



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AW-4-L93-830-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-L93-830-RA-DIM-UNV

[LAMPCAT] 22 INCH HLM LED ARRAYS

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9148
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	131
Total Luminaire Watts	70.1
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	16007	14670	15054
55	13649	12714	13386
65	10980	10531	11590
75	8517	8929	10014
85	3996	8049	9323

IES INDOOR REPORT
PHOTOMETRIC FILENAME : AW-4-L93-830-RA-DIM-UNV_.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	2954.262	2954.262	2954.262	2954.262	2954.262
5	2979.032	2939.972	2932.350	2932.350	2923.776
10	2924.729	2891.385	2893.290	2900.912	2891.385
15	2826.603	2800.880	2821.839	2844.704	2841.846
20	2699.896	2689.417	2723.713	2765.631	2767.537
25	2524.603	2536.035	2597.959	2653.215	2667.505
30	2339.783	2359.789	2448.389	2519.840	2547.467
35	2109.234	2155.916	2273.095	2366.458	2398.849
40	1889.165	1939.657	2080.654	2211.171	2241.657
45	1628.131	1701.487	1872.970	2013.966	2052.074
50	1384.245	1474.749	1662.427	1817.714	1859.632
55	1143.216	1231.816	1447.122	1608.125	1657.664
60	914.573	1014.605	1235.626	1384.245	1440.453
65	694.504	800.252	1016.510	1206.093	1247.059
70	512.542	605.905	832.643	1016.510	1065.097
75	347.728	451.571	681.166	845.980	882.182
80	193.394	320.101	544.933	694.504	745.949
85	68.593	216.258	432.517	571.608	614.479
90	0.000	142.902	337.249	473.482	501.110
95	0.000	91.457	265.798	387.741	429.659
100	0.000	60.972	203.874	321.053	354.397
105	0.000	40.965	161.003	259.129	296.284
110	0.000	19.054	127.659	212.448	247.697
115	0.000	12.385	101.937	179.104	203.874
120	0.000	0.000	80.978	146.713	172.435
125	0.000	0.000	62.877	117.180	137.186
130	0.000	0.000	49.539	92.410	109.558
135	0.000	0.000	40.013	71.451	87.647
140	0.000	0.000	20.959	54.303	66.688
145	0.000	0.000	7.621	41.918	48.587
150	0.000	0.000	0.000	36.202	40.965
155	0.000	0.000	0.000	34.296	36.202
160	0.000	0.000	0.000	20.006	33.344
165	0.000	0.000	0.000	6.669	11.432
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : AW-4-L93-830-RA-DIM-UNV_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1076.5	N.A.	11.80
0-30	2272.54	N.A.	24.80
0-40	3688.95	N.A.	40.30
0-60	6397.77	N.A.	69.90
0-80	8081.78	N.A.	88.30
0-90	8515.08	N.A.	93.10
10-90	8235.8	N.A.	90.00
20-40	2612.45	N.A.	28.60
20-50	4047.87	N.A.	44.20
40-70	3702.13	N.A.	40.50
60-80	1684.01	N.A.	18.40
70-80	690.70	N.A.	7.60
80-90	433.29	N.A.	4.70
90-110	428.34	N.A.	4.70
90-120	527.05	N.A.	5.80
90-130	583.77	N.A.	6.40
90-150	626.18	N.A.	6.80
90-180	633.17	N.A.	6.90
110-180	204.82	N.A.	2.20
0-180	9148.24	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	279.28
10-20	797.22
20-30	1196.04
30-40	1416.42
40-50	1435.42
50-60	1273.4
60-70	993.31
70-80	690.70
80-90	433.29
90-100	265.17
100-110	163.17
110-120	98.71
120-130	56.72
130-140	30.00
140-150	12.41
150-160	5.79
160-170	1.19
170-180	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : AW-4-L93-830-RA-DIM-UNV_.IES

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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : AW-4-L93-830-RA-DIM-UNV_.IES

UGR TABLE - CORRECTED

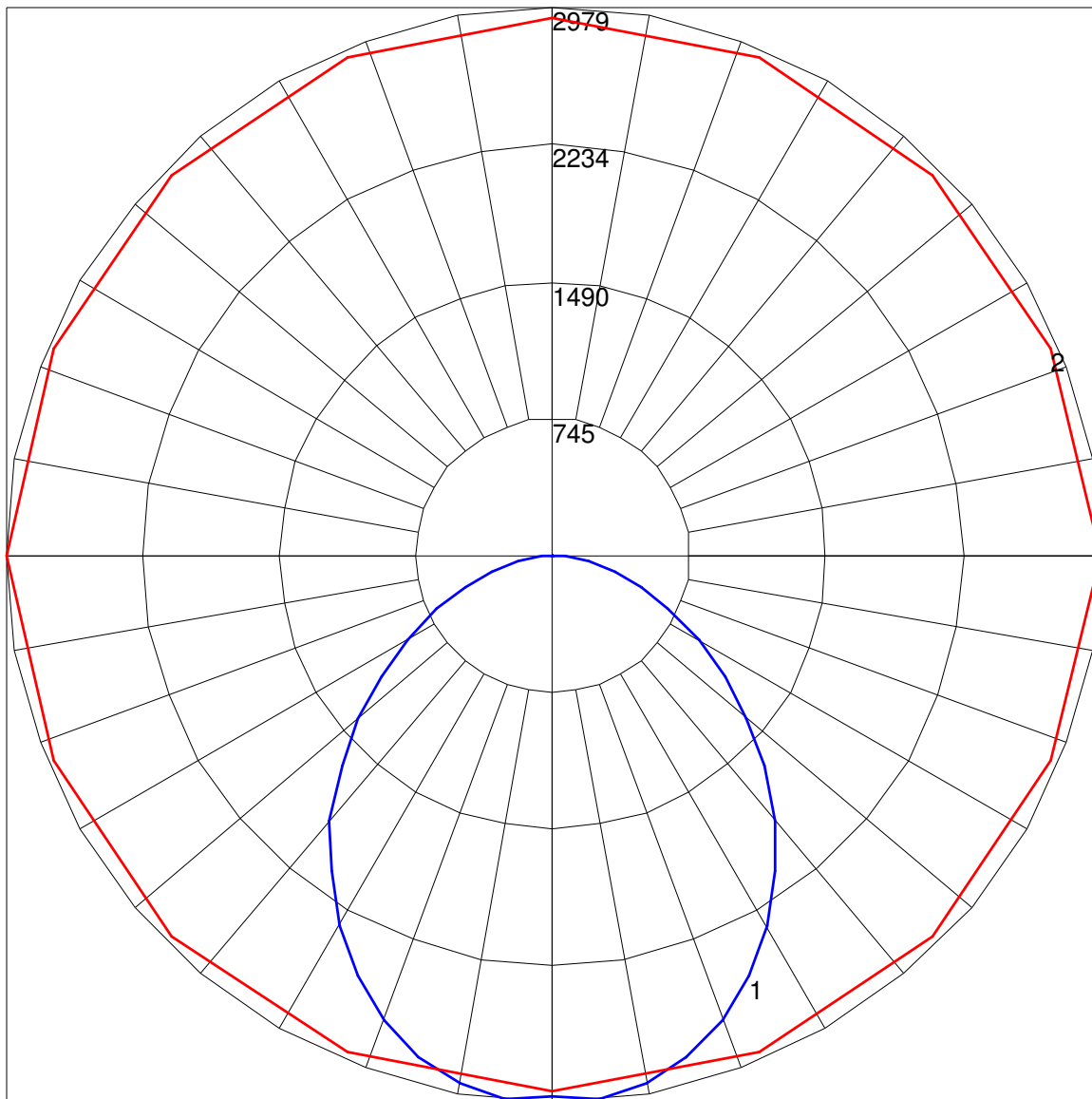
Reflectances

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	18.6	20.1	19.0	20.5	21.0	21.6	23.1	22.1	23.5	24.0
	3H	19.8	21.1	20.3	21.6	22.1	23.8	25.2	24.3	25.7	26.2
	4H	20.2	21.5	20.7	21.9	22.5	24.9	26.2	25.4	26.7	27.2
	6H	20.4	21.6	20.9	22.1	22.6	26.0	27.2	26.5	27.7	28.2
	8H	20.4	21.6	21.0	22.1	22.7	26.6	27.7	27.1	28.2	28.8
	12H	20.4	21.5	21.0	22.1	22.7	27.2	28.3	27.7	28.8	29.4
4H	2H	19.5	20.8	20.0	21.3	21.8	21.9	23.2	22.4	23.7	24.2
	3H	21.0	22.1	21.5	22.6	23.2	24.4	25.5	24.9	26.0	26.6
	4H	21.5	22.5	22.0	23.0	23.6	25.6	26.6	26.1	27.2	27.8
	6H	21.8	22.7	22.3	23.2	23.9	26.9	27.8	27.5	28.4	29.0
	8H	21.9	22.7	22.4	23.3	23.9	27.6	28.4	28.1	29.0	29.6
	12H	21.9	22.7	22.5	23.3	23.9	28.3	29.1	28.9	29.7	30.3
8H	4H	22.2	23.0	22.8	23.6	24.2	25.8	26.6	26.3	27.2	27.8
	6H	22.7	23.4	23.3	24.0	24.7	27.2	27.9	27.8	28.5	29.2
	8H	22.9	23.5	23.5	24.1	24.8	28.0	28.7	28.6	29.3	29.9
	12H	23.0	23.6	23.6	24.2	24.9	29.0	29.5	29.6	30.1	30.8
12H	4H	22.4	23.2	23.0	23.8	24.4	25.8	26.5	26.4	27.1	27.8
	6H	23.0	23.7	23.7	24.3	24.9	27.3	27.9	27.9	28.5	29.2
	8H	23.3	23.9	23.9	24.5	25.2	28.1	28.7	28.7	29.3	30.0

Maximum UGR = 30.8

POLAR GRAPH



Maximum Candela = 2979.032 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.)