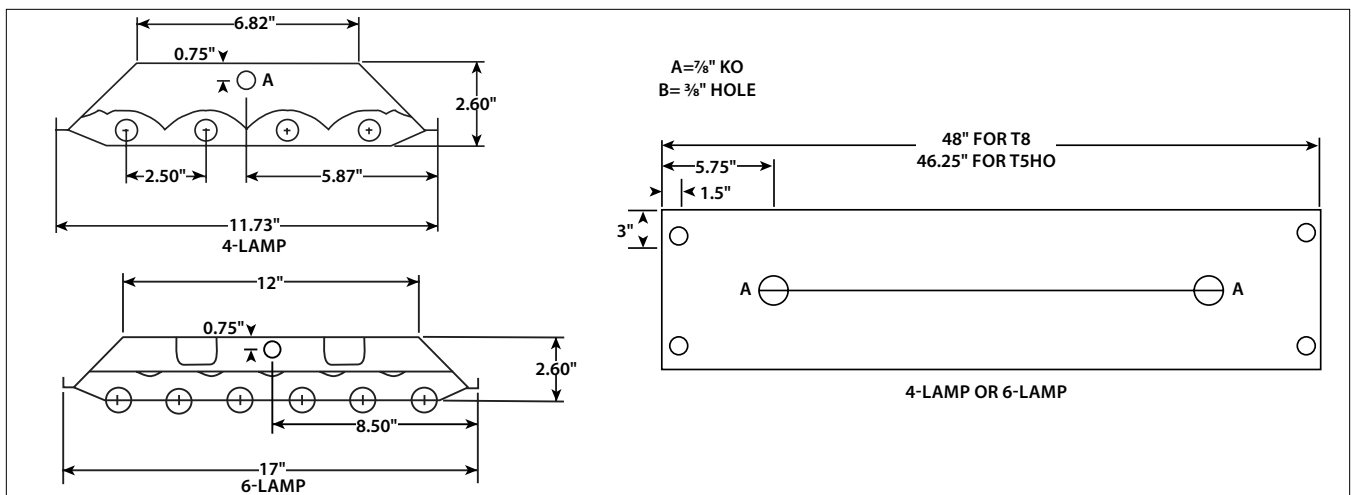
### ENERGY DATA

Total Luminaire Efficiency	87.3%
Luminaire Efficacy Rating (LER)	70
IESNA RP-1-2004 Compliance	Noncompliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.43 based on 3000 hrs. and \$0.08 per KWH

### ZONAL LUMEN SUMMARY

Zone	Lumens	Lamp	Fixt.
0-30	4687	26.0	29.8
0-40	7372	41.0	46.9
0-60	12087	67.1	76.9
0-90	15715	87.3	100.0
0-180	15715	87.3	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.