



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AW-4-L54-835-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-L54-835-RA-DIM-UNV
 [LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5525
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	142
Total Luminaire Watts	38.8
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	9667	8860	9092
55	8243	7678	8084
65	6631	6360	6999
75	5143	5392	6048
85	2413	4861	5630

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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	1784.132	1784.132	1784.132	1784.132	1784.132
5	1799.091	1775.502	1770.900	1770.900	1765.721
10	1766.297	1746.160	1747.311	1751.913	1746.160
15	1707.037	1691.502	1704.160	1717.968	1716.242
20	1630.516	1624.188	1644.900	1670.215	1671.366
25	1524.654	1531.558	1568.955	1602.325	1610.955
30	1413.037	1425.120	1478.626	1521.777	1538.462
35	1273.805	1301.997	1372.764	1429.147	1448.709
40	1140.901	1171.394	1256.545	1335.366	1353.777
45	983.258	1027.559	1131.120	1216.271	1239.284
50	835.970	890.628	1003.970	1097.751	1123.066
55	690.409	743.916	873.943	971.176	1001.093
60	552.327	612.738	746.217	835.970	869.916
65	419.424	483.286	613.889	728.382	753.121
70	309.533	365.917	502.848	613.889	643.231
75	209.999	272.712	411.369	510.903	532.766
80	116.794	193.315	329.095	419.424	450.492
85	41.425	130.602	261.205	345.205	371.095
90	0.000	86.301	203.671	285.944	302.629
95	0.000	55.233	160.520	234.164	259.479
100	0.000	36.822	123.123	193.890	214.027
105	0.000	24.740	97.233	156.493	178.931
110	0.000	11.507	77.096	128.301	149.589
115	0.000	7.479	61.561	108.164	123.123
120	0.000	0.000	48.904	88.603	104.137
125	0.000	0.000	37.973	70.767	82.849
130	0.000	0.000	29.918	55.808	66.164
135	0.000	0.000	24.164	43.151	52.931
140	0.000	0.000	12.658	32.794	40.274
145	0.000	0.000	4.603	25.315	29.342
150	0.000	0.000	0.000	21.863	24.740
155	0.000	0.000	0.000	20.712	21.863
160	0.000	0.000	0.000	12.082	20.137
165	0.000	0.000	0.000	4.027	6.904
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	650.12	N.A.	11.80
0-30	1372.43	N.A.	24.80
0-40	2227.82	N.A.	40.30
0-60	3863.73	N.A.	69.90
0-80	4880.74	N.A.	88.30
0-90	5142.41	N.A.	93.10
10-90	4973.75	N.A.	90.00
20-40	1577.71	N.A.	28.60
20-50	2444.58	N.A.	44.20
40-70	2235.78	N.A.	40.50
60-80	1017.01	N.A.	18.40
70-80	417.13	N.A.	7.60
80-90	261.67	N.A.	4.70
90-110	258.69	N.A.	4.70
90-120	318.30	N.A.	5.80
90-130	352.55	N.A.	6.40
90-150	378.16	N.A.	6.80
90-180	382.38	N.A.	6.90
110-180	123.69	N.A.	2.20
0-180	5524.79	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	168.66
10-20	481.46
20-30	722.31
30-40	855.40
40-50	866.88
50-60	769.03
60-70	599.88
70-80	417.13
80-90	261.67
90-100	160.14
100-110	98.54
110-120	59.61
120-130	34.25
130-140	18.12
140-150	7.50
150-160	3.49
160-170	0.72
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

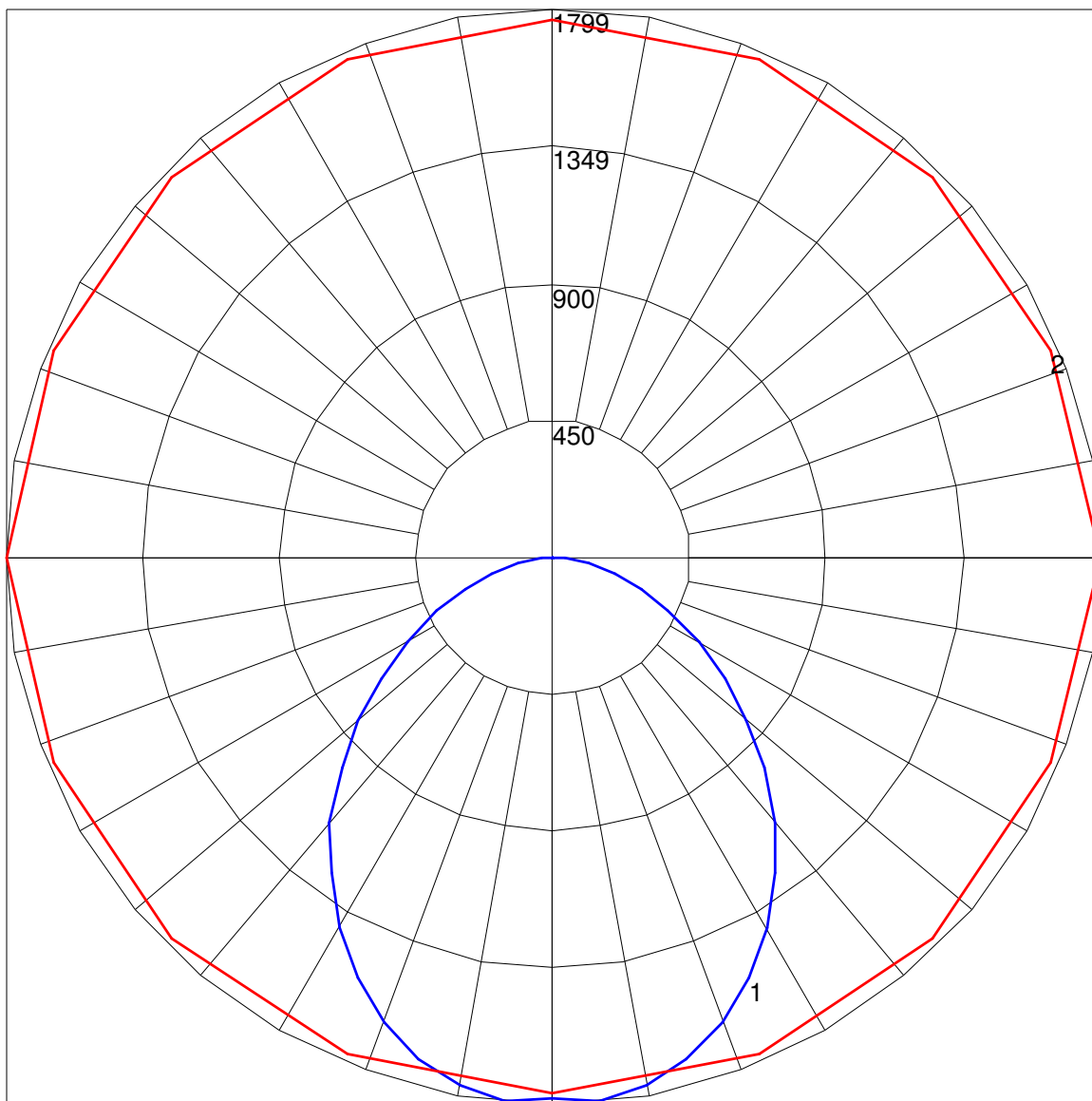
Reflectances

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	16.8	18.3	17.2	18.7	19.2	19.8	21.3	20.3	21.7	22.2
	3H	18.0	19.3	18.5	19.8	20.3	22.0	23.4	22.5	23.9	24.4
	4H	18.4	19.7	18.9	20.1	20.7	23.1	24.4	23.6	24.9	25.4
	6H	18.6	19.8	19.1	20.3	20.8	24.2	25.4	24.7	25.9	26.4
	8H	18.6	19.8	19.2	20.3	20.9	24.8	25.9	25.3	26.4	27.0
	12H	18.6	19.7	19.2	20.3	20.9	25.4	26.5	25.9	27.0	27.6
4H	2H	17.7	19.0	18.2	19.5	20.0	20.1	21.4	20.6	21.9	22.4
	3H	19.2	20.3	19.7	20.8	21.4	22.6	23.7	23.1	24.2	24.8
	4H	19.7	20.7	20.2	21.2	21.8	23.8	24.8	24.3	25.4	26.0
	6H	20.0	20.9	20.5	21.4	22.1	25.1	26.0	25.7	26.6	27.2
	8H	20.1	20.9	20.6	21.5	22.1	25.8	26.6	26.3	27.2	27.8
	12H	20.1	20.9	20.7	21.5	22.1	26.5	27.3	27.1	27.9	28.5
8H	4H	20.4	21.2	21.0	21.8	22.4	24.0	24.8	24.5	25.4	26.0
	6H	20.9	21.6	21.5	22.2	22.9	25.4	26.1	26.0	26.7	27.4
	8H	21.1	21.7	21.7	22.3	23.0	26.2	26.9	26.8	27.5	28.1
	12H	21.2	21.8	21.8	22.4	23.1	27.2	27.7	27.8	28.3	29.0
12H	4H	20.6	21.4	21.2	22.0	22.6	24.0	24.7	24.6	25.3	26.0
	6H	21.2	21.9	21.9	22.5	23.1	25.5	26.1	26.1	26.7	27.4
	8H	21.5	22.1	22.1	22.7	23.4	26.3	26.9	26.9	27.5	28.2

Maximum UGR = 29.0

POLAR GRAPH



Maximum Candela = 1799.091 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.)