



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SLF-4-L98-830-HIA-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-L98-830-HIA-DIM-UNV

[MORE] WHITE FLAT REFLECTOR w/FROSTED ACRYLIC LENS

[LAMPCAT] HLM 80 CRI 3000K 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	9716
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	75
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	13754	11380	11677
55	11642	9755	10359
65	9363	8242	8880
75	6576	6603	7476
85	2009	5312	6540

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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	3137.177	3137.177	3137.177	3137.177	3137.177
5	3170.653	3124.424	3111.672	3108.483	3106.889
10	3103.701	3068.631	3060.661	3068.631	3060.661
15	3008.055	2980.956	2993.709	3008.055	3004.867
20	2866.181	2845.458	2890.092	2915.598	2925.163
25	2709.960	2682.860	2746.624	2805.606	2810.388
30	2520.263	2504.322	2587.215	2673.296	2676.484
35	2306.654	2298.684	2402.300	2513.886	2528.233
40	2080.293	2059.569	2193.473	2328.971	2359.259
45	1820.455	1798.138	1975.083	2129.710	2177.532
50	1541.489	1547.865	1758.286	1920.883	1989.429
55	1278.463	1318.316	1536.707	1710.463	1786.979
60	1025.002	1096.737	1323.098	1509.607	1576.559
65	785.888	875.158	1127.024	1302.375	1361.356
70	562.715	667.925	932.545	1111.084	1158.906
75	365.048	476.634	738.066	934.139	967.615
80	192.885	326.789	580.250	774.730	801.829
85	51.011	210.420	443.158	634.449	664.737
90	6.376	132.310	344.324	516.486	554.745
95	1.594	78.111	259.837	409.682	454.317
100	0.000	46.229	188.103	317.225	361.859
105	0.000	31.882	138.686	240.708	288.531
110	0.000	23.911	109.992	196.074	235.926
115	0.000	20.723	82.893	157.815	188.103
120	0.000	19.129	70.140	129.122	151.439
125	0.000	12.753	51.011	102.022	121.151
130	0.000	11.159	41.446	78.111	92.457
135	0.000	7.970	31.882	62.170	71.734
140	0.000	7.970	23.911	47.823	57.387
145	0.000	3.188	20.723	38.258	43.041
150	0.000	0.000	19.129	33.476	38.258
155	0.000	0.000	12.753	23.911	30.288
160	0.000	0.000	11.159	15.941	20.723
165	0.000	0.000	0.000	11.159	12.753
170	0.000	0.000	0.000	0.000	7.970
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	1141.11	N.A.	11.70
0-30	2407.91	N.A.	24.80
0-40	3912.93	N.A.	40.30
0-60	6804.76	N.A.	70.00
0-80	8643.49	N.A.	89.00
0-90	9103.17	N.A.	93.70
10-90	8806.89	N.A.	90.60
20-40	2771.81	N.A.	28.50
20-50	4297.43	N.A.	44.20
40-70	3979.08	N.A.	41.00
60-80	1838.72	N.A.	18.90
70-80	751.48	N.A.	7.70
80-90	459.69	N.A.	4.70
90-110	421.73	N.A.	4.30
90-120	512.07	N.A.	5.30
90-130	564.07	N.A.	5.80
90-150	605.11	N.A.	6.20
90-180	612.84	N.A.	6.30
110-180	191.11	N.A.	2.00
0-180	9716.02	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	296.28
10-20	844.83
20-30	1266.8
30-40	1505.02
40-50	1525.62
50-60	1366.22
60-70	1087.24
70-80	751.48
80-90	459.69
90-100	270.00
100-110	151.73
110-120	90.34
120-130	52.00
130-140	27.30
140-150	13.73
150-160	6.25
160-170	1.45
170-180	0.04

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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	18.7	20.2	19.2	20.7	21.1	20.8	22.4	21.3	22.8	23.3
	3H	20.2	21.6	20.7	22.0	22.5	23.1	24.5	23.6	25.0	25.5
	4H	20.7	22.0	21.2	22.5	23.0	24.2	25.5	24.7	26.0	26.5
	6H	21.0	22.2	21.5	22.7	23.2	25.2	26.5	25.7	26.9	27.5
	8H	21.1	22.2	21.6	22.7	23.3	25.8	27.0	26.3	27.5	28.0
	12H	21.1	22.2	21.6	22.7	23.3	26.4	27.5	26.9	28.0	28.6

UGR Viewed Endwise

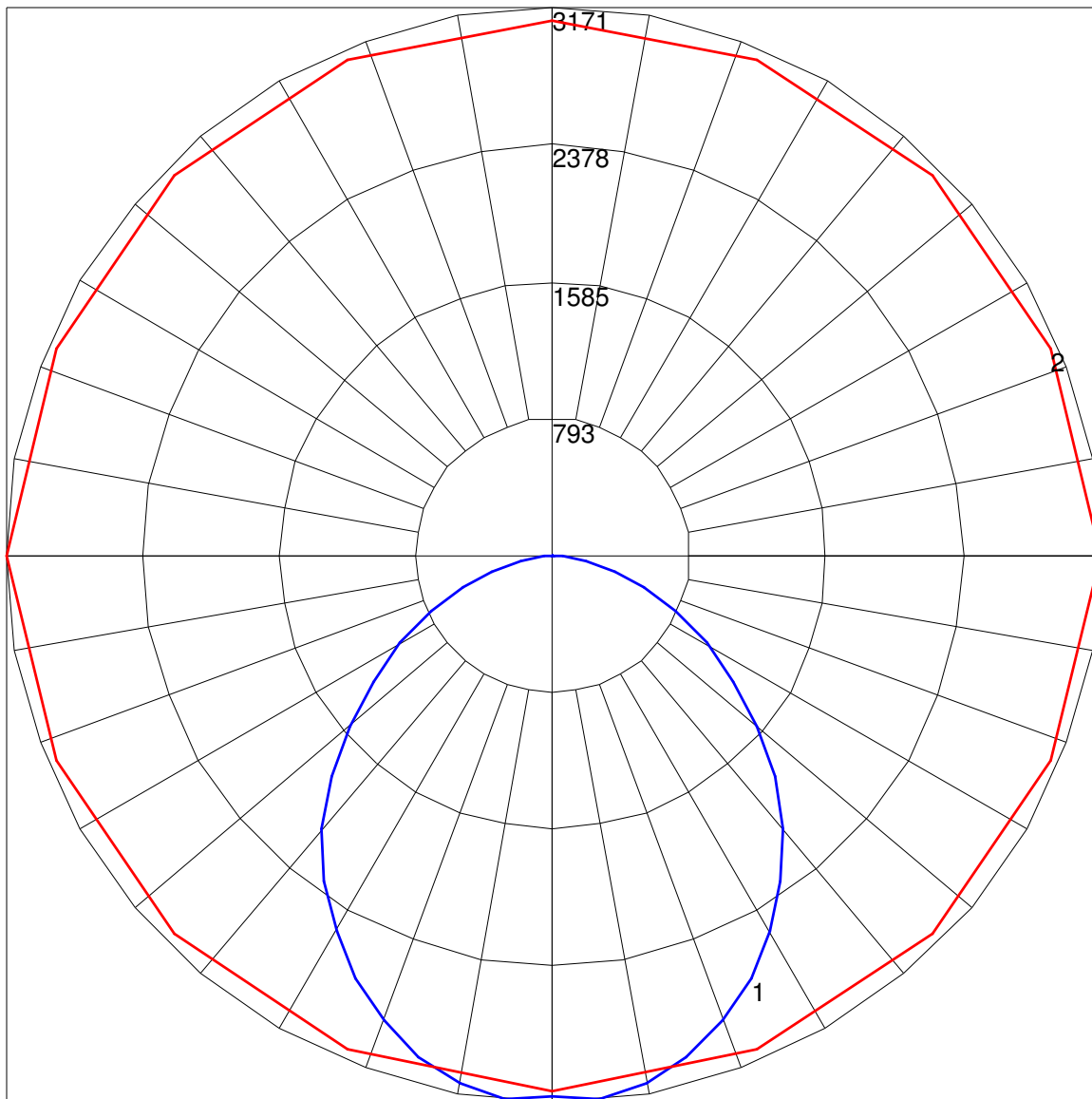
4H	2H	19.5	20.8	19.9	21.2	21.8	21.2	22.5	21.7	23.0	23.5
	3H	21.1	22.3	21.6	22.8	23.3	23.7	24.8	24.2	25.3	25.8
	4H	21.7	22.7	22.2	23.3	23.8	24.9	25.9	25.4	26.4	27.0
	6H	22.1	23.0	22.7	23.6	24.2	26.2	27.1	26.7	27.6	28.2
	8H	22.3	23.1	22.8	23.6	24.2	26.8	27.7	27.4	28.2	28.8
	12H	22.3	23.1	22.9	23.7	24.3	27.5	28.3	28.1	28.9	29.5

8H	4H	22.2	23.1	22.8	23.6	24.2	25.1	25.9	25.6	26.4	27.0
	6H	22.8	23.5	23.4	24.1	24.7	26.5	27.2	27.0	27.8	28.4
	8H	23.0	23.6	23.6	24.2	24.8	27.3	27.9	27.9	28.5	29.1
	12H	23.1	23.7	23.7	24.3	25.0	28.1	28.7	28.7	29.3	30.0

12H	4H	22.3	23.1	22.9	23.7	24.3	25.1	25.8	25.6	26.4	27.0
	6H	23.0	23.6	23.6	24.2	24.9	26.5	27.2	27.1	27.7	28.4
	8H	23.2	23.8	23.8	24.4	25.1	27.3	27.9	27.9	28.5	29.2

Maximum UGR = 30.0

POLAR GRAPH



Maximum Candela = 3170.653 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.)