



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L40-840-D-(L37)-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] 07-17-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE

[MORE] WTH FROSTED ACRYLIC LENS

[LUMCAT] AT3-24-L40-840-D(L37)-DIM-UNV

[LAMPCAT] HLM 80 CRI 4000K 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	3904
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	32.2
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	1778	1988	2120
55	1515	1756	1868
65	1376	1681	1805
75	1170	1600	1600
85	1037	739	691

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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>	1555.457	1555.457	1555.457	1555.457	1555.457
<b>5</b>	1547.230	1547.778	1547.778	1548.327	1548.875
<b>10</b>	1515.967	1517.613	1521.452	1526.388	1529.679
<b>15</b>	1460.023	1463.863	1472.638	1485.801	1491.835
<b>20</b>	1376.108	1384.335	1405.177	1430.406	1440.827
<b>25</b>	1263.123	1273.544	1304.258	1338.263	1353.620
<b>30</b>	1144.105	1255.993	1186.338	1182.498	1268.608
<b>35</b>	1023.442	1042.090	1095.292	1147.396	1167.141
<b>40</b>	907.716	929.106	992.728	1043.736	1060.190
<b>45</b>	824.348	850.675	921.427	968.047	982.856
<b>50</b>	693.813	723.979	789.795	828.188	838.060
<b>55</b>	569.859	601.122	660.356	691.619	702.588
<b>60</b>	463.456	495.816	546.275	574.795	584.119
<b>65</b>	381.186	416.836	465.650	492.525	500.203
<b>70</b>	288.494	326.339	370.765	392.155	395.994
<b>75</b>	198.546	236.390	271.492	274.783	271.492
<b>80</b>	128.342	166.734	163.444	113.533	103.112
<b>85</b>	59.235	68.010	42.232	40.038	39.490
<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	562.17	N.A.	14.40
0-30	1164.87	N.A.	29.80
0-40	1851.41	N.A.	47.40
0-60	3126.99	N.A.	80.10
0-80	3838.54	N.A.	98.30
0-90	3903.77	N.A.	100.00
10-90	3756.84	N.A.	96.20
20-40	1289.24	N.A.	33.00
20-50	1981.8	N.A.	50.80
40-70	1721.58	N.A.	44.10
60-80	711.55	N.A.	18.20
70-80	265.54	N.A.	6.80
80-90	65.23	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	3903.77	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	146.93
10-20	415.25
20-30	602.70
30-40	686.54
40-50	692.56
50-60	583.02
60-70	446.00
70-80	265.54
80-90	65.23
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**

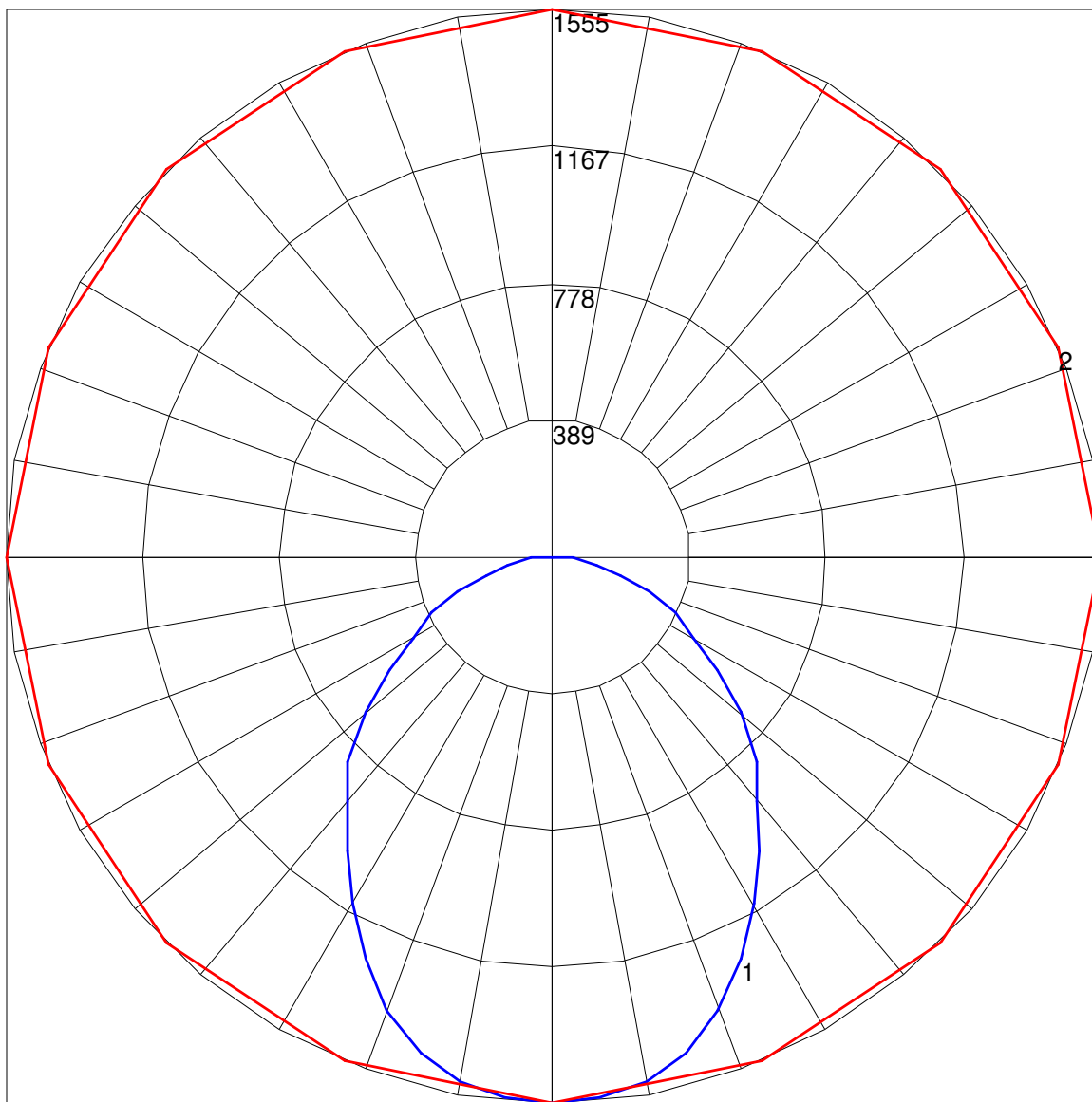
Reflectances

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	13.1	14.7	13.5	15.0	15.3	14.2	15.8	14.5	16.1	16.4
	3H	14.9	16.3	15.2	16.6	17.0	16.2	17.7	16.6	18.0	18.3
	4H	15.5	16.9	15.9	17.2	17.6	16.9	18.3	17.3	18.7	19.0
	6H	16.0	17.3	16.4	17.7	18.1	17.3	18.5	17.7	18.9	19.3
	8H	16.2	17.4	16.7	17.8	18.2	17.3	18.5	17.7	18.9	19.3
	12H	16.4	17.5	16.8	17.9	18.3	17.4	18.5	17.8	18.9	19.3
4H	2H	13.9	15.3	14.3	15.7	16.0	14.8	16.1	15.2	16.5	16.9
	3H	16.0	17.1	16.4	17.5	17.9	17.0	18.2	17.5	18.6	19.0
	4H	16.8	17.8	17.2	18.2	18.6	17.9	19.0	18.4	19.4	19.8
	6H	17.4	18.4	17.9	18.8	19.2	18.3	19.2	18.8	19.7	20.1
	8H	17.7	18.5	18.1	19.0	19.4	18.4	19.3	18.9	19.7	20.2
	12H	17.8	18.6	18.3	19.1	19.6	18.5	19.2	18.9	19.7	20.2
8H	4H	17.2	18.1	17.7	18.5	19.0	18.2	19.1	18.7	19.5	20.0
	6H	18.1	18.8	18.6	19.3	19.8	18.7	19.4	19.2	19.9	20.4
	8H	18.4	19.0	18.9	19.6	20.0	18.8	19.5	19.3	20.0	20.5
	12H	18.7	19.2	19.2	19.7	20.3	18.9	19.5	19.4	20.0	20.5
12H	4H	17.3	18.0	17.7	18.5	19.0	18.2	19.0	18.7	19.5	20.0
	6H	18.2	18.8	18.7	19.3	19.8	18.8	19.4	19.3	19.9	20.4
	8H	18.5	19.1	19.0	19.6	20.2	18.9	19.5	19.5	20.0	20.6

Maximum UGR = 20.6

POLAR GRAPH



Maximum Candela = 1555.457 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.)