



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L55-935-D-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19260.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 28 JUNE 2022

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] RECESSED 2 X 4 LED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CONCAVE LENS

[MORE] AND CENTER FLOATING SHIELDING

[LUMCAT] AT3-24-L55-935-D-DIM-UNV

[LAMPCAT] HLM 90 CRI 3500K CCT

[\_SEARCH\_SOURCETYPE]LED

[\_SEARCH\_APPLICATION]INDOOR,COMMERCIAL,DIRECT,OFFICE,ARCHITECTURAL

[\_SEARCH\_MOUNTING]RECESSED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4628
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	103
Total Luminaire Watts	45
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 ft
Luminous Width (90-270)	1.88 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2108	2356	2513
55	1797	2082	2215
65	1631	1992	2140
75	1387	1897	1897
85	1229	876	819

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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>	1843.918	1843.918	1843.918	1843.918	1843.918
<b>5</b>	1834.165	1834.815	1834.815	1835.465	1836.116
<b>10</b>	1797.105	1799.055	1803.607	1809.458	1813.359
<b>15</b>	1730.786	1735.337	1745.740	1761.345	1768.497
<b>20</b>	1631.308	1641.061	1665.768	1695.676	1708.030
<b>25</b>	1497.371	1509.724	1546.134	1586.446	1604.651
<b>30</b>	1356.281	1488.918	1406.345	1401.794	1503.872
<b>35</b>	1213.241	1235.347	1298.415	1360.182	1383.589
<b>40</b>	1076.052	1101.409	1176.831	1237.297	1256.803
<b>45</b>	977.224	1008.433	1092.307	1147.572	1165.127
<b>50</b>	822.481	858.241	936.263	981.776	993.479
<b>55</b>	675.540	712.600	782.820	819.880	832.884
<b>60</b>	549.404	587.765	647.582	681.391	692.444
<b>65</b>	451.877	494.139	552.005	583.864	592.967
<b>70</b>	341.996	386.859	439.523	464.881	469.432
<b>75</b>	235.366	280.229	321.840	325.741	321.840
<b>80</b>	152.143	197.656	193.754	134.588	122.234
<b>85</b>	70.220	80.623	50.064	47.463	46.813
<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	666.43	N.A.	14.40
0-30	1380.9	N.A.	29.80
0-40	2194.76	N.A.	47.40
0-60	3706.89	N.A.	80.10
0-80	4550.4	N.A.	98.30
0-90	4627.73	N.A.	100.00
10-90	4453.55	N.A.	96.20
20-40	1528.33	N.A.	33.00
20-50	2349.32	N.A.	50.80
40-70	2040.85	N.A.	44.10
60-80	843.50	N.A.	18.20
70-80	314.79	N.A.	6.80
80-90	77.33	N.A.	1.70
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	4627.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	174.17
10-20	492.25
20-30	714.47
30-40	813.86
40-50	820.99
50-60	691.14
60-70	528.72
70-80	314.79
80-90	77.33
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	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	31	43	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	28	38	32	27	26

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**UGR TABLE - CORRECTED**

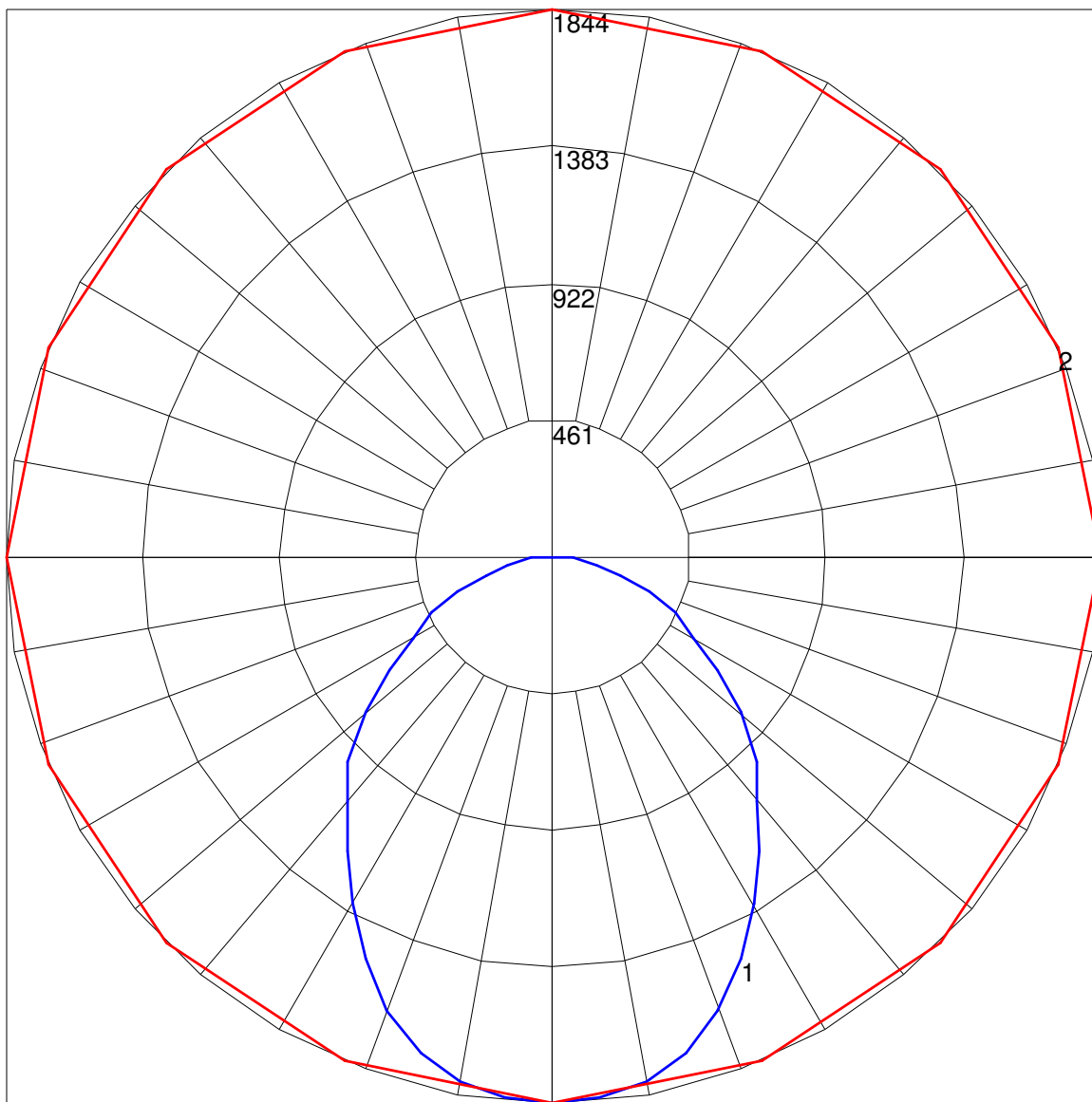
Reflectances

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	13.7	15.3	14.1	15.6	15.9	14.8	16.4	15.1	16.7	17.0
	3H	15.5	16.9	15.8	17.2	17.6	16.8	18.3	17.2	18.6	18.9
	4H	16.1	17.5	16.5	17.8	18.2	17.5	18.9	17.9	19.3	19.6
	6H	16.6	17.9	17.0	18.3	18.7	17.9	19.1	18.3	19.5	19.9
	8H	16.8	18.0	17.3	18.4	18.8	17.9	19.1	18.3	19.5	19.9
	12H	17.0	18.1	17.4	18.5	18.9	18.0	19.1	18.4	19.5	19.9
4H	2H	14.5	15.9	14.9	16.3	16.6	15.4	16.7	15.8	17.1	17.5
	3H	16.6	17.7	17.0	18.1	18.5	17.6	18.8	18.1	19.2	19.6
	4H	17.4	18.4	17.8	18.8	19.2	18.5	19.6	19.0	20.0	20.4
	6H	18.0	19.0	18.5	19.4	19.8	18.9	19.8	19.4	20.3	20.7
	8H	18.3	19.1	18.7	19.6	20.0	19.0	19.9	19.5	20.3	20.8
	12H	18.4	19.2	18.9	19.7	20.2	19.0	19.8	19.5	20.3	20.8
8H	4H	17.8	18.7	18.3	19.1	19.6	18.8	19.7	19.3	20.1	20.6
	6H	18.7	19.4	19.2	19.9	20.4	19.3	20.0	19.8	20.5	21.0
	8H	19.0	19.6	19.5	20.2	20.6	19.4	20.1	19.9	20.6	21.1
	12H	19.3	19.8	19.8	20.3	20.9	19.5	20.1	20.0	20.6	21.1
12H	4H	17.9	18.6	18.3	19.1	19.6	18.8	19.6	19.3	20.1	20.6
	6H	18.8	19.4	19.3	19.9	20.4	19.4	20.0	19.9	20.5	21.0
	8H	19.1	19.7	19.6	20.2	20.8	19.5	20.1	20.1	20.6	21.2

Maximum UGR = 21.2

POLAR GRAPH



Maximum Candela = 1843.918 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)