



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-L40-835-D-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18872.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 19-DEC-2019

[MANUFAC] WILLIAMS LINEAR

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

[LUMINAIRE] 2-56 LED 22" ARRAYS-SERIES 2x2 'RECESSED LUMINAIRE w/WHITE

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

[MORE] DIFFUSER

[LUMCAT] AT1-22-L40-835-D-DIM-UNV

[\_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	4120
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	37.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.32
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	4109	4640	5158
55	3621	4361	4786
65	3126	4049	4615
75	2637	3881	4314
85	1734	2126	1902

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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>	1555.723	1555.723	1555.723	1555.723	1555.723
<b>5</b>	1557.132	1551.495	1550.086	1548.677	1548.677
<b>10</b>	1524.721	1523.312	1521.902	1528.948	1535.994
<b>15</b>	1468.354	1472.582	1485.264	1496.537	1510.629
<b>20</b>	1390.850	1403.532	1428.897	1454.262	1479.627
<b>25</b>	1295.026	1314.755	1352.802	1395.077	1428.897
<b>30</b>	1196.384	1220.340	1266.843	1330.255	1365.485
<b>35</b>	1089.288	1106.198	1171.019	1251.342	1282.344
<b>40</b>	966.690	989.237	1061.104	1154.109	1178.065
<b>45</b>	839.865	868.048	948.371	1035.739	1054.058
<b>50</b>	715.858	746.860	835.637	907.505	924.415
<b>55</b>	600.306	632.717	722.904	780.680	793.362
<b>60</b>	484.754	527.029	608.761	659.491	677.810
<b>65</b>	381.885	424.160	494.618	536.893	563.668
<b>70</b>	288.880	319.881	395.976	422.751	446.707
<b>75</b>	197.284	226.876	290.289	298.744	322.700
<b>80</b>	112.734	136.689	174.737	139.508	140.917
<b>85</b>	43.684	47.912	53.548	45.093	47.912
<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	566.24	N.A.	13.70
0-30	1191.43	N.A.	28.90
0-40	1927.71	N.A.	46.80
0-60	3295.66	N.A.	80.00
0-80	4054.09	N.A.	98.40
0-90	4119.57	N.A.	100.00
10-90	3972.37	N.A.	96.40
20-40	1361.47	N.A.	33.00
20-50	2094.43	N.A.	50.80
40-70	1847.02	N.A.	44.80
60-80	758.43	N.A.	18.40
70-80	279.36	N.A.	6.80
80-90	65.48	N.A.	1.60
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	4119.57	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	147.21
10-20	419.03
20-30	625.19
30-40	736.28
40-50	732.96
50-60	634.99
60-70	479.07
70-80	279.36
80-90	65.48
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	162	162	162	162	158	158	158	158	151	151	151	145	145	145	139	139	139	136
1	148	142	136	131	145	139	134	129	133	129	125	128	124	121	123	120	117	115
2	135	124	115	107	131	121	113	106	117	109	103	112	106	101	108	103	99	96
3	123	109	98	89	120	107	97	89	103	94	87	99	92	85	96	89	84	81
4	113	97	85	76	110	95	84	75	92	82	74	88	80	73	86	78	72	69
5	104	87	75	66	101	85	74	65	82	72	65	80	71	64	77	69	63	60
6	96	78	66	57	94	77	65	57	74	64	57	72	63	56	70	62	56	53
7	89	71	59	51	87	70	59	51	68	58	50	66	57	50	64	56	50	47
8	83	65	53	45	81	64	53	45	62	52	45	60	51	45	59	51	45	42
9	78	60	49	41	76	59	48	41	57	48	41	56	47	40	54	46	40	38
10	73	55	44	37	71	54	44	37	53	44	37	52	43	37	51	42	37	34

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**UGR TABLE - CORRECTED**

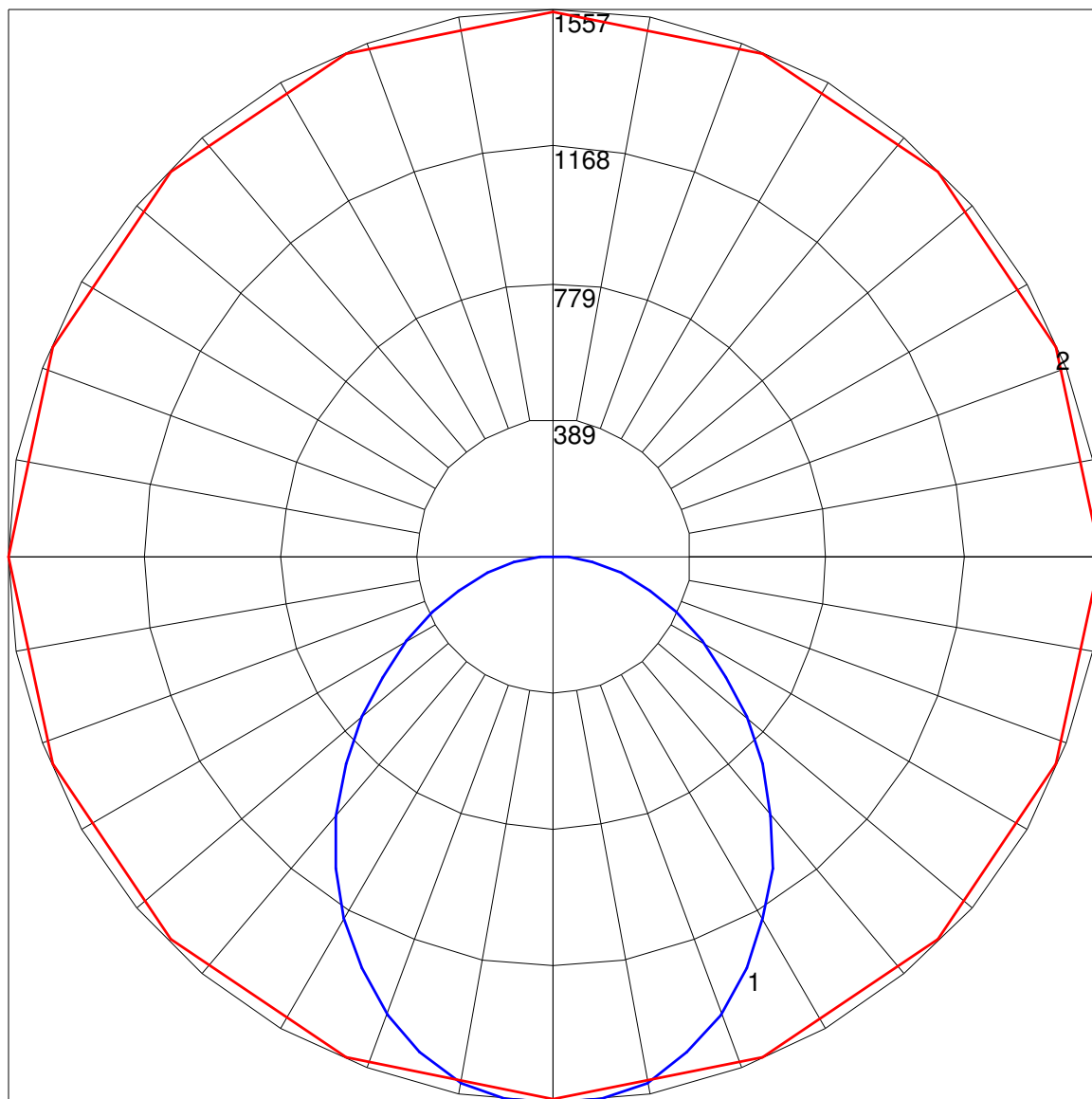
Reflectances

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	15.1	16.7	15.5	17.0	17.4	16.7	18.4	17.1	18.7	19.0
	3H	16.7	18.2	17.1	18.5	18.9	18.7	20.1	19.1	20.5	20.8
	4H	17.3	18.7	17.7	19.1	19.4	19.4	20.8	19.8	21.2	21.5
	6H	17.7	19.0	18.2	19.4	19.8	19.8	21.1	20.2	21.5	21.9
	8H	17.9	19.1	18.3	19.5	19.9	19.9	21.1	20.4	21.5	21.9
	12H	17.9	19.1	18.3	19.5	19.9	19.9	21.1	20.4	21.5	21.9
4H	2H	16.0	17.4	16.4	17.7	18.1	17.3	18.6	17.7	19.0	19.4
	3H	17.9	19.0	18.3	19.4	19.8	19.4	20.6	19.9	21.0	21.4
	4H	18.6	19.6	19.0	20.0	20.5	20.3	21.4	20.8	21.8	22.2
	6H	19.1	20.0	19.5	20.4	20.9	20.8	21.7	21.3	22.2	22.6
	8H	19.2	20.1	19.7	20.5	21.0	20.9	21.8	21.4	22.2	22.7
	12H	19.3	20.1	19.8	20.6	21.0	21.0	21.8	21.5	22.2	22.7
8H	4H	19.1	19.9	19.5	20.4	20.8	20.6	21.4	21.1	21.9	22.4
	6H	19.7	20.4	20.2	20.9	21.4	21.2	21.9	21.7	22.4	22.9
	8H	19.9	20.6	20.4	21.1	21.6	21.3	22.0	21.9	22.5	23.0
	12H	20.1	20.6	20.6	21.1	21.7	21.5	22.0	22.0	22.5	23.1
12H	4H	19.1	19.9	19.6	20.4	20.8	20.6	21.4	21.1	21.9	22.3
	6H	19.8	20.5	20.3	20.9	21.5	21.2	21.9	21.8	22.3	22.9
	8H	20.1	20.7	20.6	21.1	21.7	21.4	22.0	21.9	22.5	23.1

Maximum UGR = 23.1

POLAR GRAPH



Maximum Candela = 1557.132 Located At Horizontal Angle = 0, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)