



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AW-4-L74-930-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-L74-930-RA-DIM-UNV

[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6074
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
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	10627	9740	9995
55	9062	8441	8887
65	7289	6992	7694
75	5654	5928	6648
85	2653	5344	6190

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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	1961.332	1961.332	1961.332	1961.332	1961.332
5	1977.776	1951.844	1946.785	1946.785	1941.092
10	1941.725	1919.588	1920.853	1925.913	1919.588
15	1876.579	1859.502	1873.416	1888.596	1886.699
20	1792.459	1785.501	1808.271	1836.100	1837.365
25	1676.082	1683.671	1724.783	1761.467	1770.954
30	1553.380	1566.662	1625.483	1672.919	1691.261
35	1400.319	1431.310	1509.106	1571.089	1592.594
40	1254.215	1287.737	1381.344	1467.994	1488.234
45	1080.914	1129.616	1243.463	1337.070	1362.370
50	918.999	979.085	1103.684	1206.779	1234.608
55	758.980	817.801	960.743	1067.632	1100.521
60	607.184	673.595	820.331	918.999	956.315
65	461.081	531.286	674.860	800.724	827.921
70	340.276	402.260	552.791	674.860	707.117
75	230.857	299.797	452.226	561.645	585.680
80	128.394	212.514	361.781	461.081	495.235
85	45.539	143.574	287.148	379.490	407.952
90	0.000	94.873	223.899	314.344	332.686
95	0.000	60.718	176.463	257.421	285.250
100	0.000	40.479	135.351	213.147	235.284
105	0.000	27.197	106.890	172.036	196.702
110	0.000	12.650	84.753	141.044	164.446
115	0.000	8.222	67.676	118.907	135.351
120	0.000	0.000	53.761	97.402	114.480
125	0.000	0.000	41.744	77.795	91.078
130	0.000	0.000	32.889	61.351	72.736
135	0.000	0.000	26.564	47.436	58.188
140	0.000	0.000	13.915	36.052	44.274
145	0.000	0.000	5.060	27.829	32.257
150	0.000	0.000	0.000	24.034	27.197
155	0.000	0.000	0.000	22.769	24.034
160	0.000	0.000	0.000	13.282	22.137
165	0.000	0.000	0.000	4.427	7.590
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	714.69	N.A.	11.80
0-30	1508.73	N.A.	24.80
0-40	2449.09	N.A.	40.30
0-60	4247.47	N.A.	69.90
0-80	5365.49	N.A.	88.30
0-90	5653.15	N.A.	93.10
10-90	5467.74	N.A.	90.00
20-40	1734.41	N.A.	28.60
20-50	2687.38	N.A.	44.20
40-70	2457.84	N.A.	40.50
60-80	1118.01	N.A.	18.40
70-80	458.55	N.A.	7.60
80-90	287.66	N.A.	4.70
90-110	284.38	N.A.	4.70
90-120	349.91	N.A.	5.80
90-130	387.57	N.A.	6.40
90-150	415.72	N.A.	6.80
90-180	420.36	N.A.	6.90
110-180	135.98	N.A.	2.20
0-180	6073.51	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	185.41
10-20	529.28
20-30	794.05
30-40	940.36
40-50	952.97
50-60	845.41
60-70	659.46
70-80	458.55
80-90	287.66
90-100	176.05
100-110	108.33
110-120	65.53
120-130	37.66
130-140	19.92
140-150	8.24
150-160	3.84
160-170	0.79
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	87	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

X=2H	Y=2H	17.2	18.7	17.6	19.1	19.6	20.2	21.7	20.7	22.1	22.6
	3H	18.4	19.7	18.9	20.2	20.7	22.4	23.8	22.9	24.3	24.8
	4H	18.8	20.1	19.3	20.5	21.1	23.5	24.8	24.0	25.3	25.8
	6H	19.0	20.2	19.5	20.7	21.2	24.6	25.8	25.1	26.3	26.8
	8H	19.0	20.2	19.6	20.7	21.3	25.2	26.3	25.7	26.8	27.4
	12H	19.0	20.1	19.6	20.7	21.3	25.8	26.9	26.3	27.4	28.0

UGR Viewed Endwise

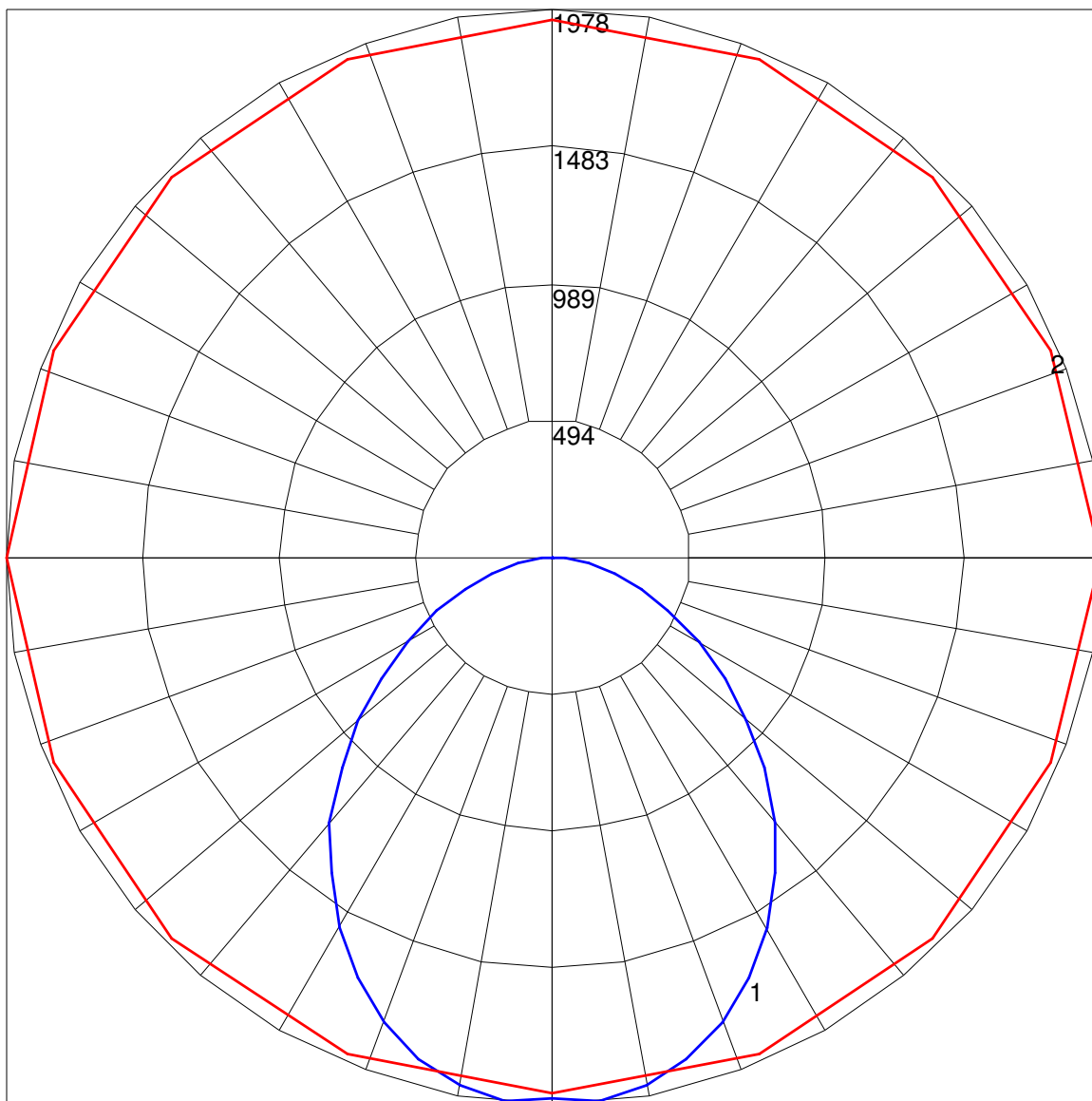
4H	2H	18.1	19.4	18.6	19.9	20.4	20.5	21.8	21.0	22.3	22.8
	3H	19.6	20.7	20.1	21.2	21.8	23.0	24.1	23.5	24.6	25.2
	4H	20.1	21.1	20.6	21.6	22.2	24.2	25.2	24.7	25.8	26.4
	6H	20.4	21.3	20.9	21.8	22.5	25.5	26.4	26.1	27.0	27.6
	8H	20.5	21.3	21.0	21.9	22.5	26.2	27.0	26.7	27.6	28.2
	12H	20.5	21.3	21.1	21.9	22.5	26.9	27.7	27.5	28.3	28.9

8H	4H	20.8	21.6	21.4	22.2	22.8	24.4	25.2	24.9	25.8	26.4
	6H	21.3	22.0	21.9	22.6	23.3	25.8	26.5	26.4	27.1	27.8
	8H	21.5	22.1	22.1	22.7	23.4	26.6	27.3	27.2	27.9	28.5
	12H	21.6	22.2	22.2	22.8	23.5	27.6	28.1	28.2	28.7	29.4

12H	4H	21.0	21.8	21.6	22.4	23.0	24.4	25.1	25.0	25.7	26.4
	6H	21.6	22.3	22.3	22.9	23.5	25.9	26.5	26.5	27.1	27.8
	8H	21.9	22.5	22.5	23.1	23.8	26.7	27.3	27.3	27.9	28.6

Maximum UGR = 29.4

POLAR GRAPH



Maximum Candela = 1977.776 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.)