

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-22-L30-935-D-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18882.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 08-31-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x2' RECESSED LUMINAIRE

[MORE] WITH FROST CONCAVE ACRYLIC LENS w/DEEP ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT2-22-L30-935-D-DIM-UNV

[LAMPCAT] HLM 90 CRI, 3500K CCT

[\_SEARCH\_SOURCETYPE] LED

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

[\_SEARCH\_MOUNTING] Ceiling, Recessed

[\_SEARCH\_CERTIFICATION] DLC

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2533
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	88
Total Luminaire Watts	28.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.76 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	2667	2860	3059
55	2336	2522	2730
65	1989	2231	2433
75	1583	1896	2143
85	783	1175	1028

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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>	1035.891	1035.891	1035.891	1035.891	1035.891
<b>5</b>	1033.425	1028.492	1029.725	1028.492	1028.492
<b>10</b>	1008.761	1008.761	1011.227	1012.460	1013.694
<b>15</b>	969.298	972.998	980.397	985.330	990.263
<b>20</b>	922.437	927.369	939.701	950.800	959.433
<b>25</b>	859.543	869.409	886.674	900.239	912.571
<b>30</b>	786.784	796.650	825.013	842.278	852.144
<b>35</b>	711.559	717.725	752.254	773.219	786.784
<b>40</b>	628.934	636.333	669.630	693.061	706.626
<b>45</b>	545.076	554.942	584.539	610.436	625.234
<b>50</b>	463.685	474.784	501.914	522.878	540.143
<b>55</b>	387.226	395.858	418.056	435.321	452.586
<b>60</b>	313.234	325.566	344.064	362.562	373.661
<b>65</b>	242.941	258.973	272.538	284.870	297.202
<b>70</b>	177.581	198.546	205.945	217.044	229.376
<b>75</b>	118.388	129.486	141.818	157.850	160.317
<b>80</b>	64.127	75.225	83.858	91.257	88.791
<b>85</b>	19.731	25.897	29.597	32.063	25.897
<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	373.94	N.A.	14.80
0-30	781.33	N.A.	30.80
0-40	1248.41	N.A.	49.30
0-60	2074.49	N.A.	81.90
0-80	2496.08	N.A.	98.50
0-90	2533.33	N.A.	100.00
10-90	2435.65	N.A.	96.10
20-40	874.48	N.A.	34.50
20-50	1325.08	N.A.	52.30
40-70	1096.71	N.A.	43.30
60-80	421.58	N.A.	16.60
70-80	150.95	N.A.	6.00
80-90	37.25	N.A.	1.50
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	2533.33	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	97.68
10-20	276.26
20-30	407.39
30-40	467.09
40-50	450.60
50-60	375.48
60-70	270.63
70-80	150.95
80-90	37.25
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	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	87	82	77	83	79	75	80	77	74	72
3	91	81	73	67	89	80	72	67	77	71	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	69	62	56	66	60	55	64	59	55	53
5	77	65	56	50	75	64	56	50	62	55	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	42	40
7	67	53	45	39	65	53	45	39	51	44	38	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	44	39	34	32
9	58	45	37	32	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	27

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**UGR TABLE - CORRECTED**

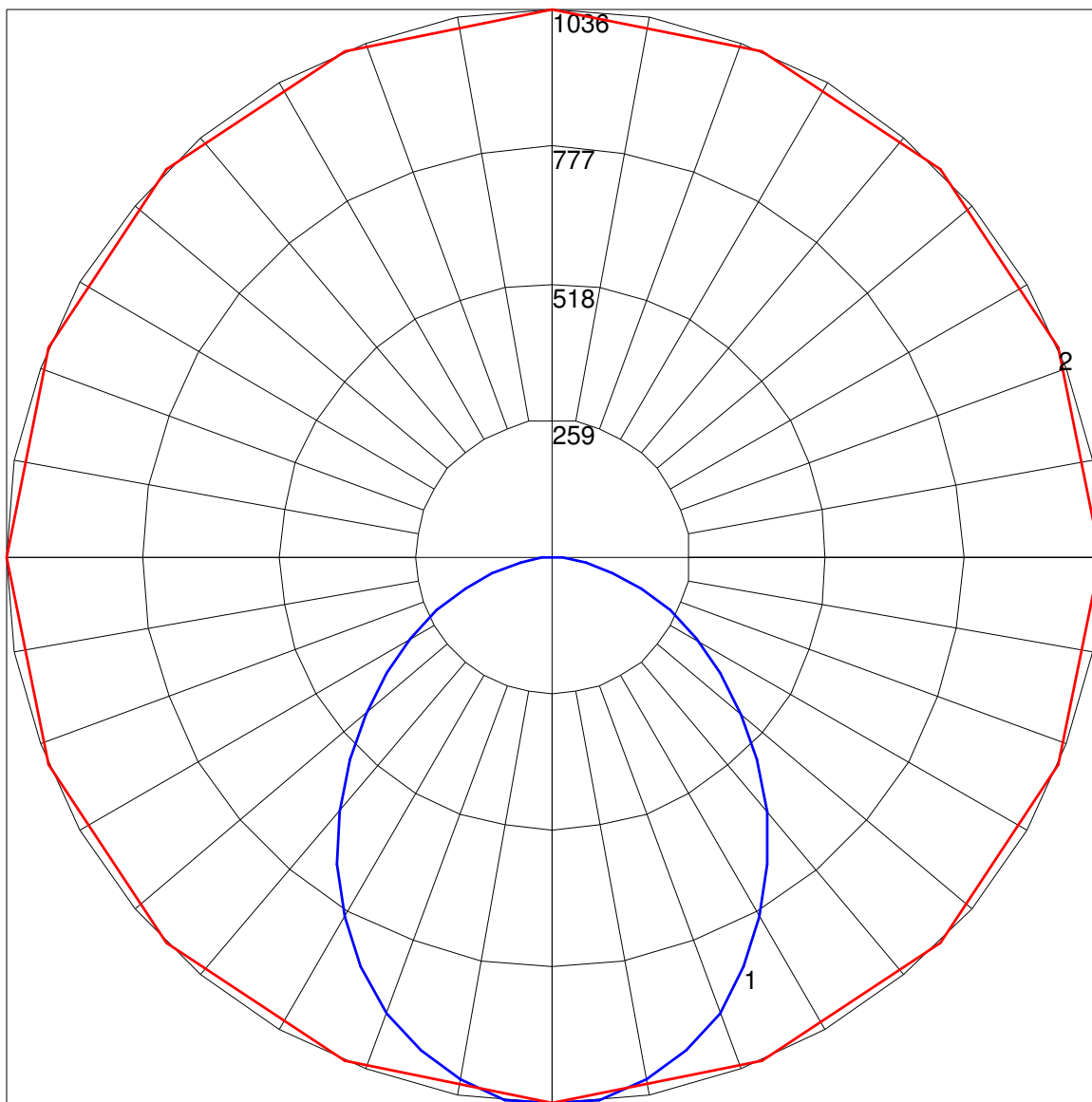
Reflectances

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	14.6	16.2	14.9	16.5	16.8	15.4	17.0	15.7	17.3	17.6
	3H	16.2	17.6	16.6	17.9	18.3	17.1	18.5	17.5	18.9	19.2
	4H	16.7	18.1	17.1	18.4	18.8	17.8	19.1	18.2	19.5	19.8
	6H	17.1	18.3	17.5	18.7	19.1	18.2	19.5	18.7	19.8	20.2
	8H	17.1	18.3	17.6	18.7	19.1	18.4	19.5	18.8	19.9	20.3
	12H	17.2	18.3	17.6	18.7	19.1	18.4	19.5	18.8	19.9	20.4
4H	2H	15.3	16.6	15.7	16.9	17.3	15.9	17.2	16.3	17.6	17.9
	3H	17.1	18.2	17.5	18.6	19.0	17.8	19.0	18.3	19.4	19.8
	4H	17.7	18.7	18.2	19.2	19.6	18.7	19.7	19.1	20.1	20.5
	6H	18.2	19.1	18.6	19.5	20.0	19.3	20.1	19.7	20.6	21.0
	8H	18.3	19.1	18.8	19.6	20.1	19.4	20.2	19.9	20.7	21.2
	12H	18.4	19.1	18.9	19.6	20.1	19.5	20.2	20.0	20.7	21.2
8H	4H	18.1	18.9	18.5	19.3	19.8	18.9	19.7	19.4	20.2	20.6
	6H	18.7	19.3	19.2	19.8	20.3	19.6	20.3	20.1	20.8	21.3
	8H	18.8	19.5	19.3	20.0	20.4	19.8	20.5	20.4	21.0	21.5
	12H	19.0	19.5	19.5	20.0	20.5	20.0	20.5	20.5	21.0	21.6
12H	4H	18.1	18.9	18.6	19.3	19.8	18.9	19.7	19.4	20.1	20.6
	6H	18.7	19.3	19.2	19.8	20.3	19.7	20.3	20.2	20.7	21.3
	8H	19.0	19.5	19.5	20.0	20.6	19.9	20.5	20.4	21.0	21.5

Maximum UGR = 21.6

POLAR GRAPH



Maximum Candela = 1035.891 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.)