



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SLF-4-L98-827-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-L98-827-HIA-DIM-UNV

[MORE] WHITE FLAT REFLECTOR w/FROSTED ACRYLIC LENS

[LAMPCAT] HLM 80 CRI 2700K 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	9520
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	127
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	13476	11151	11441
55	11407	9558	10150
65	9174	8076	8701
75	6444	6470	7325
85	1968	5205	6408

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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	3073.819	3073.819	3073.819	3073.819	3073.819
5	3106.619	3061.324	3048.829	3045.705	3044.143
10	3041.019	3006.658	2998.848	3006.658	2998.848
15	2947.305	2920.753	2933.248	2947.305	2944.182
20	2808.296	2787.992	2831.725	2856.715	2866.087
25	2655.230	2628.678	2691.154	2748.944	2753.630
30	2469.364	2453.745	2534.964	2619.306	2622.430
35	2260.069	2252.260	2353.783	2463.116	2477.173
40	2038.280	2017.975	2149.174	2281.936	2311.612
45	1783.690	1761.823	1935.194	2086.698	2133.555
50	1510.357	1516.605	1722.776	1882.090	1949.251
55	1252.644	1291.691	1505.672	1675.919	1750.890
60	1004.302	1074.587	1296.377	1479.119	1544.719
65	770.017	857.483	1104.263	1276.072	1333.863
70	551.351	654.436	913.712	1088.644	1135.501
75	357.675	467.008	723.160	915.273	948.073
80	188.990	320.190	568.532	759.083	785.636
85	49.981	206.171	434.208	621.636	651.312
90	6.248	129.638	337.370	506.056	543.541
95	1.562	76.533	254.590	401.408	445.142
100	0.000	45.295	184.304	310.818	354.551
105	0.000	31.238	135.885	235.847	282.704
110	0.000	23.429	107.771	192.114	231.161
115	0.000	20.305	81.219	154.628	184.304
120	0.000	18.743	68.724	126.514	148.381
125	0.000	12.495	49.981	99.962	118.704
130	0.000	10.933	40.609	76.533	90.590
135	0.000	7.810	31.238	60.914	70.286
140	0.000	7.810	23.429	46.857	56.228
145	0.000	3.124	20.305	37.486	42.171
150	0.000	0.000	18.743	32.800	37.486
155	0.000	0.000	12.495	23.429	29.676
160	0.000	0.000	10.933	15.619	20.305
165	0.000	0.000	0.000	10.933	12.495
170	0.000	0.000	0.000	0.000	7.810
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	1118.07	N.A.	11.70
0-30	2359.28	N.A.	24.80
0-40	3833.9	N.A.	40.30
0-60	6667.34	N.A.	70.00
0-80	8468.92	N.A.	89.00
0-90	8919.33	N.A.	93.70
10-90	8629.03	N.A.	90.60
20-40	2715.83	N.A.	28.50
20-50	4210.64	N.A.	44.20
40-70	3898.71	N.A.	41.00
60-80	1801.59	N.A.	18.90
70-80	736.31	N.A.	7.70
80-90	450.41	N.A.	4.70
90-110	413.21	N.A.	4.30
90-120	501.73	N.A.	5.30
90-130	552.68	N.A.	5.80
90-150	592.89	N.A.	6.20
90-180	600.47	N.A.	6.30
110-180	187.25	N.A.	2.00
0-180	9519.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	290.30
10-20	827.77
20-30	1241.21
30-40	1474.62
40-50	1494.8
50-60	1338.63
60-70	1065.28
70-80	736.31
80-90	450.41
90-100	264.54
100-110	148.67
110-120	88.51
120-130	50.95
130-140	26.75
140-150	13.46
150-160	6.12
160-170	1.42
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

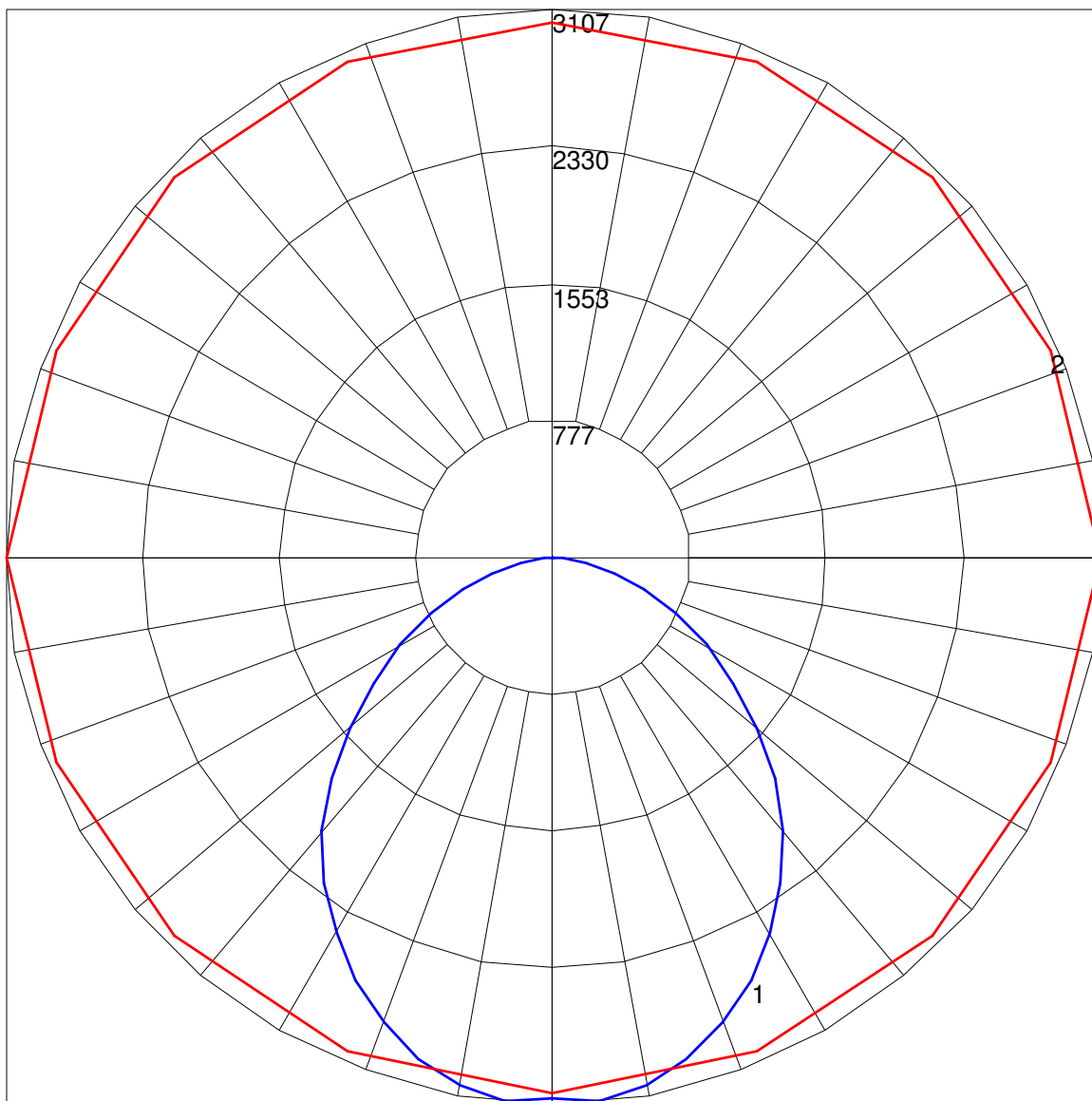
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	18.6	20.1	19.1	20.6	21.0	20.7	22.3	21.2	22.7	23.2
	3H	20.1	21.5	20.6	21.9	22.4	23.0	24.4	23.5	24.9	25.4
	4H	20.6	21.9	21.1	22.4	22.9	24.1	25.4	24.6	25.9	26.4
	6H	20.9	22.1	21.4	22.6	23.1	25.1	26.4	25.6	26.8	27.4
	8H	21.0	22.1	21.5	22.6	23.2	25.7	26.9	26.2	27.4	27.9
	12H	21.0	22.1	21.5	22.6	23.2	26.3	27.4	26.8	27.9	28.5
4H	2H	19.4	20.7	19.8	21.1	21.7	21.1	22.4	21.6	22.9	23.4
	3H	21.0	22.2	21.5	22.7	23.2	23.6	24.7	24.1	25.2	25.7
	4H	21.6	22.6	22.1	23.2	23.7	24.8	25.8	25.3	26.3	26.9
	6H	22.0	22.9	22.6	23.5	24.1	26.1	27.0	26.6	27.5	28.1
	8H	22.2	23.0	22.7	23.5	24.1	26.7	27.6	27.3	28.1	28.7
	12H	22.2	23.0	22.8	23.6	24.2	27.4	28.2	28.0	28.8	29.4
8H	4H	22.1	23.0	22.7	23.5	24.1	25.0	25.8	25.5	26.3	26.9
	6H	22.7	23.4	23.3	24.0	24.6	26.4	27.1	26.9	27.7	28.3
	8H	22.9	23.5	23.5	24.1	24.7	27.2	27.8	27.8	28.4	29.0
	12H	23.0	23.6	23.6	24.2	24.9	28.0	28.6	28.6	29.2	29.9
12H	4H	22.2	23.0	22.8	23.6	24.2	24.9	25.7	25.5	26.3	26.9
	6H	22.9	23.5	23.5	24.1	24.8	26.4	27.1	27.0	27.6	28.3
	8H	23.1	23.7	23.7	24.3	25.0	27.2	27.8	27.8	28.4	29.1

Maximum UGR = 29.9

POLAR GRAPH



Maximum Candela = 3106.619 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.)