



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SLF-4-L98-835-HIA-(L70)-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]06-19-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 4' LED SURFACE MOUNT LUMINAIRE

[LUMCAT] SLF-4-L98-835-HIA-(L70)-DIM-UNV

[MORE] WITH 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	7123
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	56.5
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	10083	8343	8561
55	8535	7151	7594
65	6864	6043	6510
75	4821	4841	5481
85	1473	3894	4795

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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	2299.929	2299.929	2299.929	2299.929	2299.929
5	2324.471	2290.580	2281.230	2278.893	2277.724
10	2275.387	2249.676	2243.833	2249.676	2243.833
15	2205.267	2185.400	2194.749	2205.267	2202.930
20	2101.256	2086.063	2118.786	2137.485	2144.497
25	1986.727	1966.860	2013.606	2056.847	2060.353
30	1847.656	1835.970	1896.740	1959.848	1962.185
35	1691.055	1685.212	1761.175	1842.982	1853.500
40	1525.105	1509.913	1608.080	1707.417	1729.621
45	1334.613	1318.252	1447.973	1561.334	1596.394
50	1130.097	1134.772	1289.035	1408.239	1458.491
55	937.268	966.484	1126.591	1253.975	1310.071
60	751.450	804.040	969.990	1106.724	1155.808
65	576.151	641.596	826.245	954.798	998.038
70	412.538	489.670	683.668	814.558	849.618
75	267.624	349.430	541.091	684.837	709.378
80	141.408	239.576	425.393	567.970	587.838
85	37.397	154.264	324.888	465.128	487.332
90	4.675	96.999	252.431	378.647	406.695
95	1.169	57.264	190.492	300.346	333.069
100	0.000	33.891	137.902	232.564	265.287
105	0.000	23.373	101.674	176.468	211.528
110	0.000	17.530	80.638	143.746	172.962
115	0.000	15.193	60.770	115.698	137.902
120	0.000	14.024	51.421	94.662	111.023
125	0.000	9.349	37.397	74.794	88.818
130	0.000	8.181	30.385	57.264	67.782
135	0.000	5.843	23.373	45.578	52.590
140	0.000	5.843	17.530	35.060	42.072
145	0.000	2.337	15.193	28.048	31.554
150	0.000	0.000	14.024	24.542	28.048
155	0.000	0.000	9.349	17.530	22.205
160	0.000	0.000	8.181	11.687	15.193
165	0.000	0.000	0.000	8.181	9.349
170	0.000	0.000	0.000	0.000	5.843
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	836.57	N.A.	11.70
0-30	1765.29	N.A.	24.80
0-40	2868.65	N.A.	40.30
0-60	4988.71	N.A.	70.00
0-80	6336.72	N.A.	89.00
0-90	6673.72	N.A.	93.70
10-90	6456.52	N.A.	90.60
20-40	2032.07	N.A.	28.50
20-50	3150.53	N.A.	44.20
40-70	2917.14	N.A.	41.00
60-80	1348.00	N.A.	18.90
70-80	550.93	N.A.	7.70
80-90	337.01	N.A.	4.70
90-110	309.18	N.A.	4.30
90-120	375.41	N.A.	5.30
90-130	413.53	N.A.	5.80
90-150	443.62	N.A.	6.20
90-180	449.29	N.A.	6.30
110-180	140.11	N.A.	2.00
0-180	7123.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	217.21
10-20	619.36
20-30	928.71
30-40	1103.36
40-50	1118.46
50-60	1001.61
60-70	797.08
70-80	550.93
80-90	337.01
90-100	197.94
100-110	111.24
110-120	66.23
120-130	38.12
130-140	20.02
140-150	10.07
150-160	4.58
160-170	1.06
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

X=2H	Y=2H	16.6	18.2	17.1	18.6	19.1	19.7	21.3	20.2	21.7	22.2
	3H	17.9	19.3	18.3	19.7	20.2	22.0	23.4	22.5	23.9	24.4
	4H	18.2	19.5	18.7	20.0	20.5	23.1	24.4	23.6	24.9	25.4
	6H	18.4	19.6	18.9	20.1	20.6	24.1	25.4	24.6	25.8	26.4
	8H	18.4	19.6	19.0	20.1	20.7	24.7	25.9	25.2	26.4	26.9
	12H	18.4	19.6	19.0	20.1	20.6	25.3	26.4	25.8	26.9	27.5

UGR Viewed Endwise

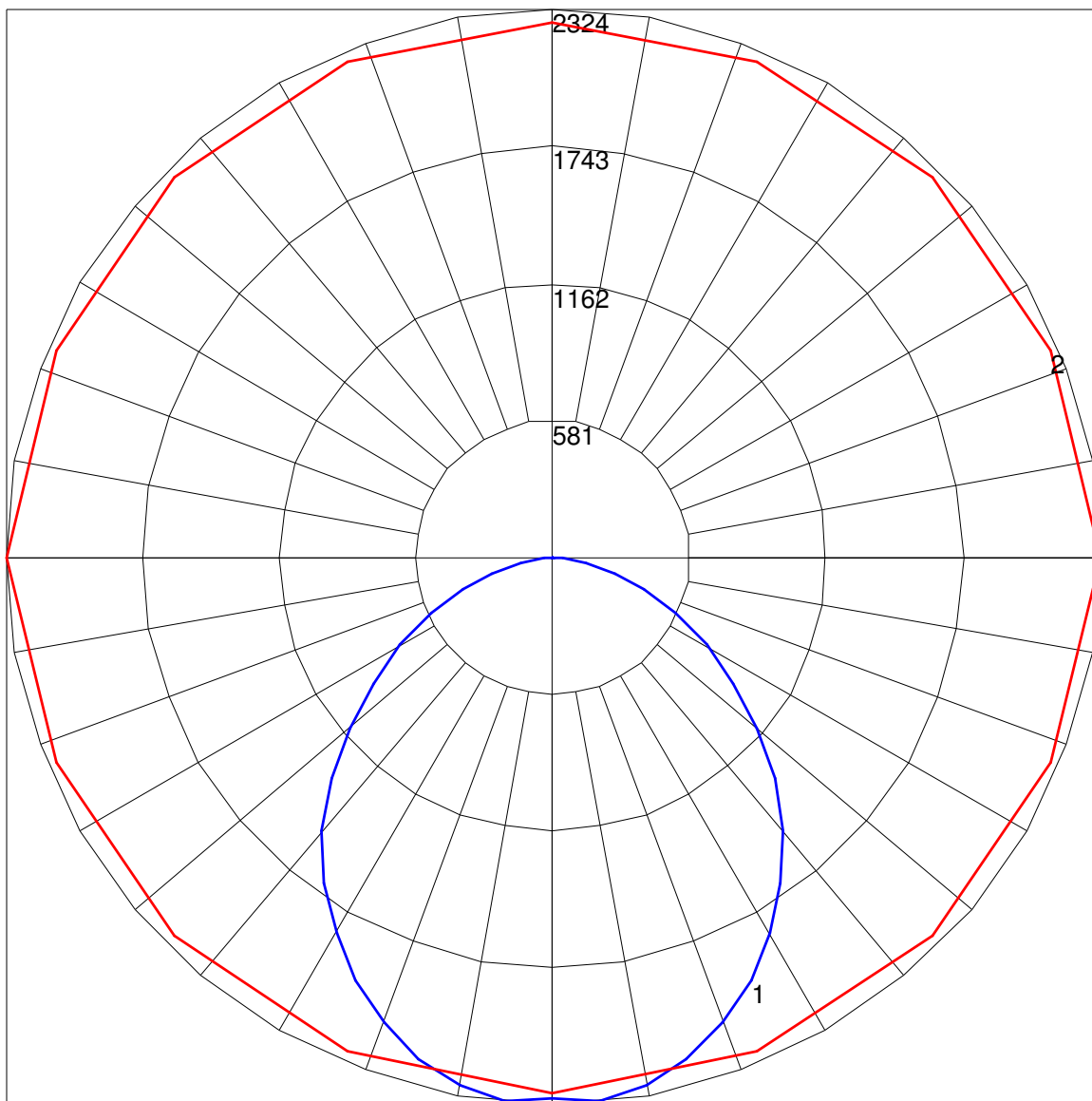
4H	2H	17.6	19.0	18.1	19.4	19.9	20.1	21.4	20.6	21.9	22.4
	3H	19.1	20.2	19.6	20.7	21.3	22.6	23.7	23.1	24.2	24.7
	4H	19.5	20.6	20.1	21.1	21.6	23.8	24.8	24.3	25.3	25.9
	6H	19.8	20.7	20.4	21.3	21.8	25.1	26.0	25.6	26.5	27.1
	8H	19.9	20.7	20.4	21.3	21.9	25.7	26.6	26.3	27.1	27.7
	12H	19.9	20.6	20.5	21.2	21.8	26.4	27.2	27.0	27.8	28.4

8H	4H	20.3	21.1	20.8	21.7	22.3	24.0	24.8	24.5	25.3	25.9
	6H	20.7	21.4	21.3	22.0	22.6	25.4	26.1	25.9	26.7	27.3
	8H	20.8	21.5	21.4	22.1	22.7	26.2	26.8	26.8	27.4	28.0
	12H	20.9	21.5	21.5	22.1	22.7	27.0	27.6	27.6	28.2	28.9

12H	4H	20.5	21.2	21.0	21.8	22.4	24.0	24.7	24.5	25.3	25.9
	6H	21.0	21.7	21.6	22.2	22.9	25.4	26.1	26.0	26.6	27.3
	8H	21.2	21.8	21.8	22.4	23.1	26.2	26.8	26.8	27.4	28.1

Maximum UGR = 28.9

POLAR GRAPH



Maximum Candela = 2324.471 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.)