



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SLF-4-L98-835-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-L98-835-HIA-DIM-UNV

[MORE] WHITE FLAT REFLECTOR w/FROSTED ACRYLIC LENS

[LAMPCAT] HLM 80 CRI 3500K 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	9815
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	131
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	13894	11496	11796
55	11760	9854	10464
65	9458	8326	8971
75	6643	6670	7552
85	2029	5366	6607

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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	3169.141	3169.141	3169.141	3169.141	3169.141
5	3202.958	3156.258	3143.376	3140.155	3138.545
10	3135.324	3099.897	3091.845	3099.897	3091.845
15	3038.704	3011.328	3024.211	3038.704	3035.483
20	2895.384	2874.450	2919.539	2945.304	2954.966
25	2737.571	2710.195	2774.609	2834.191	2839.022
30	2545.941	2529.838	2613.575	2700.533	2703.754
35	2330.156	2322.104	2426.776	2539.500	2553.993
40	2101.488	2080.554	2215.822	2352.701	2383.297
45	1839.004	1816.459	1995.206	2151.409	2199.719
50	1557.195	1563.636	1776.201	1940.455	2009.699
55	1291.489	1331.748	1552.364	1727.890	1805.187
60	1035.446	1107.911	1336.579	1524.988	1592.622
65	793.896	884.074	1138.508	1315.644	1375.227
70	568.449	674.731	942.047	1122.404	1170.714
75	368.767	481.490	745.586	943.657	977.474
80	194.851	330.119	586.162	782.623	809.999
85	51.531	212.564	447.673	640.914	671.510
90	6.441	133.658	347.833	521.749	560.397
95	1.610	78.906	262.485	413.856	458.946
100	0.000	46.700	190.020	320.457	365.546
105	0.000	32.207	140.099	243.161	291.471
110	0.000	24.155	111.113	198.071	238.330
115	0.000	20.934	83.737	159.423	190.020
120	0.000	19.324	70.855	130.437	152.982
125	0.000	12.883	51.531	103.062	122.386
130	0.000	11.272	41.869	78.906	93.399
135	0.000	8.052	32.207	62.803	72.465
140	0.000	8.052	24.155	48.310	57.972
145	0.000	3.221	20.934	38.648	43.479
150	0.000	0.000	19.324	33.817	38.648
155	0.000	0.000	12.883	24.155	30.596
160	0.000	0.000	11.272	16.103	20.934
165	0.000	0.000	0.000	11.272	12.883
170	0.000	0.000	0.000	0.000	8.052
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	1152.74	N.A.	11.70
0-30	2432.44	N.A.	24.80
0-40	3952.79	N.A.	40.30
0-60	6874.1	N.A.	70.00
0-80	8731.55	N.A.	89.00
0-90	9195.92	N.A.	93.70
10-90	8896.63	N.A.	90.60
20-40	2800.05	N.A.	28.50
20-50	4341.21	N.A.	44.20
40-70	4019.62	N.A.	41.00
60-80	1857.46	N.A.	18.90
70-80	759.14	N.A.	7.70
80-90	464.37	N.A.	4.70
90-110	426.03	N.A.	4.30
90-120	517.29	N.A.	5.30
90-130	569.82	N.A.	5.80
90-150	611.27	N.A.	6.20
90-180	619.09	N.A.	6.30
110-180	193.06	N.A.	2.00
0-180	9815.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	299.30
10-20	853.44
20-30	1279.7
30-40	1520.35
40-50	1541.16
50-60	1380.14
60-70	1098.32
70-80	759.14
80-90	464.37
90-100	272.75
100-110	153.28
110-120	91.26
120-130	52.53
130-140	27.58
140-150	13.87
150-160	6.31
160-170	1.47
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

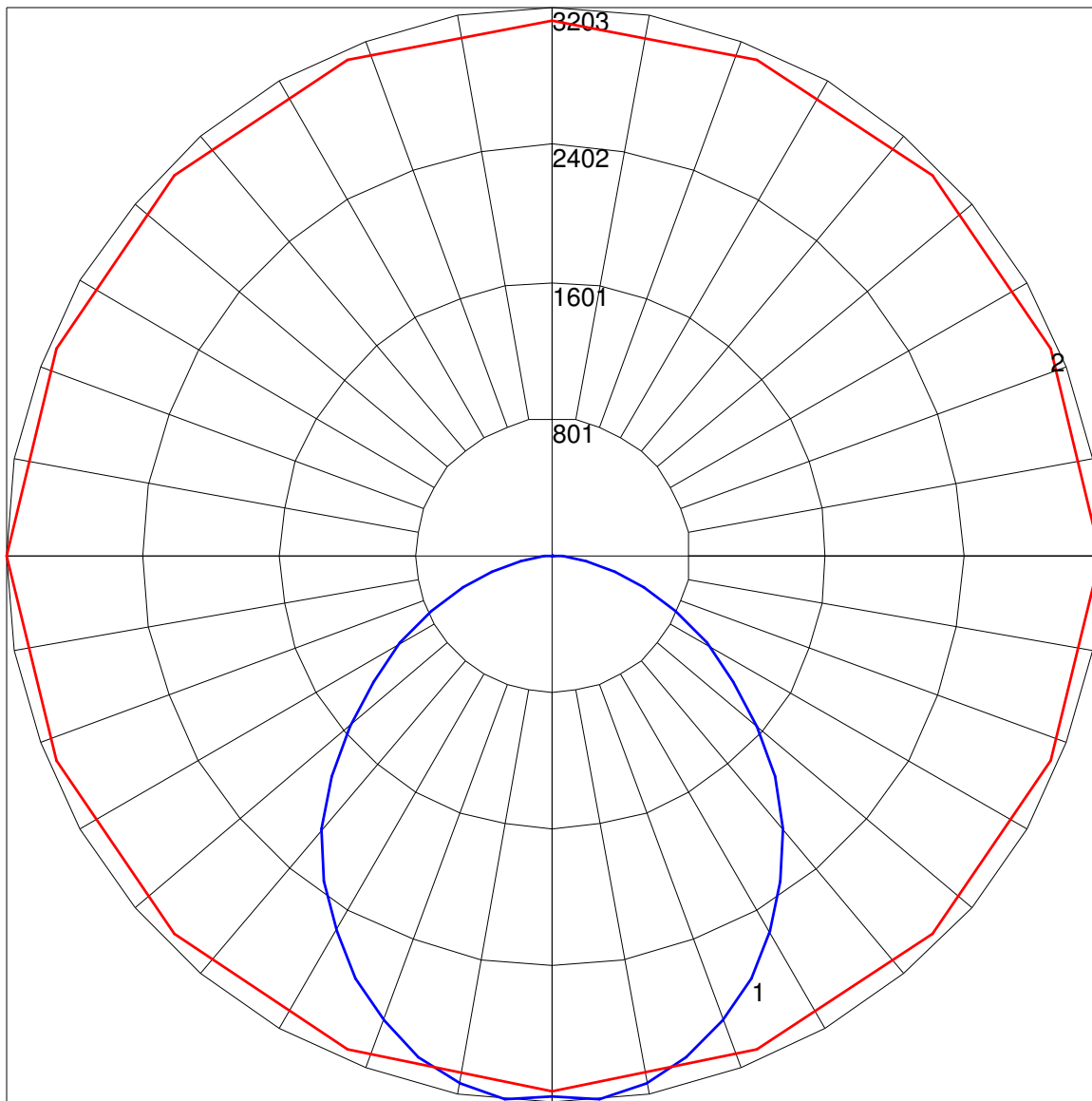
Reflectances

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	18.7	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
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 = 3202.958 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.)