



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-22-L40-935-D-(L35)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 19255.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE]11-JAN-2023

[MANUFAC]WILLIAMS INDOOR

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

[LUMINAIRE] 2x2' RECESSED LUMINAIRE

[MORE] WITH FROSTED ACRYLIC LENS

[LUMCAT] AT3-22-L40-935-(L35)-D-DIM-UNV

[LAMPCAT] HLM 90 CRI, 3500K CCT

[\_SEARCH\_SOURCE] LED

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

[\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2879
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	29.33
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.76 ft
Luminous Width (90-270)	1.76 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2958	3291	3582
55	2579	3040	3305
65	2167	2747	3083
75	1760	2574	2725
85	1180	1012	731

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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>	1121.745	1121.745	1121.745	1121.745	1121.745
<b>5</b>	1121.745	1117.512	1116.101	1116.101	1114.690
<b>10</b>	1093.525	1093.525	1093.525	1099.169	1100.580
<b>15</b>	1052.606	1056.839	1062.483	1075.182	1079.415
<b>20</b>	998.988	1007.454	1021.564	1041.318	1049.784
<b>25</b>	927.027	942.548	973.590	1000.399	1013.098
<b>30</b>	848.011	869.176	910.095	949.603	959.480
<b>35</b>	767.584	791.571	832.490	890.341	894.574
<b>40</b>	684.335	701.267	750.652	808.503	814.147
<b>45</b>	602.497	609.552	670.225	711.144	729.487
<b>50</b>	516.426	522.070	588.387	616.607	642.005
<b>55</b>	426.122	441.643	502.316	526.303	546.057
<b>60</b>	342.873	366.860	417.656	441.643	455.753
<b>65</b>	263.857	299.132	334.407	359.805	375.326
<b>70</b>	191.896	231.404	259.624	282.200	292.077
<b>75</b>	131.223	165.087	191.896	200.362	203.184
<b>80</b>	77.605	100.181	114.291	81.838	74.783
<b>85</b>	29.631	32.453	25.398	21.165	18.343
<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	406.26	N.A.	14.10
0-30	853.42	N.A.	29.60
0-40	1375.39	N.A.	47.80
0-60	2327.11	N.A.	80.80
0-80	2840.14	N.A.	98.60
0-90	2879.49	N.A.	100.00
10-90	2773.57	N.A.	96.30
20-40	969.13	N.A.	33.70
20-50	1482.16	N.A.	51.50
40-70	1277.67	N.A.	44.40
60-80	513.03	N.A.	17.80
70-80	187.07	N.A.	6.50
80-90	39.35	N.A.	1.40
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	2879.49	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	105.92
10-20	300.33
20-30	447.16
30-40	521.97
40-50	513.02
50-60	438.69
60-70	325.96
70-80	187.07
80-90	39.35
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	106	106	106	106	103	103	103	103	99	99	99	95	95	95	91	91	91	89
1	97	93	89	86	95	91	88	85	87	84	82	84	82	79	81	79	77	75
2	89	81	75	71	86	80	74	70	77	72	68	74	70	67	71	68	65	63
3	81	72	65	59	79	70	64	58	68	62	57	65	60	56	63	59	55	54
4	74	64	56	50	72	63	55	50	60	54	49	58	53	49	56	52	48	46
5	68	57	49	43	67	56	49	43	54	48	43	53	47	42	51	46	42	40
6	63	52	44	38	62	51	43	38	49	43	38	48	42	37	46	41	37	35
7	59	47	39	34	57	46	39	34	45	38	33	43	38	33	42	37	33	31
8	55	43	35	30	53	42	35	30	41	35	30	40	34	30	39	34	30	28
9	51	39	32	27	50	39	32	27	38	32	27	37	31	27	36	31	27	25
10	48	36	29	25	47	36	29	25	35	29	25	34	29	25	33	28	24	23

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**UGR TABLE - CORRECTED**

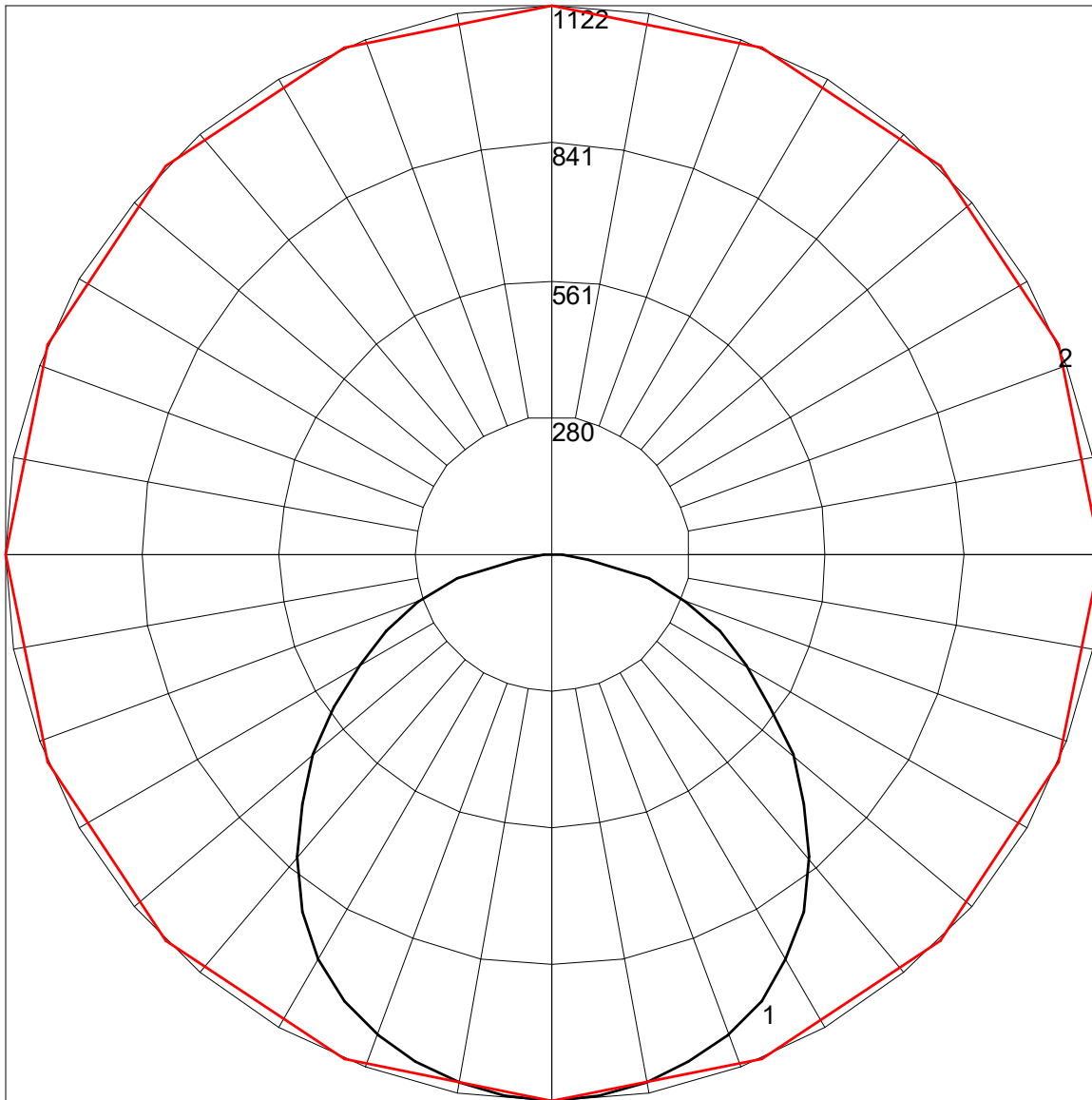
Reflectances

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	15.3	16.9	15.7	17.3	17.6	16.7	18.3	17.1	18.6	18.9
	3H	16.9	18.4	17.3	18.7	19.1	18.6	20.0	19.0	20.4	20.7
	4H	17.5	18.9	17.9	19.2	19.6	19.3	20.7	19.7	21.0	21.4
	6H	17.9	19.2	18.4	19.6	20.0	19.6	20.9	20.0	21.2	21.6
	8H	18.1	19.3	18.5	19.7	20.0	19.7	20.9	20.1	21.3	21.7
	12H	18.1	19.3	18.6	19.7	20.1	19.7	20.8	20.1	21.2	21.6
4H	2H	16.2	17.5	16.6	17.9	18.3	17.2	18.6	17.6	18.9	19.3
	3H	18.1	19.2	18.5	19.6	20.0	19.4	20.5	19.8	20.9	21.3
	4H	18.8	19.8	19.2	20.2	20.6	20.2	21.2	20.6	21.7	22.1
	6H	19.3	20.2	19.8	20.6	21.1	20.6	21.5	21.1	22.0	22.4
	8H	19.5	20.3	19.9	20.7	21.2	20.7	21.5	21.1	22.0	22.4
	12H	19.6	20.3	20.0	20.8	21.2	20.7	21.4	21.2	21.9	22.4
8H	4H	19.2	20.1	19.7	20.5	21.0	20.5	21.3	21.0	21.8	22.2
	6H	19.9	20.6	20.4	21.1	21.6	21.0	21.7	21.5	22.2	22.6
	8H	20.1	20.8	20.6	21.3	21.7	21.1	21.7	21.6	22.2	22.7
	12H	20.3	20.8	20.8	21.3	21.9	21.1	21.7	21.6	22.1	22.7
12H	4H	19.3	20.0	19.7	20.5	21.0	20.5	21.3	21.0	21.7	22.2
	6H	20.0	20.6	20.5	21.1	21.6	21.0	21.6	21.5	22.1	22.6
	8H	20.2	20.8	20.7	21.3	21.8	21.1	21.7	21.6	22.2	22.7

Maximum UGR = 22.7

POLAR GRAPH



Maximum Candela = 1121.745 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)