



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-24-L55-935-D-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18880.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 06/07/2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE w/WHITE

[MORE] REFL, FROST CONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC

[MORE] CENTER DIFFUSER

[LUMCAT] AT1-24-L55-935-D-DIM-UNV

[LAMPCAT] HLM 90 CRI 3500K CCT

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Educational, Office, Direct

[\_SEARCH\_MOUNTING] Ceiling, Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4584
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	48
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.34
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	2125	2483	2697
55	1843	2257	2447
65	1647	2171	2331
75	1398	2069	2127
85	1241	1253	1315

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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>	1741.548	1741.548	1741.548	1741.548	1741.548
<b>5</b>	1728.325	1727.663	1728.325	1730.308	1730.969
<b>10</b>	1695.266	1697.249	1705.844	1714.440	1719.068
<b>15</b>	1623.197	1630.470	1650.305	1670.141	1680.058
<b>20</b>	1549.806	1564.352	1600.717	1641.049	1658.901
<b>25</b>	1405.008	1423.521	1474.431	1529.971	1551.790
<b>30</b>	1281.367	1309.136	1377.238	1448.645	1475.754
<b>35</b>	1180.206	1215.249	1303.186	1382.527	1410.958
<b>40</b>	1038.714	1080.368	1179.545	1255.581	1281.367
<b>45</b>	927.636	976.563	1084.335	1155.743	1177.562
<b>50</b>	782.176	831.103	932.925	995.076	1012.267
<b>55</b>	652.585	704.818	799.367	852.922	866.807
<b>60</b>	529.605	583.161	667.131	707.463	718.042
<b>65</b>	429.767	486.628	566.631	599.029	608.286
<b>70</b>	325.962	386.129	454.231	477.372	482.661
<b>75</b>	223.479	283.646	330.590	339.847	339.847
<b>80</b>	142.154	199.015	214.222	165.956	152.071
<b>85</b>	66.779	91.904	67.440	70.085	70.746
<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	631.61	N.A.	13.80
0-30	1315.86	N.A.	28.70
0-40	2121.92	N.A.	46.30
0-60	3633.81	N.A.	79.30
0-80	4493.65	N.A.	98.00
0-90	4583.65	N.A.	100.00
10-90	4419.28	N.A.	96.40
20-40	1490.31	N.A.	32.50
20-50	2304.72	N.A.	50.30
40-70	2047.2	N.A.	44.70
60-80	859.84	N.A.	18.80
70-80	324.53	N.A.	7.10
80-90	90.01	N.A.	2.00
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	4583.65	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	164.38
10-20	467.24
20-30	684.25
30-40	806.06
40-50	814.42
50-60	697.47
60-70	535.32
70-80	324.53
80-90	90.01
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	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	63	73	67	62	70	65	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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**UGR TABLE - CORRECTED**

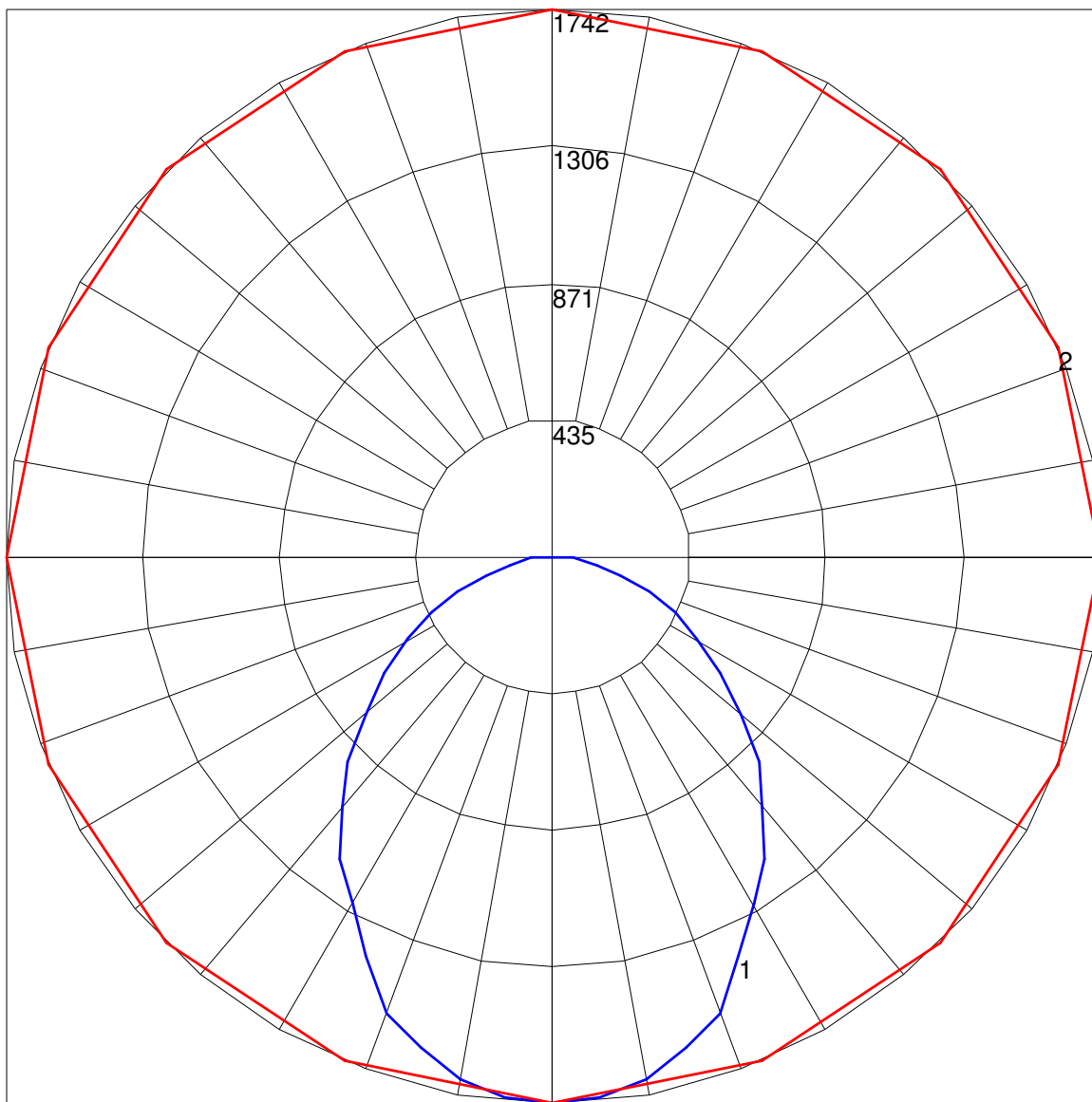
Reflectances

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	13.8	15.5	14.2	15.8	16.1	15.3	16.9	15.7	17.2	17.5
	3H	15.6	17.1	16.0	17.4	17.7	17.3	18.8	17.7	19.1	19.4
	4H	16.2	17.6	16.6	18.0	18.3	18.0	19.4	18.4	19.8	20.1
	6H	16.7	18.0	17.1	18.4	18.8	18.4	19.7	18.8	20.1	20.5
	8H	16.9	18.1	17.3	18.5	18.9	18.5	19.8	19.0	20.2	20.6
	12H	17.0	18.2	17.5	18.6	19.0	18.6	19.8	19.0	20.2	20.6
4H	2H	14.8	16.2	15.2	16.5	16.9	15.9	17.3	16.3	17.6	18.0
	3H	16.8	17.9	17.2	18.3	18.7	18.1	19.3	18.5	19.7	20.1
	4H	17.6	18.6	18.0	19.0	19.5	19.0	20.1	19.4	20.5	20.9
	6H	18.2	19.2	18.7	19.6	20.0	19.5	20.4	20.0	20.9	21.3
	8H	18.5	19.3	18.9	19.8	20.2	19.7	20.5	20.1	21.0	21.4
	12H	18.6	19.4	19.1	19.9	20.4	19.8	20.5	20.3	21.0	21.5
8H	4H	18.1	19.0	18.6	19.4	19.9	19.3	20.2	19.8	20.6	21.1
	6H	18.9	19.7	19.4	20.1	20.6	19.9	20.7	20.4	21.2	21.6
	8H	19.3	19.9	19.8	20.4	20.9	20.2	20.8	20.7	21.3	21.8
	12H	19.6	20.1	20.1	20.6	21.2	20.3	20.9	20.8	21.4	21.9
12H	4H	18.2	18.9	18.6	19.4	19.9	19.4	20.1	19.9	20.6	21.1
	6H	19.1	19.7	19.6	20.2	20.7	20.0	20.7	20.6	21.1	21.7
	8H	19.5	20.0	20.0	20.5	21.1	20.3	20.8	20.8	21.3	21.9

Maximum UGR = 21.9

POLAR GRAPH



Maximum Candela = 1741.548 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.)