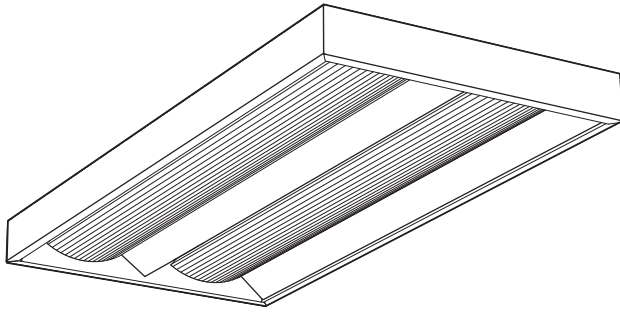
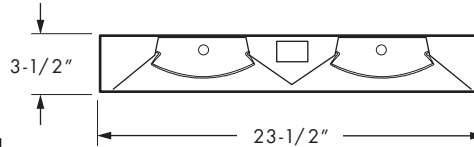


HIGH EFFICIENCY SURFACE MOUNT

SERIES **HES**
2' wide



2'x2' Dimensions: 23-11/16" x 23-1/2" x 3-1/2"
2'x4' Dimensions: 48-7/8" x 23-1/2" x 3-1/2"



JOB _____
TYPE _____
VOLTAGE _____

SPECIFICATIONS

- HOUSING – 22 gauge die-formed C.R.S.
- SHIELDING – Ribbed acrylic diffuser.
- FINISH – Highly reflective matte white powder coat.
- ELECTRICAL – Electronic ballast standard, instant start T8, programmed start T5, rated Class P.
- LABELS – UL/CUL listed as fluorescent luminaire suitable for dry or damp locations.
- MOUNTING – Surface.

FEATURES

- Attractive, energy-efficient architectural fixture that delivers comfortable, uniform lighting.
- Frosted acrylic diffusers combined with highly reflective matte white paint provide high optical efficiencies while providing visual comfort.
- Tool-less access to the electrical from room side of fixture.
- All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.

ORDERING INFORMATION

Submittal

EXAMPLE: **HES** - **2** **4** - **2** **54T5H** - **A** - **OPTIONS** - **EB2** - **UNV**

SERIES	
HES	High Efficiency Surface Mount
NOMINAL WIDTH	
2	2'
NOMINAL LENGTH	
2	2'
4	4'
TOTAL LAMPS	
2	

LAMP WATTAGE/TYPE	
14T5S	2', 14-watt T5
17	2', 17-watt T8
24T5H	2', 24-watt T5HO
28T5S	4', 28-watt T5
32	4', 32-watt T8
54T5H	4', 54-watt T5HO
SHIELDING	
A	Acrylic lens

BALLAST TYPE	
EB2(95)	2-lamp electronic ballast, .95 ballast factor (2x4, T5S only)
EBSD2(95)	2-lamp electronic ballast, .95 ballast factor, step-dimming (2x4, T5S only)
EB2(115)	2-lamp electronic ballast, 1.15 ballast factor (2x4, T5S only)
EBSD2(115)	2-lamp electronic ballast, 1.15 ballast factor, step-dimming (2x4, T5S only)
EB2	2-lamp electronic ballast, 1.0 ballast factor

VOLTAGE	
120	120V
277	277V
UNV	120 - 277V
347	347V



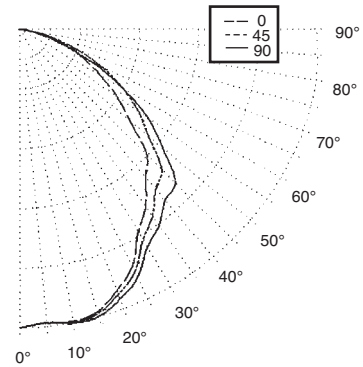
FLUORESCENT LIGHTING

Williams Catalog #HES-24-228T5S-A
Test Report #13351.1, Dated 12/12/06

Lamp Type: FP28T5/835
Lamp Quantity: 2

CANDLEPOWER DISTRIBUTION

VERT. ANG.	HORIZONTAL ANGLE			ZONAL LUMENS
	0	45	90	
0	1958.	1958.	1958.	
5	1933.	1934.	1935.	184.6
15	1925.	1940.	1957.	549.6
25	1728.	1769.	1812.	818.7
35	1431.	1510.	1583.	947.2
45	1177.	1317.	1439.	1016.1
55	778.	951.	1030.	833.2
65	471.	607.	534.	546.8
75	222.	239.	172.	236.7
85	47.	31.	27.	38.5
90	0.	0.	0.	



LUMEN SUMMARY

ZONE	LUMENS	% LAMP	% FIXTURE
0 - 30	1553.	26.8	30.0
0 - 40	2500.	43.1	48.3
0 - 60	4350.	75.0	84.1
0 - 90	5172.	89.2	100.0
90 - 120	0.	0.	0.
90 - 130	0.	0.	0.
90 - 150	0.	0.	0.
90 - 180	0.	0.	0.
Total Luminaire			
0-180	5172.	89.2	100.0

ZONAL CAVITY COEFFICIENTS

EFFECTIVE FLOOR CAVITY REFL. = .20

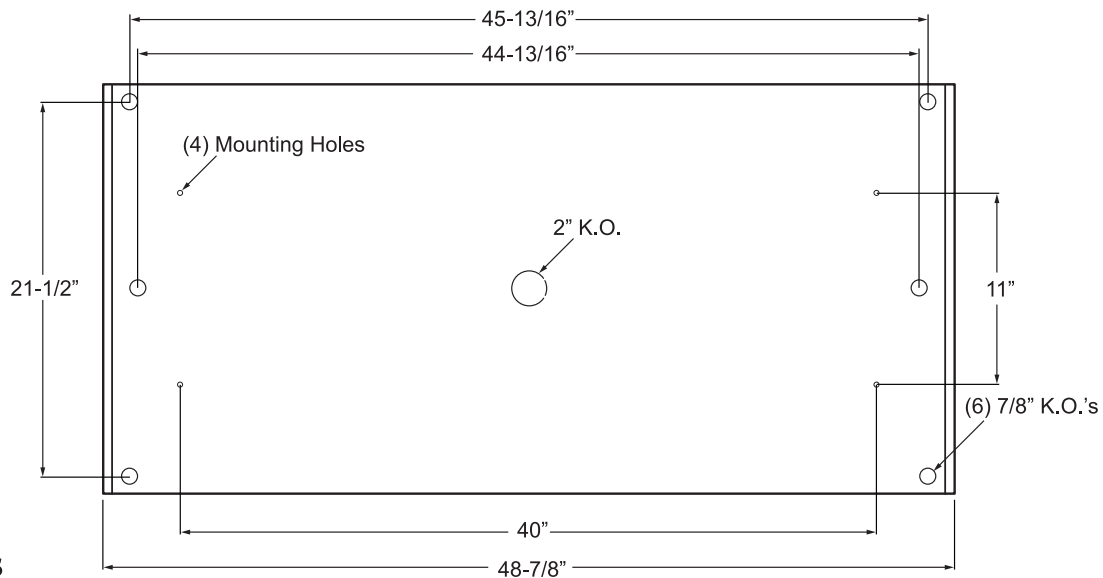
CEILING	.80			.70			.50			
	WALL	.70	.50	.30	.70	.50	.30	.50	.30	.10
0	106	106	106	104	104	104	99	99	99	
1	.99	.95	.92	.96	.93	.90	.89	.87	.84	
2	.91	.84	.79	.89	.83	.78	.80	.76	.72	
3	.84	.75	.69	.82	.74	.68	.71	.66	.62	
4	.77	.67	.60	.75	.66	.59	.64	.58	.53	
5	.70	.60	.52	.69	.59	.52	.57	.51	.46	
6	.65	.53	.46	.63	.53	.45	.51	.45	.40	
7	.60	.48	.41	.58	.47	.40	.46	.40	.35	
8	.55	.43	.36	.54	.42	.35	.41	.35	.30	
9	.50	.39	.31	.49	.38	.31	.37	.31	.26	
10	.47	.35	.28	.46	.35	.28	.34	.27	.23	

TOTAL LUMINAIRE

OPTICAL EFFICIENCY = 89.2 %

SPACING CRITERIA: END= 1.2 DIAG.= 1.3 ACROSS = 1.3

BACK VIEW



FLUORESCENT LIGHTING