



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-24-L40-835-D-(L31)-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] 06-21-2022

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4 'RECESSED LUMINAIRE

[MORE] WITH FROSTCONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT1-24-L40-835-(L31)-D-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K 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	3124
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	123
Total Luminaire Watts	25.4
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	1426	1668	1810
55	1237	1515	1632
65	1100	1442	1559
75	939	1396	1434
85	792	848	867

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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>	1201.929	1201.929	1201.929	1201.929	1201.929
<b>5</b>	1202.943	1201.929	1204.972	1204.972	1205.986
<b>10</b>	1170.486	1171.500	1178.600	1184.686	1187.729
<b>15</b>	1129.915	1136.000	1149.186	1163.386	1171.500
<b>20</b>	1058.915	1074.129	1096.443	1123.829	1136.000
<b>25</b>	974.729	988.929	1025.443	1065.000	1082.243
<b>30</b>	891.557	910.829	961.543	1012.257	1031.529
<b>35</b>	818.529	841.857	902.715	958.500	978.786
<b>40</b>	711.015	738.400	806.357	861.129	876.343
<b>45</b>	622.772	652.186	728.257	774.915	790.129
<b>50</b>	527.429	560.900	629.872	670.443	681.600
<b>55</b>	438.172	472.657	536.557	569.014	578.143
<b>60</b>	360.072	394.557	452.372	479.757	487.872
<b>65</b>	287.043	324.572	376.300	399.629	406.729
<b>70</b>	217.057	256.614	301.243	318.486	321.529
<b>75</b>	150.114	190.686	223.143	231.257	229.229
<b>80</b>	94.329	130.843	143.014	109.543	99.400
<b>85</b>	42.600	59.843	45.643	45.643	46.657
<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	437.36	N.A.	14.00
0-30	911.87	N.A.	29.20
0-40	1469.74	N.A.	47.00
0-60	2488.63	N.A.	79.70
0-80	3064.51	N.A.	98.10
0-90	3123.83	N.A.	100.00
10-90	3009.84	N.A.	96.40
20-40	1032.39	N.A.	33.00
20-50	1582.09	N.A.	50.60
40-70	1377.39	N.A.	44.10
60-80	575.88	N.A.	18.40
70-80	217.38	N.A.	7.00
80-90	59.32	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	3123.83	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	113.99
10-20	323.36
20-30	474.51
30-40	557.88
40-50	549.70
50-60	469.18
60-70	358.51
70-80	217.38
80-90	59.32
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**

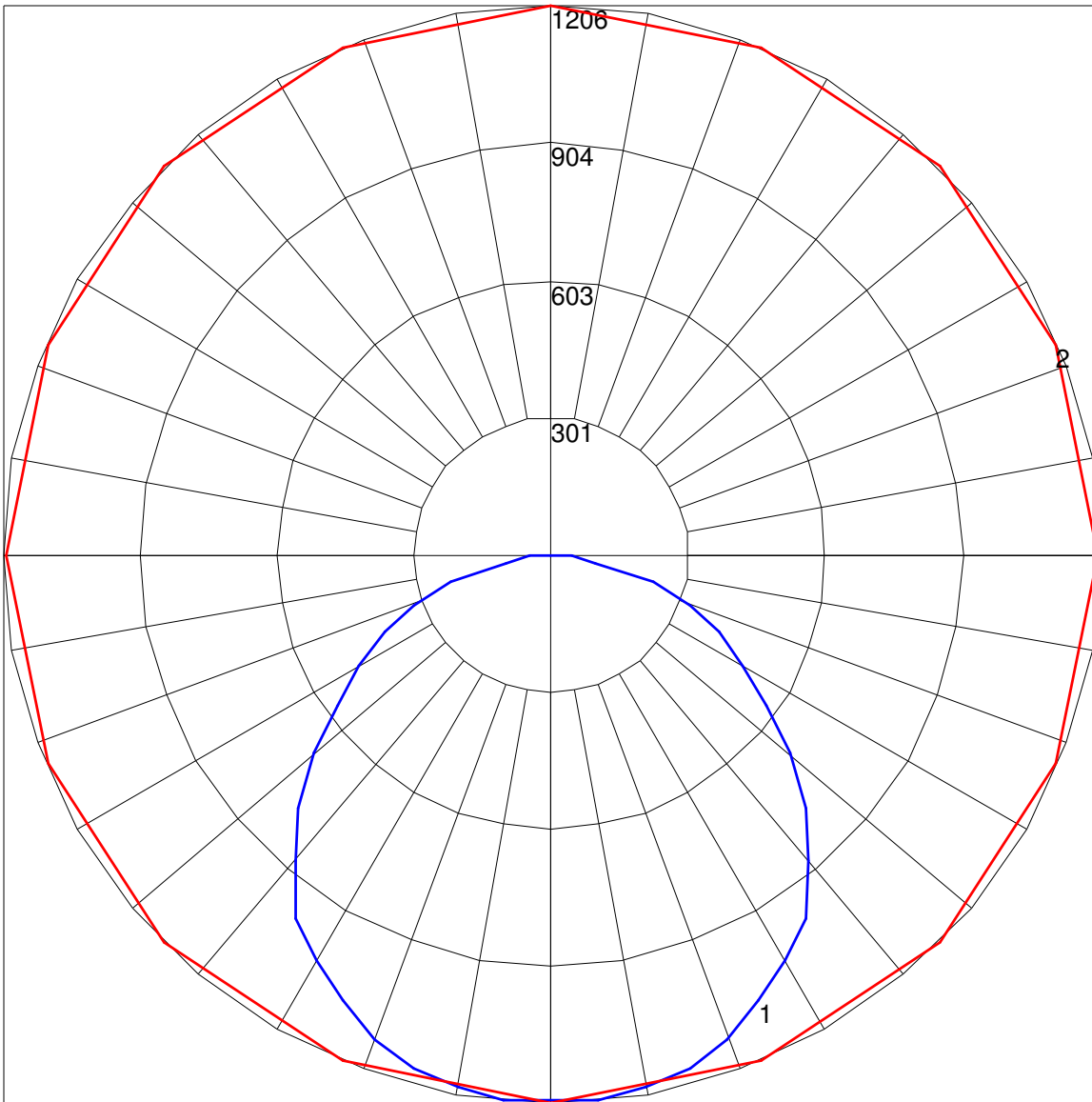
Reflectances

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	12.5	14.1	12.8	14.4	14.7	13.9	15.5	14.3	15.8	16.2
	3H	14.2	15.6	14.6	16.0	16.3	15.9	17.3	16.3	17.7	18.0
	4H	14.8	16.2	15.2	16.5	16.9	16.6	18.0	17.0	18.4	18.7
	6H	15.3	16.6	15.7	17.0	17.4	17.0	18.3	17.5	18.7	19.1
	8H	15.5	16.7	15.9	17.1	17.5	17.1	18.3	17.6	18.7	19.1
	12H	15.6	16.8	16.0	17.2	17.6	17.2	18.4	17.6	18.7	19.2
4H	2H	13.4	14.8	13.8	15.1	15.5	14.5	15.9	14.9	16.2	16.6
	3H	15.4	16.5	15.8	16.9	17.3	16.7	17.9	17.1	18.3	18.7
	4H	16.2	17.2	16.6	17.6	18.0	17.6	18.7	18.1	19.1	19.5
	6H	16.8	17.7	17.3	18.2	18.6	18.1	19.0	18.6	19.5	19.9
	8H	17.0	17.9	17.5	18.3	18.8	18.3	19.1	18.7	19.5	20.0
	12H	17.2	18.0	17.7	18.4	18.9	18.3	19.1	18.8	19.6	20.1
8H	4H	16.7	17.5	17.1	18.0	18.4	17.9	18.8	18.4	19.2	19.7
	6H	17.5	18.2	18.0	18.7	19.2	18.6	19.3	19.0	19.7	20.2
	8H	17.8	18.5	18.3	19.0	19.5	18.7	19.4	19.2	19.9	20.4
	12H	18.1	18.7	18.6	19.1	19.7	18.9	19.5	19.4	19.9	20.5
12H	4H	16.7	17.5	17.2	18.0	18.4	18.0	18.7	18.4	19.2	19.7
	6H	17.6	18.3	18.1	18.7	19.3	18.6	19.3	19.1	19.7	20.3
	8H	18.0	18.6	18.5	19.1	19.6	18.9	19.4	19.4	19.9	20.5

Maximum UGR = 20.5

POLAR GRAPH



Maximum Candela = 1205.986 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.)