



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : SLF-4-L90-840-HIA-(L75)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20114.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 07-NOV-2019

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 4' LED SURFACE MOUNT LUMINAIRE

[LUMCAT] SLF-4-L90-840-HIA-(L75)-DIM-UNV

[MORE] WHITE FLAT REFLECTOR w/FROSTED ACRYLIC LENS

[LAMPCAT] HLM 80 CRI 4000K CCT

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Classroom, Commercial, Industrial, Manufacturing, Office, Direct

[\_SEARCH\_MOUNTING] Pendant, Surface, Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7762
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	60
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.06 ft
Luminous Width (90-270)	0.47 ft
Luminous Height	0.23 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10988	9092	9329
55	9300	7793	8275
65	7480	6585	7094
75	5254	5275	5972
85	1605	4244	5225

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**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	2506.254	2506.254	2506.254	2506.254	2506.254
5	2532.997	2496.066	2485.878	2483.331	2482.057
10	2479.510	2451.493	2445.126	2451.493	2445.126
15	2403.100	2381.451	2391.639	2403.100	2400.553
20	2289.758	2273.203	2308.861	2329.237	2336.878
25	2164.955	2143.305	2194.246	2241.365	2245.186
30	2013.408	2000.673	2066.895	2135.664	2138.211
35	1842.759	1836.391	1919.169	2008.314	2019.776
40	1661.921	1645.366	1752.340	1860.588	1884.784
45	1454.340	1436.511	1577.870	1701.400	1739.605
50	1231.477	1236.571	1404.674	1534.571	1589.332
55	1021.349	1053.187	1227.657	1366.469	1427.597
60	818.862	876.170	1057.007	1206.007	1259.494
65	627.837	699.153	900.367	1040.452	1087.572
70	449.547	533.598	744.999	887.632	925.837
75	291.632	380.777	589.632	746.273	773.016
80	154.094	261.068	463.555	618.922	640.572
85	40.752	168.102	354.034	506.854	531.051
90	5.094	105.701	275.077	412.615	443.179
95	1.274	62.402	207.581	327.290	362.948
100	0.000	36.932	150.273	253.427	289.085
105	0.000	25.470	110.795	192.299	230.504
110	0.000	19.103	87.872	156.641	188.478
115	0.000	16.556	66.222	126.077	150.273
120	0.000	15.282	56.034	103.154	120.983
125	0.000	10.188	40.752	81.504	96.786
130	0.000	8.915	33.111	62.402	73.863
135	0.000	6.368	25.470	49.667	57.308
140	0.000	6.368	19.103	38.205	45.846
145	0.000	2.547	16.556	30.564	34.385
150	0.000	0.000	15.282	26.744	30.564
155	0.000	0.000	10.188	19.103	24.197
160	0.000	0.000	8.915	12.735	16.556
165	0.000	0.000	0.000	8.915	10.188
170	0.000	0.000	0.000	0.000	6.368
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	911.62	N.A.	11.70
0-30	1923.65	N.A.	24.80
0-40	3125.99	N.A.	40.30
0-60	5436.25	N.A.	70.00
0-80	6905.18	N.A.	89.00
0-90	7272.42	N.A.	93.70
10-90	7035.72	N.A.	90.60
20-40	2214.37	N.A.	28.50
20-50	3433.17	N.A.	44.20
40-70	3178.84	N.A.	41.00
60-80	1468.93	N.A.	18.90
70-80	600.35	N.A.	7.70
80-90	367.24	N.A.	4.70
90-110	336.92	N.A.	4.30
90-120	409.09	N.A.	5.30
90-130	450.63	N.A.	5.80
90-150	483.41	N.A.	6.20
90-180	489.59	N.A.	6.30
110-180	152.68	N.A.	2.00
0-180	7762.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	236.69
10-20	674.93
20-30	1012.03
30-40	1202.34
40-50	1218.8
50-60	1091.46
60-70	868.58
70-80	600.35
80-90	367.24
90-100	215.70
100-110	121.22
110-120	72.17
120-130	41.54
130-140	21.81
140-150	10.97
150-160	4.99
160-170	1.16
170-180	0.03

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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	106	101	96	92	103	98	94	90	92	89	86	87	84	82	83	80	78	76
2	96	87	80	74	93	85	78	73	80	75	70	76	71	67	72	68	65	62
3	87	77	68	61	84	74	67	60	71	64	58	67	61	57	64	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	60	53	48	57	51	47	45
5	74	61	51	45	71	59	50	44	56	49	43	53	47	42	51	45	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	40	36	34
7	63	49	41	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	40	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	24	22

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## UGR TABLE - CORRECTED

### Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

X=2H	Y=2H	17.9	19.4	18.4	19.9	20.3	20.0	21.6	20.5	22.0	22.5
	3H	19.4	20.8	19.9	21.2	21.7	22.3	23.7	22.8	24.2	24.7
	4H	19.9	21.2	20.4	21.7	22.2	23.4	24.7	23.9	25.2	25.7
	6H	20.2	21.4	20.7	21.9	22.4	24.4	25.7	24.9	26.1	26.7
	8H	20.3	21.4	20.8	21.9	22.5	25.0	26.2	25.5	26.7	27.2
	12H	20.3	21.4	20.8	21.9	22.5	25.6	26.7	26.1	27.2	27.8

### UGR Viewed Endwise

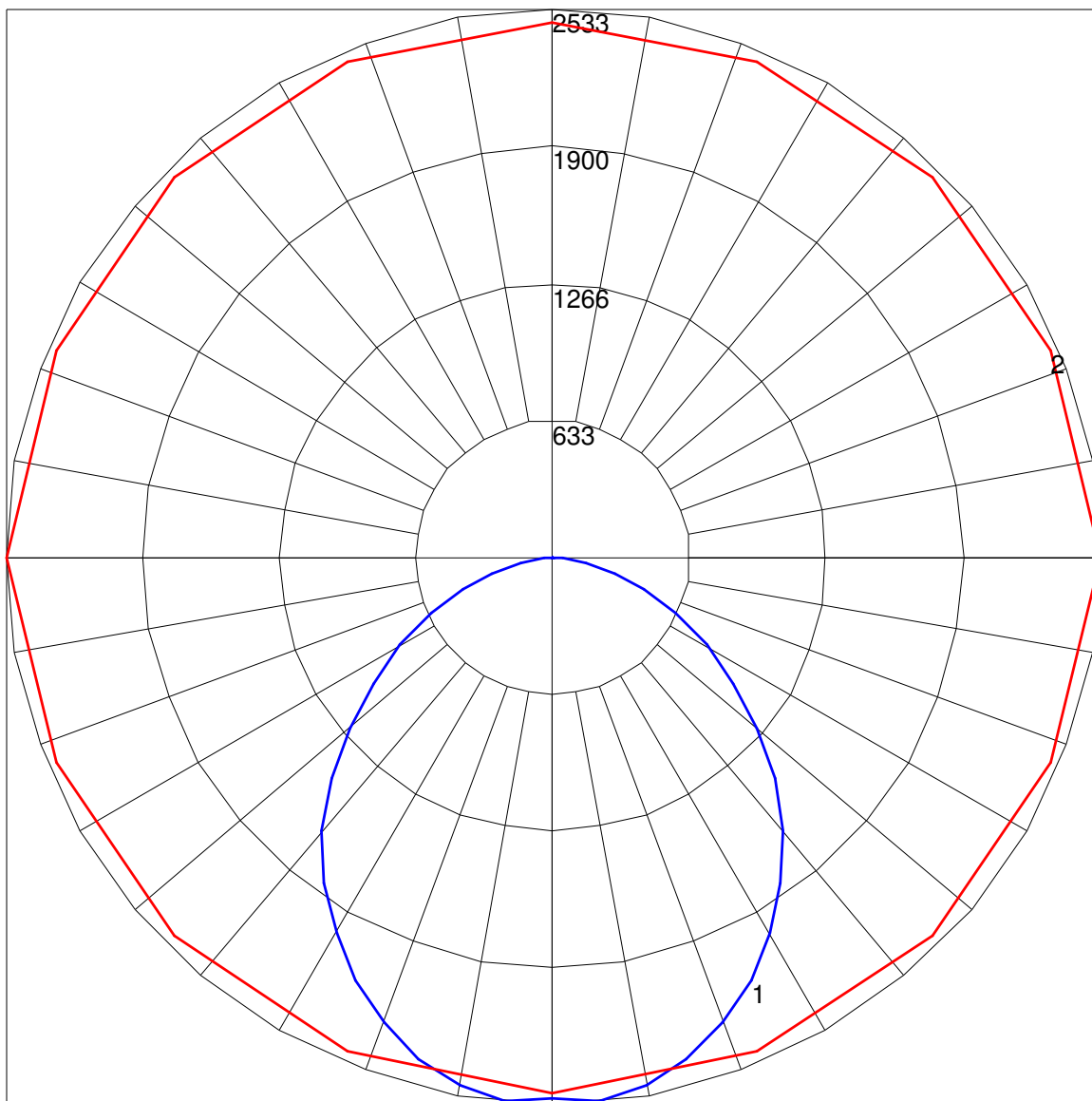
4H	2H	18.7	20.0	19.1	20.4	21.0	20.4	21.7	20.9	22.2	22.7
	3H	20.3	21.5	20.8	22.0	22.5	22.9	24.0	23.4	24.5	25.0
	4H	20.9	21.9	21.4	22.5	23.0	24.1	25.1	24.6	25.6	26.2
	6H	21.3	22.2	21.9	22.8	23.4	25.4	26.3	25.9	26.8	27.4
	8H	21.5	22.3	22.0	22.8	23.4	26.0	26.9	26.6	27.4	28.0
	12H	21.5	22.3	22.1	22.9	23.5	26.7	27.5	27.3	28.1	28.7

8H	4H	21.4	22.3	22.0	22.8	23.4	24.3	25.1	24.8	25.6	26.2
	6H	22.0	22.7	22.6	23.3	23.9	25.7	26.4	26.2	27.0	27.6
	8H	22.2	22.8	22.8	23.4	24.0	26.5	27.1	27.1	27.7	28.3
	12H	22.3	22.9	22.9	23.5	24.2	27.3	27.9	27.9	28.5	29.2

12H	4H	21.5	22.3	22.1	22.9	23.5	24.2	25.0	24.8	25.6	26.2
	6H	22.2	22.8	22.8	23.4	24.1	25.7	26.4	26.3	26.9	27.6
	8H	22.4	23.0	23.0	23.6	24.3	26.5	27.1	27.1	27.7	28.4

Maximum UGR = 29.2

POLAR GRAPH



Maximum Candela = 2532.997 Located At Horizontal Angle = 0, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)