



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L40-835-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

[ISSUE DATE] 3-JAN-2020

[MANUFAC] WILLIAMS INDOOR

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

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

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CONCAVE LX4 LENS IN DOOR

[LUMCAT] AT3-24-L40-835-D-DIM-UNV

[\_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	3874
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	34.17
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	1765	1972	2104
55	1504	1743	1854
65	1365	1668	1792
75	1161	1588	1588
85	1029	733	686

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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>	1543.504	1543.504	1543.504	1543.504	1543.504
<b>5</b>	1535.341	1535.885	1535.885	1536.429	1536.973
<b>10</b>	1504.318	1505.951	1509.761	1514.659	1517.924
<b>15</b>	1448.804	1452.614	1461.322	1474.384	1480.371
<b>20</b>	1365.533	1373.697	1394.379	1419.414	1429.755
<b>25</b>	1253.417	1263.758	1294.236	1327.980	1343.219
<b>30</b>	1135.314	1246.342	1177.221	1173.412	1258.860
<b>35</b>	1015.578	1034.083	1086.875	1138.579	1158.173
<b>40</b>	900.740	921.966	985.100	1035.715	1052.043
<b>45</b>	818.014	844.138	914.347	960.608	975.303
<b>50</b>	688.481	718.415	783.726	821.824	831.620
<b>55</b>	565.480	596.502	655.282	686.304	697.189
<b>60</b>	459.895	492.006	542.077	570.378	579.631
<b>65</b>	378.257	413.633	462.072	488.740	496.360
<b>70</b>	286.278	323.831	367.916	389.142	392.951
<b>75</b>	197.020	234.573	269.406	272.671	269.406
<b>80</b>	127.355	165.453	162.188	112.661	102.320
<b>85</b>	58.779	67.487	41.908	39.731	39.186
<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	557.85	N.A.	14.40
0-30	1155.92	N.A.	29.80
0-40	1837.19	N.A.	47.40
0-60	3102.96	N.A.	80.10
0-80	3809.04	N.A.	98.30
0-90	3873.77	N.A.	100.00
10-90	3727.98	N.A.	96.20
20-40	1279.33	N.A.	33.00
20-50	1966.57	N.A.	50.80
40-70	1708.35	N.A.	44.10
60-80	706.08	N.A.	18.20
70-80	263.50	N.A.	6.80
80-90	64.73	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	3873.77	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	145.80
10-20	412.06
20-30	598.07
30-40	681.26
40-50	687.23
50-60	578.54
60-70	442.58
70-80	263.50
80-90	64.73
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	148	148	148	148	144	144	144	144	138	138	138	132	132	132	127	127	127	124
1	135	130	124	120	132	127	122	118	121	118	114	117	113	110	112	110	107	105
2	123	113	105	98	120	111	103	97	107	100	95	102	97	92	99	94	90	88
3	113	100	90	82	110	98	89	81	94	86	80	91	84	78	88	82	77	74
4	103	89	78	70	101	87	77	69	84	75	68	81	74	67	78	72	67	64
5	95	80	69	60	93	78	68	60	76	66	59	73	65	59	71	64	58	56
6	88	72	61	53	86	71	60	53	68	59	52	66	58	52	64	57	51	49
7	82	65	55	47	80	64	54	47	62	53	47	61	52	46	59	52	46	43
8	76	60	49	42	74	59	49	42	57	48	42	56	47	42	54	47	41	39
9	71	55	45	38	70	54	45	38	53	44	38	51	43	38	50	43	37	35
10	67	51	41	35	65	50	41	35	49	40	34	48	40	34	47	39	34	32

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**UGR TABLE - CORRECTED**

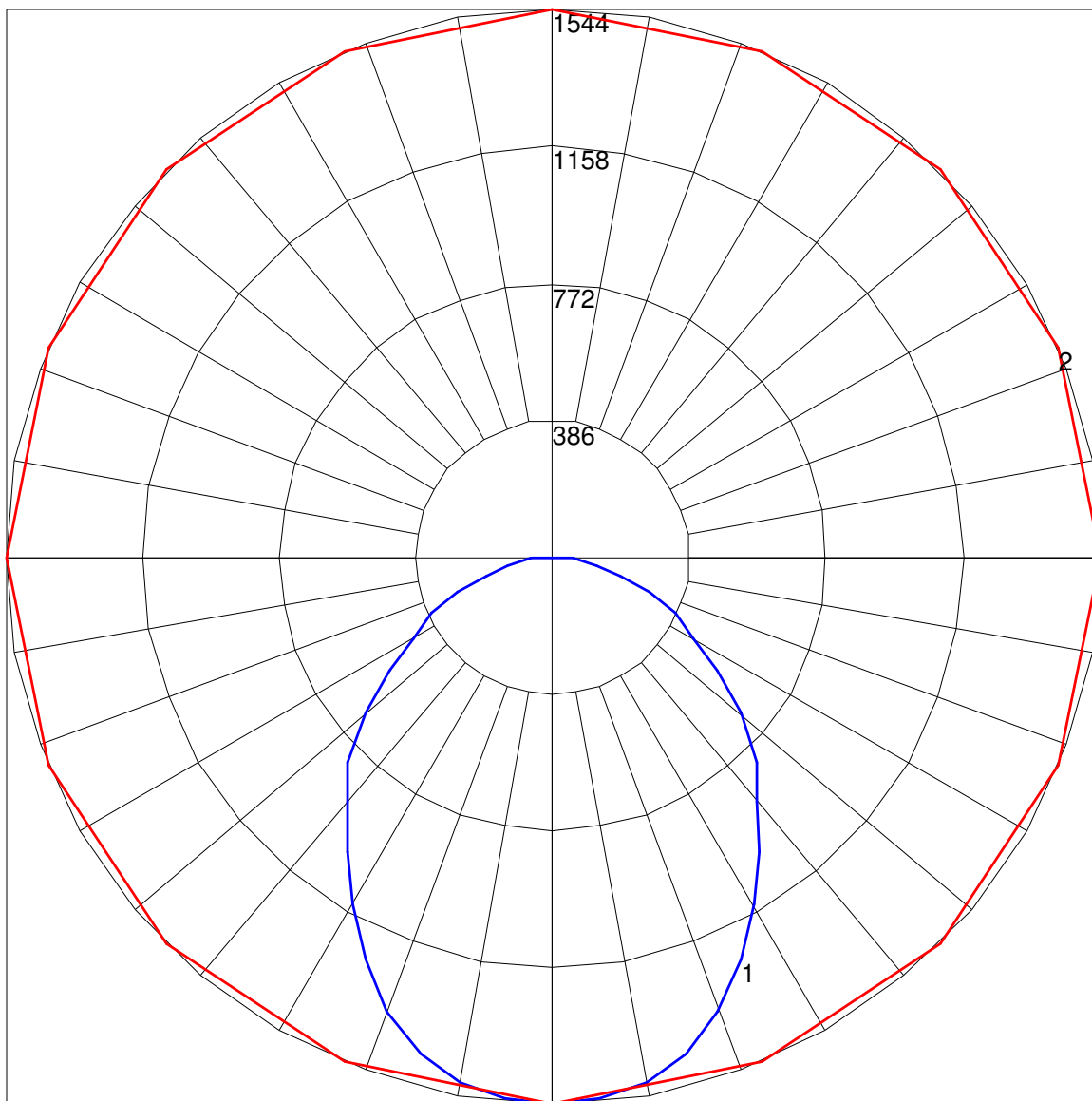
Reflectances

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	12.4	14.0	12.8	14.3	14.6	13.5	15.1	13.8	15.4	15.7
	3H	14.2	15.6	14.5	15.9	16.3	15.5	17.0	15.9	17.3	17.6
	4H	14.8	16.2	15.2	16.5	16.9	16.2	17.6	16.6	18.0	18.3
	6H	15.3	16.6	15.7	17.0	17.4	16.6	17.8	17.0	18.2	18.6
	8H	15.5	16.7	16.0	17.1	17.5	16.6	17.8	17.0	18.2	18.6
	12H	15.7	16.8	16.1	17.2	17.6	16.7	17.8	17.1	18.2	18.6
4H	2H	13.2	14.6	13.6	15.0	15.3	14.1	15.4	14.5	15.8	16.2
	3H	15.3	16.4	15.7	16.8	17.2	16.3	17.5	16.8	17.9	18.3
	4H	16.1	17.1	16.5	17.5	17.9	17.2	18.3	17.7	18.7	19.1
	6H	16.7	17.7	17.2	18.1	18.5	17.6	18.5	18.1	19.0	19.4
	8H	17.0	17.8	17.4	18.3	18.7	17.7	18.6	18.2	19.0	19.5
	12H	17.1	17.9	17.6	18.4	18.9	17.8	18.5	18.2	19.0	19.5
8H	4H	16.5	17.4	17.0	17.8	18.3	17.5	18.4	18.0	18.8	19.3
	6H	17.4	18.1	17.9	18.6	19.1	18.0	18.7	18.5	19.2	19.7
	8H	17.7	18.3	18.2	18.9	19.3	18.1	18.8	18.6	19.3	19.8
	12H	18.0	18.5	18.5	19.0	19.6	18.2	18.8	18.7	19.3	19.8
12H	4H	16.6	17.3	17.0	17.8	18.3	17.6	18.3	18.0	18.8	19.3
	6H	17.5	18.1	18.0	18.6	19.1	18.1	18.7	18.6	19.2	19.7
	8H	17.8	18.4	18.3	18.9	19.5	18.2	18.8	18.8	19.3	19.9

Maximum UGR = 19.9

POLAR GRAPH



Maximum Candela = 1543.504 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.)