



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SLF-4-L98-840-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
 [ISSUE DATE] 05-NOV-2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 4' LED SURFACE MOUNT LUMINAIRE
 [LUMCAT] SLF-4-L98-840-HIA-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	10108
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
Total Luminaire Watts	74.8
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	14309	11840	12148
55	12111	10148	10777
65	9740	8575	9239
75	6842	6869	7777
85	2090	5526	6804

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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	3263.749	3263.749	3263.749	3263.749	3263.749
5	3298.575	3250.482	3237.214	3233.898	3232.239
10	3228.922	3192.437	3184.145	3192.437	3184.145
15	3129.418	3101.225	3114.492	3129.418	3126.101
20	2981.819	2960.260	3006.696	3033.230	3043.181
25	2819.295	2791.102	2857.439	2918.800	2923.775
30	2621.945	2605.361	2691.598	2781.152	2784.469
35	2399.718	2391.426	2499.222	2615.311	2630.237
40	2164.224	2142.664	2281.971	2422.936	2454.445
45	1893.903	1870.685	2054.769	2215.634	2265.387
50	1603.682	1610.315	1829.225	1998.383	2069.694
55	1330.044	1371.504	1598.706	1779.473	1859.076
60	1066.357	1140.985	1376.479	1570.513	1640.167
65	817.596	910.467	1172.495	1354.920	1416.281
70	585.418	694.873	970.169	1155.911	1205.663
75	379.776	495.864	767.843	971.828	1006.654
80	200.667	339.974	603.661	805.987	834.180
85	53.069	218.910	461.038	660.047	691.557
90	6.634	137.648	358.216	537.325	577.126
95	1.658	81.262	270.321	426.211	472.647
100	0.000	48.094	195.692	330.023	376.459
105	0.000	33.168	144.282	250.420	300.172
110	0.000	24.876	114.430	203.984	245.445
115	0.000	21.559	86.237	164.182	195.692
120	0.000	19.901	72.970	134.331	157.549
125	0.000	13.267	53.069	106.138	126.039
130	0.000	11.609	43.119	81.262	96.188
135	0.000	8.292	33.168	64.678	74.628
140	0.000	8.292	24.876	49.752	59.703
145	0.000	3.317	21.559	39.802	44.777
150	0.000	0.000	19.901	34.827	39.802
155	0.000	0.000	13.267	24.876	31.510
160	0.000	0.000	11.609	16.584	21.559
165	0.000	0.000	0.000	11.609	13.267
170	0.000	0.000	0.000	0.000	8.292
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	1187.15	N.A.	11.70
0-30	2505.06	N.A.	24.80
0-40	4070.8	N.A.	40.30
0-60	7079.31	N.A.	70.00
0-80	8992.21	N.A.	89.00
0-90	9470.45	N.A.	93.70
10-90	9162.22	N.A.	90.60
20-40	2883.64	N.A.	28.50
20-50	4470.81	N.A.	44.20
40-70	4139.61	N.A.	41.00
60-80	1912.91	N.A.	18.90
70-80	781.80	N.A.	7.70
80-90	478.24	N.A.	4.70
90-110	438.75	N.A.	4.30
90-120	532.73	N.A.	5.30
90-130	586.83	N.A.	5.80
90-150	629.52	N.A.	6.20
90-180	637.57	N.A.	6.30
110-180	198.82	N.A.	2.00
0-180	10108.02	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	308.23
10-20	878.92
20-30	1317.91
30-40	1565.74
40-50	1587.17
50-60	1421.34
60-70	1131.1
70-80	781.80
80-90	478.24
90-100	280.89
100-110	157.86
110-120	93.98
120-130	54.10
130-140	28.41
140-150	14.29
150-160	6.50
160-170	1.51
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

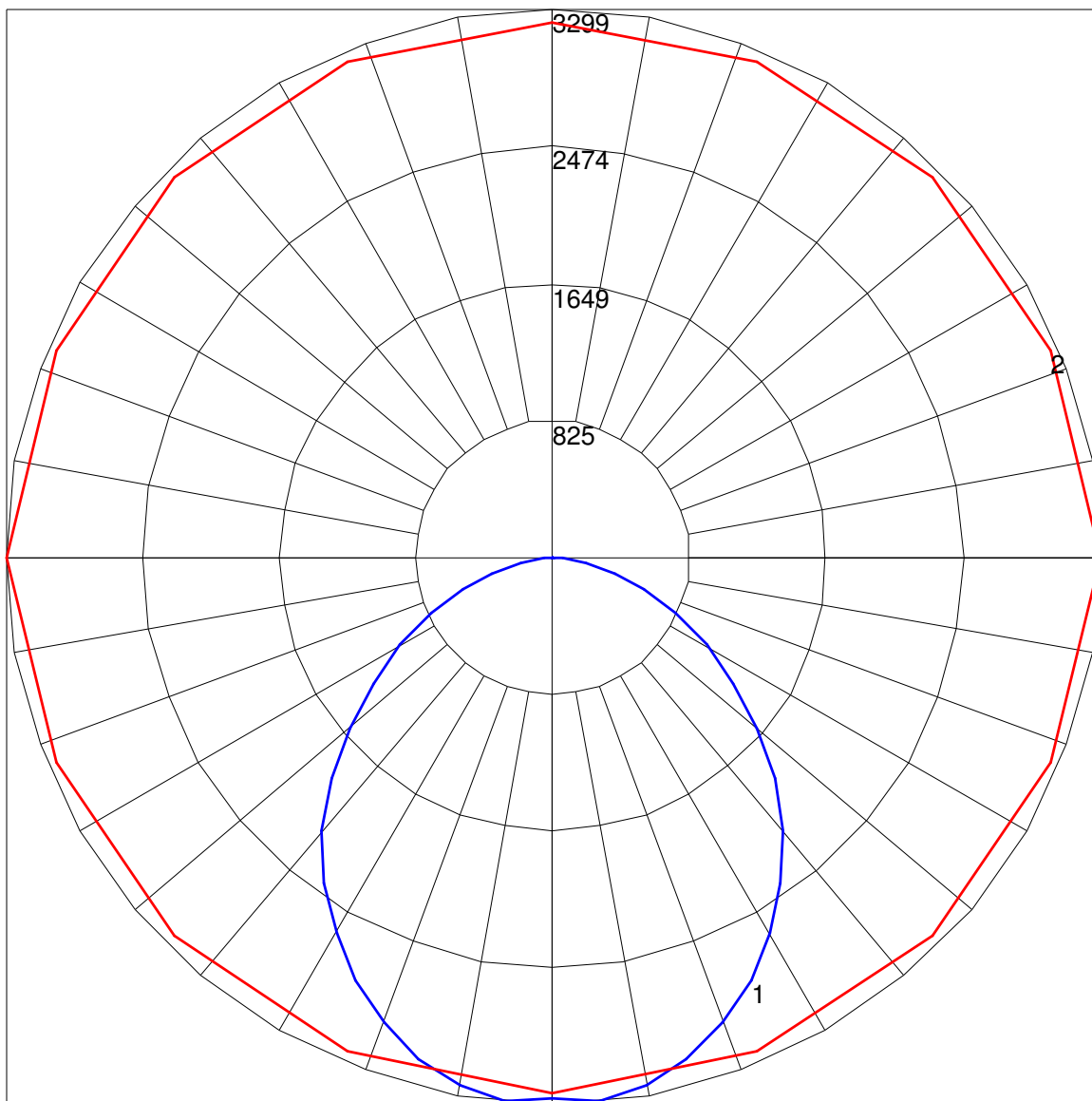
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	18.8	20.3	19.3	20.8	21.2	20.9	22.5	21.4	22.9	23.4
	3H	20.3	21.7	20.8	22.1	22.6	23.2	24.6	23.7	25.1	25.6
	4H	20.8	22.1	21.3	22.6	23.1	24.3	25.6	24.8	26.1	26.6
	6H	21.1	22.3	21.6	22.8	23.3	25.3	26.6	25.8	27.0	27.6
	8H	21.2	22.3	21.7	22.8	23.4	25.9	27.1	26.4	27.6	28.1
	12H	21.2	22.3	21.7	22.8	23.4	26.5	27.6	27.0	28.1	28.7
4H	2H	19.6	20.9	20.0	21.3	21.9	21.3	22.6	21.8	23.1	23.6
	3H	21.2	22.4	21.7	22.9	23.4	23.8	24.9	24.3	25.4	25.9
	4H	21.8	22.8	22.3	23.4	23.9	25.0	26.0	25.5	26.5	27.1
	6H	22.2	23.1	22.8	23.7	24.3	26.3	27.2	26.8	27.7	28.3
	8H	22.4	23.2	22.9	23.7	24.3	26.9	27.8	27.5	28.3	28.9
	12H	22.4	23.2	23.0	23.8	24.4	27.6	28.4	28.2	29.0	29.6
8H	4H	22.3	23.2	22.9	23.7	24.3	25.2	26.0	25.7	26.5	27.1
	6H	22.9	23.6	23.5	24.2	24.8	26.6	27.3	27.1	27.9	28.5
	8H	23.1	23.7	23.7	24.3	24.9	27.4	28.0	28.0	28.6	29.2
	12H	23.2	23.8	23.8	24.4	25.1	28.2	28.8	28.8	29.4	30.1
12H	4H	22.4	23.2	23.0	23.8	24.4	25.2	25.9	25.7	26.5	27.1
	6H	23.1	23.7	23.7	24.3	25.0	26.6	27.3	27.2	27.8	28.5
	8H	23.3	23.9	23.9	24.5	25.2	27.4	28.0	28.0	28.6	29.3

Maximum UGR = 30.1

POLAR GRAPH



Maximum Candela = 3298.575 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.)