



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-24-L55-835-D-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18876.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 20-DEC-2019

[MANUFAC] WILLIAMS LINEAR

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

[LUMINAIRE] 4-32 LED 22" ARRAYS-SERIES 2x4 'RECESSED LUMINAIRE w/WHITE

[MORE] REFL, FROST CONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT1-24-L55-835-D-DIM-UNV

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Educational, Office, Direct

[\_SEARCH\_MOUNTING] Ceiling, Recessed

[\_SEARCH\_CERTIFICATION] DLC

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5523
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	48
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 ft
Luminous Width (90-270)	1.77 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2522	2949	3199
55	2187	2678	2886
65	1945	2549	2756
75	1661	2469	2536
85	1399	1499	1533

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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>
<b>0</b>	2124.921	2124.921	2124.921	2124.921	2124.921
<b>5</b>	2126.714	2124.921	2130.300	2130.300	2132.093
<b>10</b>	2069.332	2071.125	2083.678	2094.437	2099.816
<b>15</b>	1997.605	2008.364	2031.675	2056.780	2071.125
<b>20</b>	1872.082	1898.980	1938.430	1986.846	2008.364
<b>25</b>	1723.248	1748.352	1812.907	1882.841	1913.325
<b>30</b>	1576.207	1610.277	1699.937	1789.596	1823.666
<b>35</b>	1447.098	1488.341	1595.932	1694.557	1730.421
<b>40</b>	1257.021	1305.437	1425.580	1522.412	1549.309
<b>45</b>	1101.014	1153.016	1287.505	1369.991	1396.889
<b>50</b>	932.455	991.630	1113.566	1185.293	1205.018
<b>55</b>	774.655	835.623	948.593	1005.975	1022.114
<b>60</b>	636.580	697.548	799.759	848.175	862.521
<b>65</b>	507.471	573.818	665.271	706.514	719.066
<b>70</b>	383.741	453.675	532.575	563.059	568.439
<b>75</b>	265.391	337.118	394.500	408.845	405.259
<b>80</b>	166.766	231.320	252.839	193.664	175.732
<b>85</b>	75.314	105.798	80.693	80.693	82.486
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	773.21	N.A.	14.00
0-30	1612.12	N.A.	29.20
0-40	2598.4	N.A.	47.00
0-60	4399.7	N.A.	79.70
0-80	5417.82	N.A.	98.10
0-90	5522.7	N.A.	100.00
10-90	5321.16	N.A.	96.40
20-40	1825.19	N.A.	33.00
20-50	2797.02	N.A.	50.60
40-70	2435.12	N.A.	44.10
60-80	1018.12	N.A.	18.40
70-80	384.31	N.A.	7.00
80-90	104.88	N.A.	1.90
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	5522.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	201.53
10-20	571.68
20-30	838.90
30-40	986.28
40-50	971.84
50-60	829.47
60-70	633.81
70-80	384.31
80-90	104.88
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
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	163	163	163	163	159	159	159	159	152	152	152	146	146	146	140	140	140	137
1	149	143	137	131	145	139	134	129	134	129	125	128	125	121	123	120	118	115
2	136	125	115	107	132	122	113	106	117	110	104	113	107	101	108	104	99	96
3	124	110	99	90	121	107	97	89	103	95	87	100	92	86	96	90	84	81
4	114	97	86	76	111	96	84	76	92	82	75	89	81	74	86	79	73	70
5	105	87	75	66	102	86	74	66	83	73	65	80	71	64	78	70	64	61
6	97	79	67	58	94	77	66	58	75	65	57	73	64	57	71	62	56	53
7	90	72	60	51	88	70	59	51	68	58	51	66	57	50	65	56	50	47
8	84	65	54	46	82	64	53	46	63	53	46	61	52	45	59	51	45	42
9	78	60	49	41	76	59	49	41	58	48	41	56	47	41	55	47	41	38
10	74	56	45	38	72	55	45	38	54	44	37	52	43	37	51	43	37	35

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**UGR TABLE - CORRECTED**

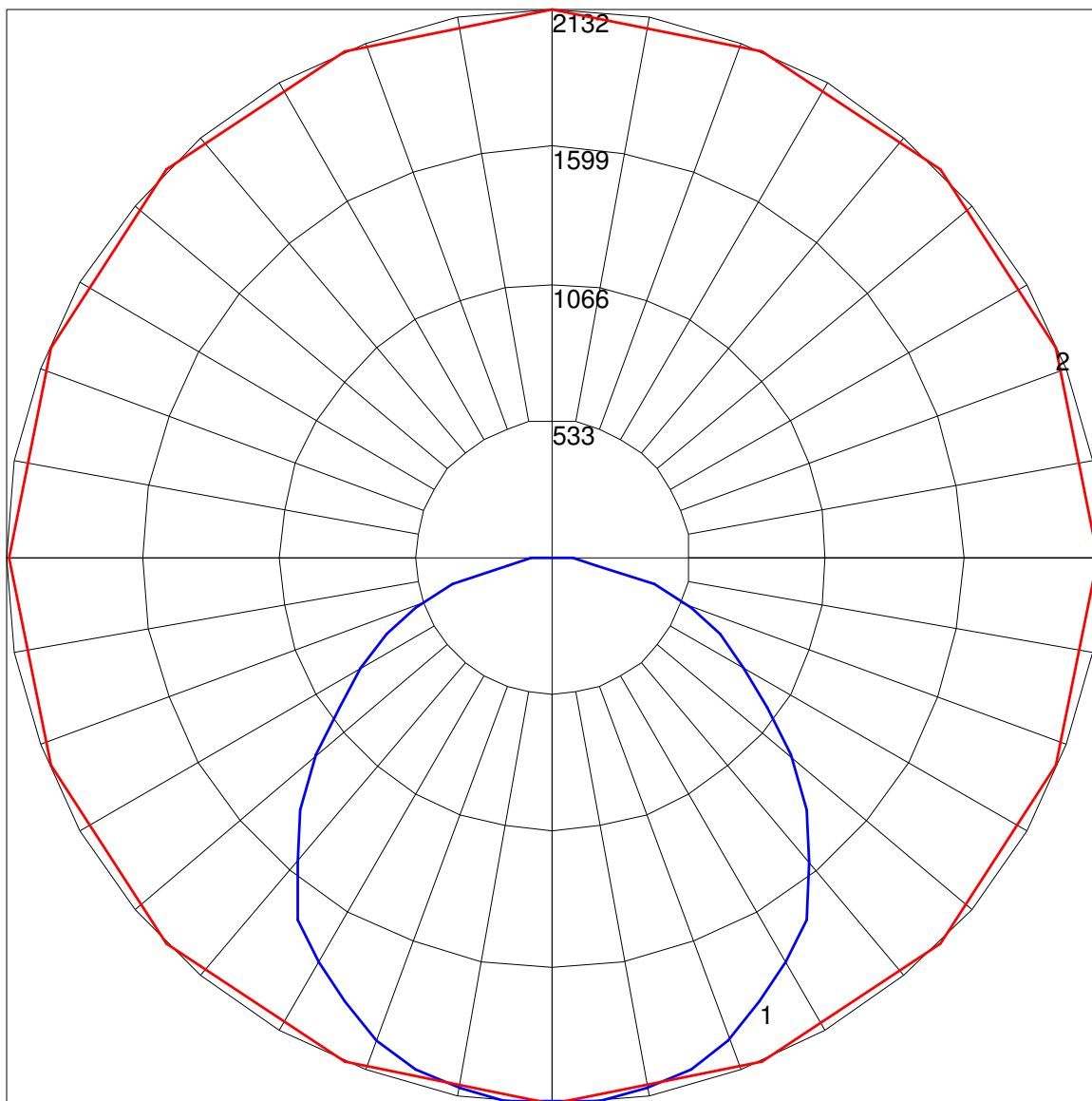
Reflectances

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	13.3	14.9	13.6	15.2	15.5	14.7	16.3	15.1	16.6	17.0
	3H	15.0	16.4	15.4	16.8	17.1	16.7	18.1	17.1	18.5	18.8
	4H	15.6	17.0	16.0	17.3	17.7	17.4	18.8	17.8	19.2	19.5
	6H	16.1	17.4	16.5	17.8	18.2	17.8	19.1	18.3	19.5	19.9
	8H	16.3	17.5	16.7	17.9	18.3	17.9	19.2	18.4	19.5	19.9
	12H	16.4	17.6	16.8	18.0	18.4	18.0	19.2	18.4	19.5	20.0
4H	2H	14.2	15.6	14.6	15.9	16.3	15.3	16.7	15.7	17.0	17.4
	3H	16.2	17.3	16.6	17.7	18.1	17.5	18.7	17.9	19.1	19.5
	4H	17.0	18.0	17.4	18.4	18.8	18.4	19.5	18.9	19.9	20.3
	6H	17.6	18.5	18.1	19.0	19.4	18.9	19.8	19.4	20.3	20.7
	8H	17.8	18.7	18.3	19.1	19.6	19.1	19.9	19.5	20.3	20.8
	12H	18.0	18.8	18.5	19.2	19.7	19.1	19.9	19.6	20.4	20.9
8H	4H	17.5	18.3	17.9	18.8	19.2	18.7	19.6	19.2	20.0	20.5
	6H	18.3	19.0	18.8	19.5	20.0	19.4	20.1	19.8	20.5	21.0
	8H	18.6	19.3	19.1	19.8	20.3	19.5	20.2	20.0	20.7	21.2
	12H	18.9	19.5	19.4	19.9	20.5	19.7	20.3	20.2	20.7	21.3
12H	4H	17.5	18.3	18.0	18.8	19.2	18.8	19.5	19.2	20.0	20.5
	6H	18.4	19.1	18.9	19.5	20.1	19.4	20.1	19.9	20.5	21.1
	8H	18.8	19.4	19.3	19.9	20.4	19.7	20.2	20.2	20.7	21.3

Maximum UGR = 21.3

POLAR GRAPH



Maximum Candela = 2132.093 Located At Horizontal Angle = 90, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)