



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-24-L70-835-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-L70-835-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	7002
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	63.3
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	3197	3738	4056
55	2773	3396	3659
65	2465	3232	3493
75	2105	3130	3215
85	1774	1901	1943

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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>	2693.952	2693.952	2693.952	2693.952	2693.952
<b>5</b>	2696.225	2693.952	2700.772	2700.772	2703.045
<b>10</b>	2623.477	2625.750	2641.664	2655.304	2662.124
<b>15</b>	2532.542	2546.182	2575.736	2607.563	2625.750
<b>20</b>	2373.406	2407.506	2457.520	2518.902	2546.182
<b>25</b>	2184.715	2216.543	2298.384	2387.046	2425.693
<b>30</b>	1998.298	2041.492	2155.161	2268.830	2312.024
<b>35</b>	1834.615	1886.903	2023.305	2148.341	2193.809
<b>40</b>	1593.637	1655.018	1807.335	1930.097	1964.198
<b>45</b>	1395.853	1461.781	1632.285	1736.860	1770.961
<b>50</b>	1182.156	1257.177	1411.767	1502.702	1527.709
<b>55</b>	982.099	1059.394	1202.616	1275.364	1295.825
<b>60</b>	807.049	884.344	1013.926	1075.307	1093.494
<b>65</b>	643.366	727.481	843.423	895.711	911.624
<b>70</b>	486.503	575.164	675.193	713.840	720.660
<b>75</b>	336.460	427.395	500.143	518.330	513.783
<b>80</b>	211.424	293.266	320.546	245.525	222.791
<b>85</b>	95.482	134.129	102.302	102.302	104.575
<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	980.27	N.A.	14.00
0-30	2043.83	N.A.	29.20
0-40	3294.22	N.A.	47.00
0-60	5577.9	N.A.	79.70
0-80	6868.65	N.A.	98.10
0-90	7001.62	N.A.	100.00
10-90	6746.11	N.A.	96.40
20-40	2313.95	N.A.	33.00
20-50	3546.04	N.A.	50.60
40-70	3087.21	N.A.	44.10
60-80	1290.76	N.A.	18.40
70-80	487.22	N.A.	7.00
80-90	132.96	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	7001.62	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	255.50
10-20	724.77
20-30	1063.55
30-40	1250.4
40-50	1232.08
50-60	1051.59
60-70	803.54
70-80	487.22
80-90	132.96
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	207	207	207	207	202	202	202	202	193	193	193	185	185	185	177	177	177	174
1	189	181	173	167	184	177	170	164	169	164	159	163	158	154	156	153	149	146
2	172	158	146	136	167	155	144	135	148	139	132	143	135	129	137	131	126	122
3	157	139	125	114	153	136	123	113	131	120	111	126	117	109	122	114	107	103
4	144	123	108	97	140	121	107	96	117	105	95	113	102	94	109	100	92	89
5	133	111	95	84	129	109	94	83	105	92	82	102	90	81	98	89	81	77
6	123	100	84	73	119	98	84	73	95	82	72	92	81	72	89	79	71	68
7	114	91	76	65	111	89	75	65	87	74	64	84	73	64	82	71	63	60
8	106	83	68	58	103	82	68	58	79	67	58	77	66	57	75	65	57	54
9	99	76	62	53	97	75	62	52	73	61	52	71	60	52	70	59	52	48
10	93	70	57	48	91	70	56	48	68	56	47	66	55	47	65	54	47	44

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**UGR TABLE - CORRECTED**

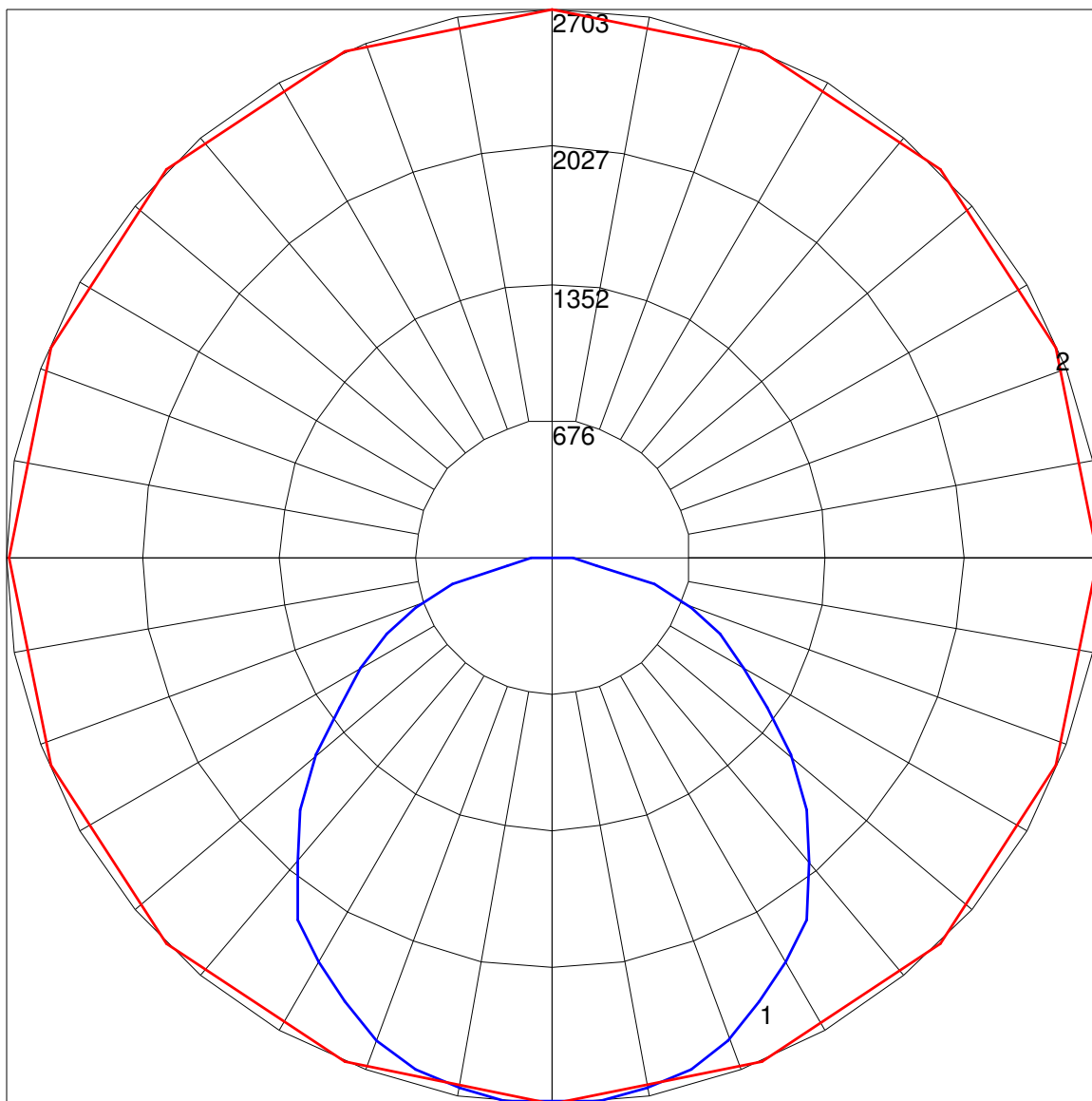
Reflectances

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 = 2703.045 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.)