



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-24-L70-840-D-(L65)-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] 06-17-2022

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 2x4 'RECESSED LUMINAIRE

[MORE] WITH FROST CONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT1-24-L70-840-D-(L65)-DIM-UNV

[LAMPCAT] HLM 80 CRI, 4000K CCT

[\_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	6761
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
Total Luminaire Watts	56.5
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	3087	3610	3916
55	2678	3279	3533
65	2381	3121	3373
75	2033	3022	3104
85	1713	1836	1876

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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>	2601.229	2601.229	2601.229	2601.229	2601.229
<b>5</b>	2603.424	2601.229	2607.815	2607.815	2610.010
<b>10</b>	2533.180	2535.375	2550.741	2563.912	2570.497
<b>15</b>	2445.375	2458.546	2487.082	2517.814	2535.375
<b>20</b>	2291.716	2324.643	2372.936	2432.204	2458.546
<b>25</b>	2109.520	2140.252	2219.277	2304.887	2342.204
<b>30</b>	1929.519	1971.227	2080.983	2190.740	2232.447
<b>35</b>	1771.470	1821.958	1953.666	2074.398	2118.301
<b>40</b>	1538.786	1598.055	1745.128	1863.665	1896.592
<b>45</b>	1347.810	1411.469	1576.103	1677.079	1710.006
<b>50</b>	1141.468	1213.907	1363.176	1450.981	1475.127
<b>55</b>	948.296	1022.931	1161.224	1231.468	1251.224
<b>60</b>	779.271	853.906	979.028	1038.297	1055.858
<b>65</b>	621.222	702.442	814.393	864.881	880.247
<b>70</b>	469.758	555.368	651.954	689.271	695.856
<b>75</b>	324.879	412.684	482.929	500.490	496.099
<b>80</b>	204.147	283.172	309.513	237.074	215.123
<b>85</b>	92.195	129.513	98.781	98.781	100.976
<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	946.53	N.A.	14.00
0-30	1973.48	N.A.	29.20
0-40	3180.84	N.A.	47.00
0-60	5385.91	N.A.	79.70
0-80	6632.24	N.A.	98.10
0-90	6760.63	N.A.	100.00
10-90	6513.92	N.A.	96.40
20-40	2234.31	N.A.	33.00
20-50	3423.99	N.A.	50.60
40-70	2980.96	N.A.	44.10
60-80	1246.33	N.A.	18.40
70-80	470.45	N.A.	7.00
80-90	128.39	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	6760.63	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	246.71
10-20	699.82
20-30	1026.95
30-40	1207.36
40-50	1189.68
50-60	1015.4
60-70	775.88
70-80	470.45
80-90	128.39
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	98	94	91	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	61	53	47	59	52	47	57	51	46	44
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	52	46	41	39
7	66	52	44	38	64	51	43	37	50	42	37	48	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	27	39	32	27	38	32	27	37	31	27	25

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**UGR TABLE - CORRECTED**

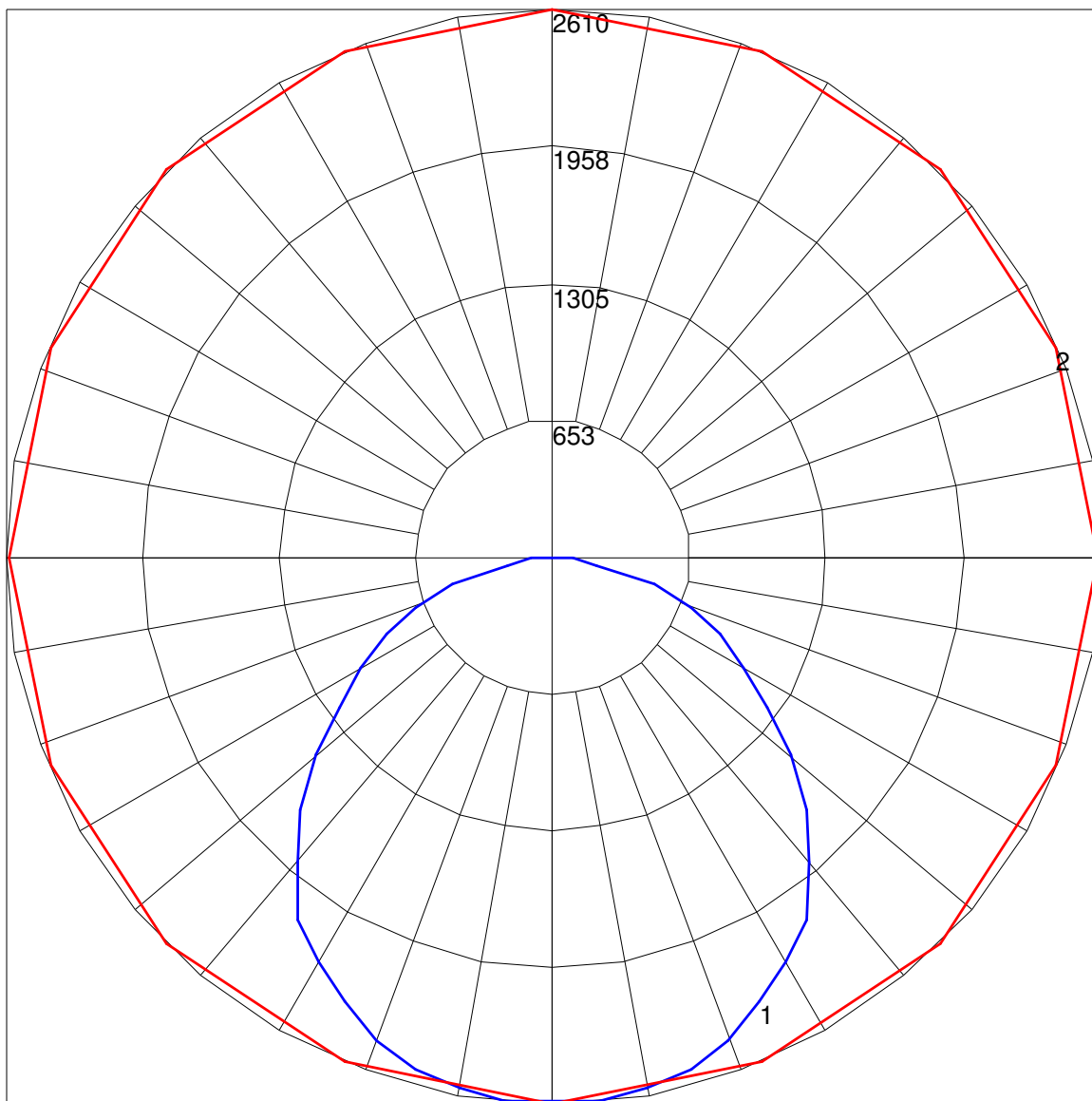
Reflectances

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	15.1	16.7	15.4	17.0	17.3	16.5	18.1	16.9	18.4	18.8
	3H	16.8	18.2	17.2	18.6	18.9	18.5	19.9	18.9	20.3	20.6
	4H	17.4	18.8	17.8	19.1	19.5	19.2	20.6	19.6	21.0	21.3
	6H	17.9	19.2	18.3	19.6	20.0	19.6	20.9	20.1	21.3	21.7
	8H	18.1	19.3	18.5	19.7	20.1	19.7	21.0	20.2	21.3	21.7
	12H	18.2	19.4	18.6	19.8	20.2	19.8	21.0	20.2	21.3	21.8
4H	2H	16.0	17.4	16.4	17.7	18.1	17.1	18.5	17.5	18.8	19.2
	3H	18.0	19.1	18.4	19.5	19.9	19.3	20.5	19.7	20.9	21.3
	4H	18.8	19.8	19.2	20.2	20.6	20.2	21.3	20.7	21.7	22.1
	6H	19.4	20.3	19.9	20.8	21.2	20.7	21.6	21.2	22.1	22.5
	8H	19.6	20.5	20.1	20.9	21.4	20.9	21.7	21.3	22.1	22.6
	12H	19.8	20.6	20.3	21.0	21.5	20.9	21.7	21.4	22.2	22.7
8H	4H	19.3	20.1	19.7	20.6	21.0	20.5	21.4	21.0	21.8	22.3
	6H	20.1	20.8	20.6	21.3	21.8	21.2	21.9	21.6	22.3	22.8
	8H	20.4	21.1	20.9	21.6	22.1	21.3	22.0	21.8	22.5	23.0
	12H	20.7	21.3	21.2	21.7	22.3	21.5	22.1	22.0	22.5	23.1
12H	4H	19.3	20.1	19.8	20.6	21.0	20.6	21.3	21.0	21.8	22.3
	6H	20.2	20.9	20.7	21.3	21.9	21.2	21.9	21.7	22.3	22.9
	8H	20.6	21.2	21.1	21.7	22.2	21.5	22.0	22.0	22.5	23.1

Maximum UGR = 23.1

POLAR GRAPH



Maximum Candela = 2610.01 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.)