



IES INDOOR REPORT
PHOTOMETRIC FILENAME : SIA1-SC-4-L15 840-S-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN from BALLABS TEST NO. 17966.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 03-10-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4'SUSPENDED BIDIRECT
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] SIA1-SC-4-L15 840-S-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 4000K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Bidirect
 [_SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6058
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	47.9
Ballast Factor	1.00
CIE Type	Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.91 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.22 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	125	335	568
55	151	472	787
65	181	570	991
75	150	694	1168
85	273	861	1387

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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	24.102	24.102	24.102	24.102	24.102
5	19.848	19.848	22.684	21.266	22.684
10	19.848	21.266	26.937	26.937	26.937
15	19.848	21.266	28.355	34.026	34.026
20	17.013	21.266	28.355	36.861	42.532
25	17.013	22.684	32.608	46.785	51.039
30	18.431	25.519	41.114	55.292	63.798
35	17.013	24.102	45.368	68.051	75.140
40	17.013	25.519	53.874	77.976	90.735
45	17.013	31.190	58.127	93.571	104.913
50	15.595	31.190	65.216	104.913	120.508
55	17.013	31.190	73.722	114.837	133.267
60	12.760	31.190	73.722	120.508	141.774
65	15.595	32.608	76.558	126.179	147.445
70	8.506	28.355	73.722	124.761	144.609
75	8.506	31.190	75.140	123.343	144.609
80	5.671	24.102	69.469	114.837	136.103
85	7.089	25.519	68.051	117.672	131.850
90	0.000	43.950	136.103	185.724	192.813
95	42.532	117.672	330.333	367.194	365.777
100	112.001	198.483	514.639	584.108	586.944
105	199.901	289.219	676.262	786.845	766.997
110	297.725	388.460	816.618	1077.482	1027.861
115	396.967	499.044	927.201	1441.841	1406.397
120	497.626	601.121	992.417	1650.248	1743.819
125	601.121	700.363	1056.216	1654.501	1892.682
130	703.199	799.605	1124.267	1559.513	1818.959
135	806.694	896.011	1178.141	1492.879	1688.527
140	897.429	979.658	1209.331	1485.791	1592.121
145	992.417	1063.304	1222.091	1477.284	1565.184
150	1088.824	1141.280	1227.762	1421.992	1512.728
155	1171.052	1203.660	1239.104	1342.599	1414.904
160	1233.433	1258.952	1270.294	1308.573	1341.181
165	1285.889	1312.826	1314.244	1324.168	1325.586
170	1329.839	1352.523	1348.270	1349.688	1346.852
175	1356.776	1370.954	1370.954	1369.536	1358.194
180	1370.954	1370.954	1370.954	1370.954	1370.954

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	9.96	N.A.	0.20
0-30	26.04	N.A.	0.40
0-40	55.27	N.A.	0.90
0-60	167.47	N.A.	2.80
0-80	323.39	N.A.	5.30
0-90	412.28	N.A.	6.80
10-90	410.10	N.A.	6.80
20-40	45.31	N.A.	0.70
20-50	92.30	N.A.	1.50
40-70	189.11	N.A.	3.10
60-80	155.92	N.A.	2.60
70-80	79.00	N.A.	1.30
80-90	88.89	N.A.	1.50
90-110	880.80	N.A.	14.50
90-120	1800.24	N.A.	29.70
90-130	2832.72	N.A.	46.80
90-150	4554.73	N.A.	75.20
90-180	5645.65	N.A.	93.20
110-180	4764.86	N.A.	78.70
0-180	6057.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	2.18
10-20	7.77
20-30	16.08
30-40	29.23
40-50	46.99
50-60	65.20
60-70	76.92
70-80	79.00
80-90	88.89
90-100	282.52
100-110	598.28
110-120	919.44
120-130	1032.48
130-140	933.48
140-150	788.53
150-160	589.30
160-170	371.78
170-180	129.84

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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	97	97	97	97	84	84	84	84	59	59	59	37	37	37	16	16	16	7
1	87	83	79	76	75	72	69	66	51	49	47	31	30	29	13	13	12	4
2	79	72	66	61	68	62	57	53	44	41	38	27	25	24	11	10	10	3
3	72	63	56	50	62	54	49	44	38	35	31	23	21	20	10	9	8	2
4	66	55	48	42	56	48	42	37	34	30	26	21	18	16	8	7	7	2
5	60	49	41	36	51	42	36	31	30	26	22	18	16	14	8	6	6	1
6	55	43	36	30	47	38	31	27	27	22	19	16	14	12	7	6	5	1
7	50	39	31	26	43	34	27	23	24	20	17	15	12	10	6	5	4	1
8	47	35	28	23	40	30	24	20	22	17	14	13	11	9	5	4	4	1
9	43	32	25	20	37	27	22	17	20	15	13	12	10	8	5	4	3	1
10	40	29	22	17	34	25	19	15	18	14	11	11	9	7	5	3	3	1

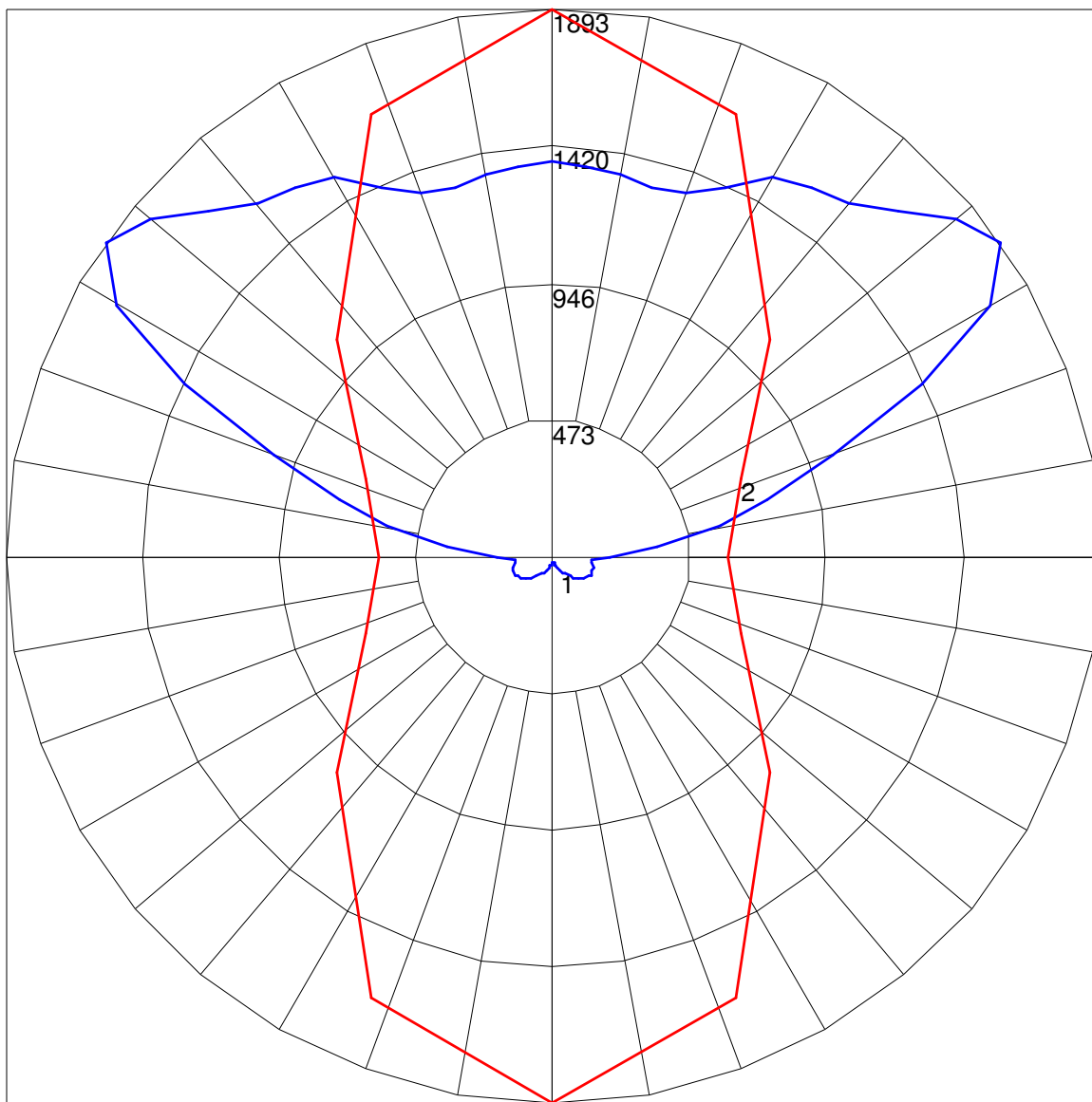
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UGR TABLE - CORRECTED

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	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
	3H	6.3	6.3	6.3	6.3	6.3	6.4	7.0	7.7	8.2	10.0
	4H	6.3	6.3	6.3	6.3	6.3	8.4	8.9	9.6	10.1	11.9
	6H	6.3	6.3	6.3	6.3	6.3	10.3	10.8	11.6	12.0	13.8
	8H	6.3	6.3	6.3	6.3	6.3	11.3	11.7	12.5	13.0	14.8
	12H	6.3	6.3	6.3	6.3	6.3	12.4	12.8	13.6	14.0	15.8
4H	2H	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
	3H	6.3	6.3	6.3	6.3	6.3	6.8	7.3	8.1	8.5	10.3
	4H	6.3	6.3	6.3	6.3	6.3	9.0	9.4	10.3	10.7	12.5
	6H	6.3	6.3	6.3	6.3	6.3	11.2	11.5	12.5	12.8	14.6
	8H	6.3	6.3	6.3	6.3	6.3	12.3	12.6	13.6	13.9	15.7
	12H	6.3	6.3	6.3	6.3	6.3	13.5	13.8	14.8	15.1	16.9
8H	4H	6.3	6.3	6.3	6.3	6.3	9.1	9.4	10.4	10.7	12.5
	6H	6.3	6.3	6.3	6.3	6.3	11.5	11.7	12.8	13.0	14.8
	8H	6.3	6.3	6.3	6.3	6.3	12.8	13.0	14.1	14.3	16.1
	12H	6.3	6.3	6.3	6.3	6.3	14.3	14.5	15.6	15.7	17.6
12H	4H	6.3	6.3	6.3	6.3	6.3	9.0	9.3	10.3	10.6	12.4
	6H	6.3	6.3	6.3	6.3	6.9	11.5	11.7	12.7	13.0	14.8
	8H	6.3	6.3	6.3	6.3	7.3	12.8	13.1	14.1	14.3	16.2

Maximum UGR = 17.6

POLAR GRAPH



Maximum Candela = 1892.682 Located At Horizontal Angle = 90, Vertical Angle = 125
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (125) (Through Max. Cd.)