



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L70-830-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] 16 APR 2024

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4-56LED 22"ARRAYS 2x4'RECESSED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CONCAVE LENS

[MORE] AND LOWER CENTER MEDIA W/ACRYLIC SHIELDING

[LUMCAT] AT3-24-L70-830-D-DIM-UNV

[LAMPCAT] HLM 80 CRI 3000K 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	6945
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	61
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	3163	3536	3772
55	2696	3124	3324
65	2448	2990	3212
75	2082	2846	2846
85	1844	1315	1229

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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>	2767.057	2767.057	2767.057	2767.057	2767.057
<b>5</b>	2752.422	2753.397	2753.397	2754.373	2755.349
<b>10</b>	2696.807	2699.734	2706.564	2715.345	2721.199
<b>15</b>	2597.287	2604.117	2619.728	2643.144	2653.877
<b>20</b>	2448.006	2462.642	2499.718	2544.600	2563.138
<b>25</b>	2247.014	2265.552	2320.191	2380.684	2408.003
<b>30</b>	2035.289	2234.330	2110.417	2103.588	2256.771
<b>35</b>	1820.638	1853.811	1948.453	2041.143	2076.268
<b>40</b>	1614.767	1652.819	1765.999	1856.738	1886.009
<b>45</b>	1466.462	1513.295	1639.159	1722.093	1748.436
<b>50</b>	1234.248	1287.911	1404.994	1473.292	1490.854
<b>55</b>	1013.742	1069.356	1174.731	1230.345	1249.859
<b>60</b>	824.458	882.024	971.787	1022.523	1039.110
<b>65</b>	678.105	741.524	828.361	876.170	889.829
<b>70</b>	513.213	580.536	659.566	697.618	704.448
<b>75</b>	353.200	420.522	482.967	488.821	482.967
<b>80</b>	228.311	296.610	290.756	201.968	183.430
<b>85</b>	105.375	120.986	75.128	71.225	70.250
<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	1000.07	N.A.	14.40
0-30	2072.24	N.A.	29.80
0-40	3293.54	N.A.	47.40
0-60	5562.71	N.A.	80.10
0-80	6828.51	N.A.	98.30
0-90	6944.55	N.A.	100.00
10-90	6683.18	N.A.	96.20
20-40	2293.47	N.A.	33.00
20-50	3525.49	N.A.	50.80
40-70	3062.58	N.A.	44.10
60-80	1265.8	N.A.	18.20
70-80	472.38	N.A.	6.80
80-90	116.04	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	6944.55	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	261.37
10-20	738.70
20-30	1072.17
30-40	1221.31
40-50	1232.01
50-60	1037.16
60-70	793.41
70-80	472.38
80-90	116.04
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

X=2H	Y=2H	15.1	16.7	15.5	17.0	17.3	UGR Viewed Endwise			
	3H	16.9	18.3	17.2	18.6	19.0	16.2	17.8	16.5	18.1
	4H	17.5	18.9	17.9	19.2	19.6	18.2	19.7	18.6	20.0
	6H	18.0	19.3	18.4	19.7	20.1	18.9	20.3	19.3	20.7
	8H	18.2	19.4	18.7	19.8	20.2	19.3	20.5	19.7	20.9
	12H	18.4	19.5	18.8	19.9	20.3	19.3	20.5	19.7	20.9

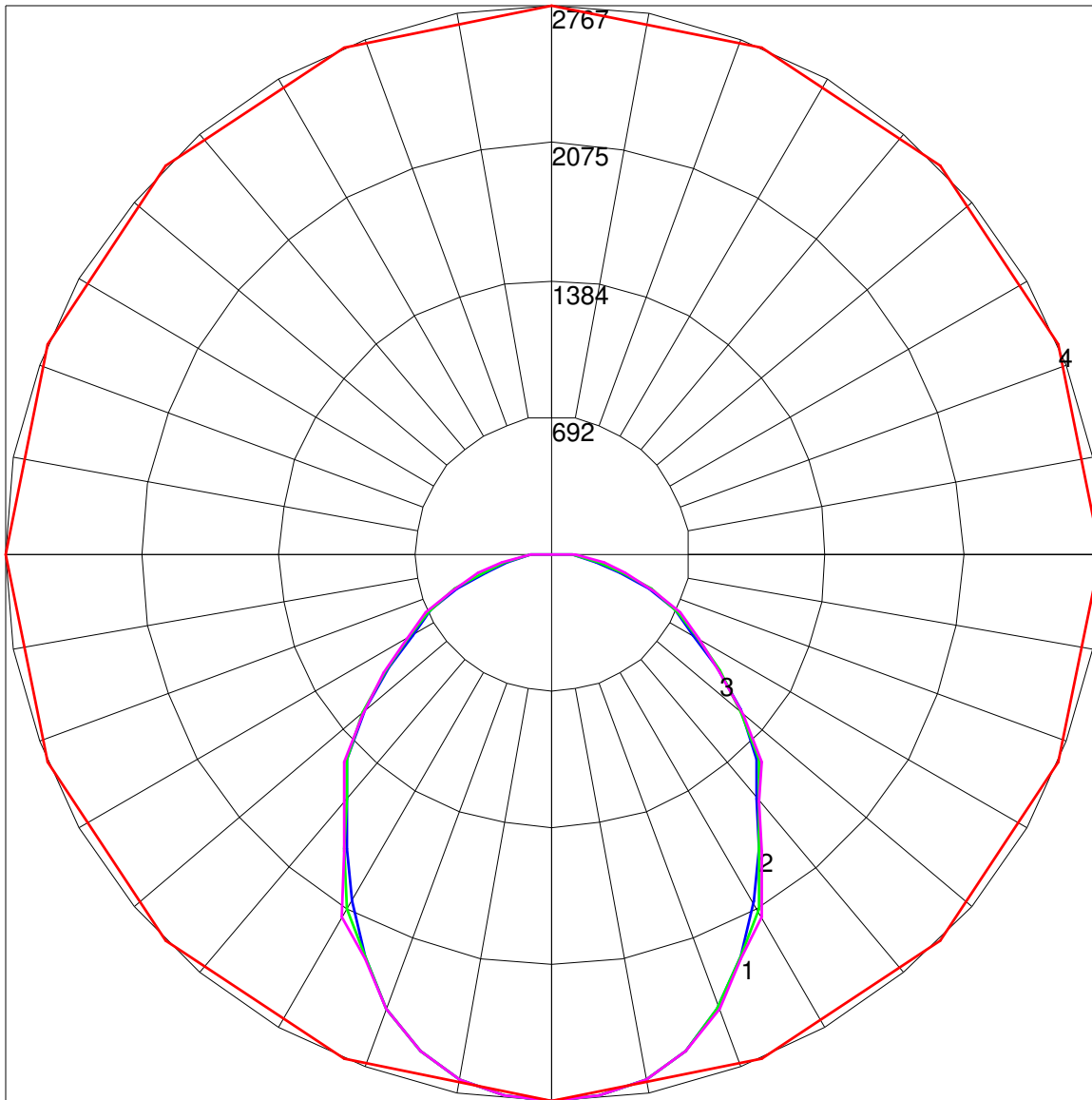
4H	2H	15.9	17.3	16.3	17.7	18.0	16.2	17.8	16.5	18.1
	3H	18.0	19.1	18.4	19.5	19.9	18.2	19.7	18.6	20.0
	4H	18.8	19.8	19.2	20.2	20.6	18.9	20.3	19.3	20.7
	6H	19.4	20.4	19.9	20.8	21.2	19.3	20.5	19.7	20.9
	8H	19.7	20.5	20.1	21.0	21.4	19.3	20.5	19.7	20.9
	12H	19.8	20.6	20.3	21.1	21.6	19.3	20.5	19.7	20.9

8H	4H	19.2	20.1	19.7	20.5	21.0	19.4	20.4	19.9	20.8
	6H	20.1	20.8	20.6	21.3	21.8	20.3	21.2	20.8	21.7
	8H	20.4	21.0	20.9	21.6	22.0	20.4	21.3	20.9	21.7
	12H	20.7	21.2	21.2	21.7	22.3	20.4	21.3	20.9	21.7

12H	4H	19.3	20.0	19.7	20.5	21.0	20.5	21.2	20.9	21.7
	6H	20.2	20.8	20.7	21.3	21.8	20.5	21.2	20.9	21.7
	8H	20.5	21.1	21.0	21.6	22.2	20.5	21.2	20.9	21.7

Maximum UGR = 22.6

POLAR GRAPH



Maximum Candela = 2767.057 Located At Horizontal Angle = 0, Vertical Angle = 0

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Vertical Plane Through Horizontal Angles (5 - 185)

# 3 - Vertical Plane Through Horizontal Angles (10 - 190)

# 4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)