



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AW-4-L74-835-RA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20990.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 2023-08-09

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 48 INCH LINEAR LED SURFACE LUMINAIRE

[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS

[MORE] 0-10V DIMMING DRIVER

[LUMCAT] AW-4-L74-835-RA-DIM-UNV

[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7407
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	133
Total Luminaire Watts	55.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.98 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	12960	11878	12188
55	11051	10293	10838
65	8889	8527	9384
75	6895	7229	8108
85	3235	6517	7548

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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	2391.868	2391.868	2391.868	2391.868	2391.868
5	2411.922	2380.298	2374.128	2374.128	2367.186
10	2367.957	2340.961	2342.503	2348.674	2340.961
15	2288.511	2267.685	2284.654	2303.166	2300.852
20	2185.925	2177.441	2205.208	2239.146	2240.689
25	2044.002	2053.258	2103.394	2148.130	2159.700
30	1894.366	1910.563	1982.296	2040.145	2062.514
35	1707.706	1745.500	1840.373	1915.963	1942.187
40	1529.530	1570.411	1684.566	1790.237	1814.919
45	1318.188	1377.580	1516.418	1630.574	1661.426
50	1120.730	1194.006	1345.956	1471.681	1505.620
55	925.586	997.319	1171.637	1301.991	1342.099
60	740.469	821.457	1000.404	1120.730	1166.238
65	562.293	647.910	823.000	976.493	1009.660
70	414.971	490.560	674.135	823.000	862.337
75	281.532	365.606	551.495	684.933	714.244
80	156.578	259.164	441.196	562.293	603.945
85	55.535	175.090	350.180	462.793	497.502
90	0.000	115.698	273.048	383.347	405.715
95	0.000	74.047	215.199	313.928	347.866
100	0.000	49.365	165.063	259.935	286.932
105	0.000	33.167	130.353	209.799	239.881
110	0.000	15.426	103.357	172.005	200.544
115	0.000	10.027	82.531	145.008	165.063
120	0.000	0.000	65.562	118.784	139.609
125	0.000	0.000	50.907	94.873	111.070
130	0.000	0.000	40.109	74.818	88.702
135	0.000	0.000	32.396	57.849	70.962
140	0.000	0.000	16.969	43.965	53.993
145	0.000	0.000	6.171	33.938	39.337
150	0.000	0.000	0.000	29.310	33.167
155	0.000	0.000	0.000	27.768	29.310
160	0.000	0.000	0.000	16.198	26.996
165	0.000	0.000	0.000	5.399	9.256
170	0.000	0.000	0.000	0.000	0.000
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	871.57	N.A.	11.80
0-30	1839.92	N.A.	24.80
0-40	2986.7	N.A.	40.30
0-60	5179.85	N.A.	69.90
0-80	6543.28	N.A.	88.30
0-90	6894.09	N.A.	93.10
10-90	6667.98	N.A.	90.00
20-40	2115.13	N.A.	28.60
20-50	3277.29	N.A.	44.20
40-70	2997.37	N.A.	40.50
60-80	1363.43	N.A.	18.40
70-80	559.21	N.A.	7.60
80-90	350.81	N.A.	4.70
90-110	346.80	N.A.	4.70
90-120	426.72	N.A.	5.80
90-130	472.64	N.A.	6.40
90-150	506.98	N.A.	6.80
90-180	512.63	N.A.	6.90
110-180	165.83	N.A.	2.20
0-180	7406.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	226.11
10-20	645.46
20-30	968.35
30-40	1146.78
40-50	1162.16
50-60	1030.99
60-70	804.22
70-80	559.21
80-90	350.81
90-100	214.69
100-110	132.11
110-120	79.92
120-130	45.92
130-140	24.29
140-150	10.05
150-160	4.69
160-170	0.97
170-180	0.00

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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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	101	96	92	102	98	93	90	92	89	85	87	84	82	82	80	78	75
2	96	87	80	74	93	85	78	73	80	75	70	76	71	67	72	68	65	62
3	88	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
5	74	61	51	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	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	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	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

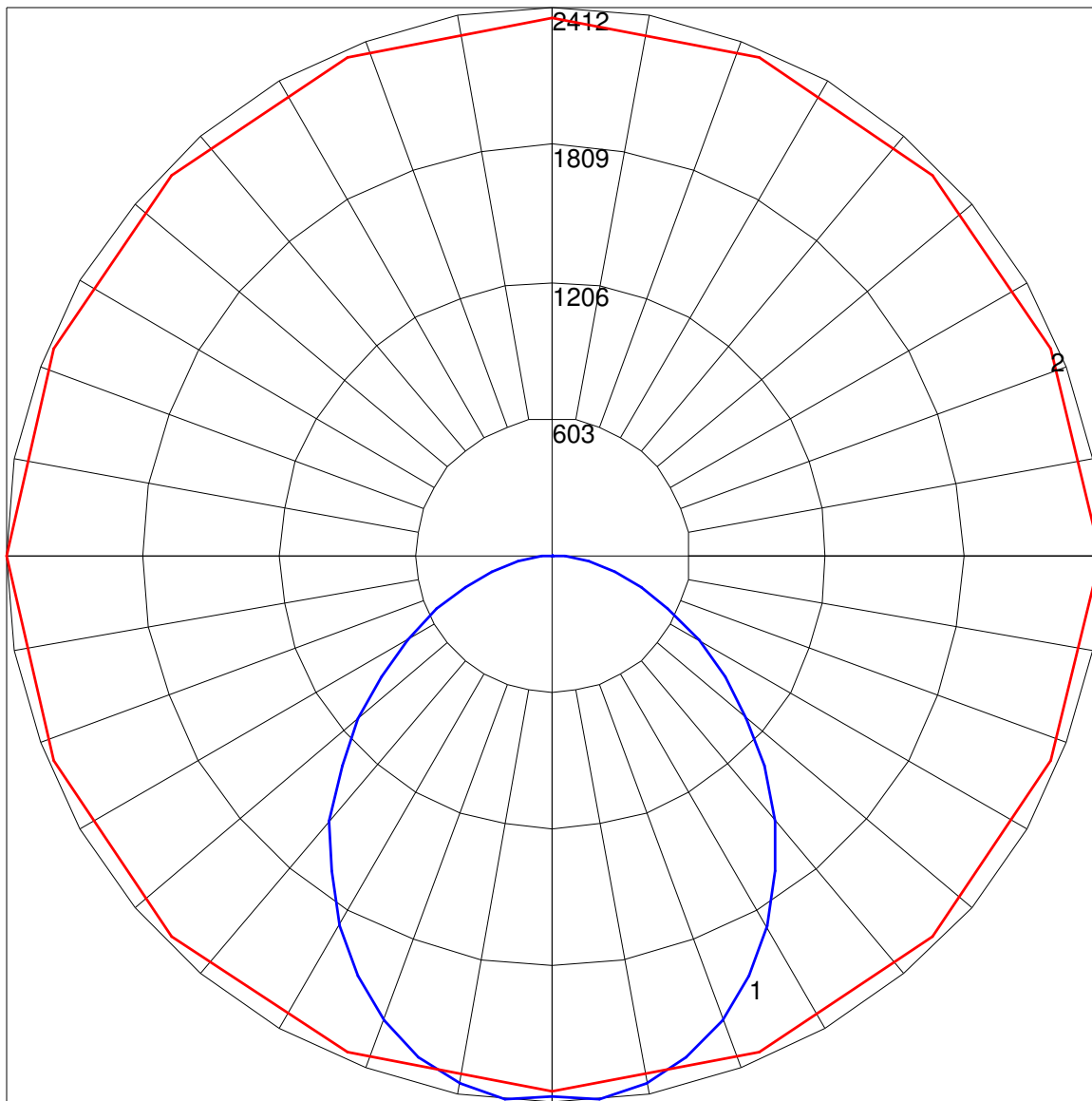
Reflectances

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	17.9	19.4	18.3	19.8	20.3	20.9	22.4	21.4	22.8	23.3
	3H	19.1	20.4	19.6	20.9	21.4	23.1	24.5	23.6	25.0	25.5
	4H	19.5	20.8	20.0	21.2	21.8	24.2	25.5	24.7	26.0	26.5
	6H	19.7	20.9	20.2	21.4	21.9	25.3	26.5	25.8	27.0	27.5
	8H	19.7	20.9	20.3	21.4	22.0	25.9	27.0	26.4	27.5	28.1
	12H	19.7	20.8	20.3	21.4	22.0	26.5	27.6	27.0	28.1	28.7
4H	2H	18.8	20.1	19.3	20.6	21.1	21.2	22.5	21.7	23.0	23.5
	3H	20.3	21.4	20.8	21.9	22.5	23.7	24.8	24.2	25.3	25.9
	4H	20.8	21.8	21.3	22.3	22.9	24.9	25.9	25.4	26.5	27.1
	6H	21.1	22.0	21.6	22.5	23.2	26.2	27.1	26.8	27.7	28.3
	8H	21.2	22.0	21.7	22.6	23.2	26.9	27.7	27.4	28.3	28.9
	12H	21.2	22.0	21.8	22.6	23.2	27.6	28.4	28.2	29.0	29.6
8H	4H	21.5	22.3	22.1	22.9	23.5	25.1	25.9	25.6	26.5	27.1
	6H	22.0	22.7	22.6	23.3	24.0	26.5	27.2	27.1	27.8	28.5
	8H	22.2	22.8	22.8	23.4	24.1	27.3	28.0	27.9	28.6	29.2
	12H	22.3	22.9	22.9	23.5	24.2	28.3	28.8	28.9	29.4	30.1
12H	4H	21.7	22.5	22.3	23.1	23.7	25.1	25.8	25.7	26.4	27.1
	6H	22.3	23.0	23.0	23.6	24.2	26.6	27.2	27.2	27.8	28.5
	8H	22.6	23.2	23.2	23.8	24.5	27.4	28.0	28.0	28.6	29.3

Maximum UGR = 30.1

POLAR GRAPH



Maximum Candela = 2411.922 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.)