



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-22-P52-835-D-POE.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19435.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 16-JAN-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2-22" LED ARRAYS 2x2' LUMINAIRE

[MORE] WHITE REFLECTOR w/2 PIECE FROSTED ACRYLIC LENS IN DOOR

[LUMCAT] AT3-22-P52-835-D-PoE

[\_SEARCH\_SOURCETYPE] LED

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

[\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4873
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	104
Total Luminaire Watts	46.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.30
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	5032	5477	5917
55	4425	4998	5371
65	3911	4574	5024
75	3246	4115	4756
85	1746	1547	1468

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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>	1917.819	1917.819	1917.819	1917.819	1917.819
<b>5</b>	1913.822	1907.825	1906.826	1905.827	1903.828
<b>10</b>	1870.848	1869.849	1865.851	1877.844	1880.842
<b>15</b>	1806.888	1804.889	1811.884	1836.869	1844.864
<b>20</b>	1709.947	1714.944	1742.927	1778.905	1795.894
<b>25</b>	1591.020	1608.010	1652.982	1702.952	1728.936
<b>30</b>	1468.096	1490.083	1548.047	1614.006	1638.991
<b>35</b>	1334.179	1358.164	1424.123	1497.078	1521.064
<b>40</b>	1184.271	1206.257	1277.214	1346.171	1376.153
<b>45</b>	1028.367	1054.351	1119.311	1184.271	1209.255
<b>50</b>	879.459	904.443	969.403	1032.364	1049.354
<b>55</b>	733.548	756.534	828.490	881.457	890.452
<b>60</b>	598.631	621.617	689.575	739.545	743.542
<b>65</b>	477.706	496.694	558.656	602.629	613.622
<b>70</b>	356.780	374.769	433.733	472.709	487.700
<b>75</b>	242.850	261.839	307.810	336.793	355.781
<b>80</b>	134.917	158.902	161.900	160.901	158.902
<b>85</b>	43.973	51.968	38.976	37.977	36.977
<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	693.96	N.A.	14.20
0-30	1456.81	N.A.	29.90
0-40	2346.54	N.A.	48.20
0-60	3947.33	N.A.	81.00
0-80	4806.81	N.A.	98.60
0-90	4872.62	N.A.	100.00
10-90	4691.68	N.A.	96.30
20-40	1652.59	N.A.	33.90
20-50	2518.02	N.A.	51.70
40-70	2147.46	N.A.	44.10
60-80	859.48	N.A.	17.60
70-80	312.81	N.A.	6.40
80-90	65.81	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	4872.62	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	180.94
10-20	513.02
20-30	762.85
30-40	889.73
40-50	865.44
50-60	735.35
60-70	546.67
70-80	312.81
80-90	65.81
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	378	378	378	378	369	369	369	369	353	353	353	338	338	338	324	324	324	318
1	347	332	319	307	338	325	313	302	312	302	293	299	291	284	288	281	275	269
2	316	291	270	252	308	285	266	249	274	258	243	263	250	238	254	243	233	226
3	289	257	231	211	281	252	228	209	242	222	206	233	216	202	225	211	199	192
4	265	228	201	180	258	224	198	179	216	194	176	209	189	174	202	185	172	165
5	244	204	177	156	238	201	175	155	194	171	153	188	168	152	182	164	150	143
6	226	185	157	137	220	182	155	136	176	152	135	171	150	134	166	147	133	126
7	210	168	140	121	205	165	139	121	160	137	120	156	135	119	152	133	118	112
8	196	153	127	109	191	151	126	108	147	124	108	143	122	107	139	120	106	100
9	183	141	115	98	179	139	115	98	136	113	97	132	112	97	129	110	96	91
10	172	130	106	89	168	129	105	89	126	104	89	123	102	88	120	101	88	82

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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

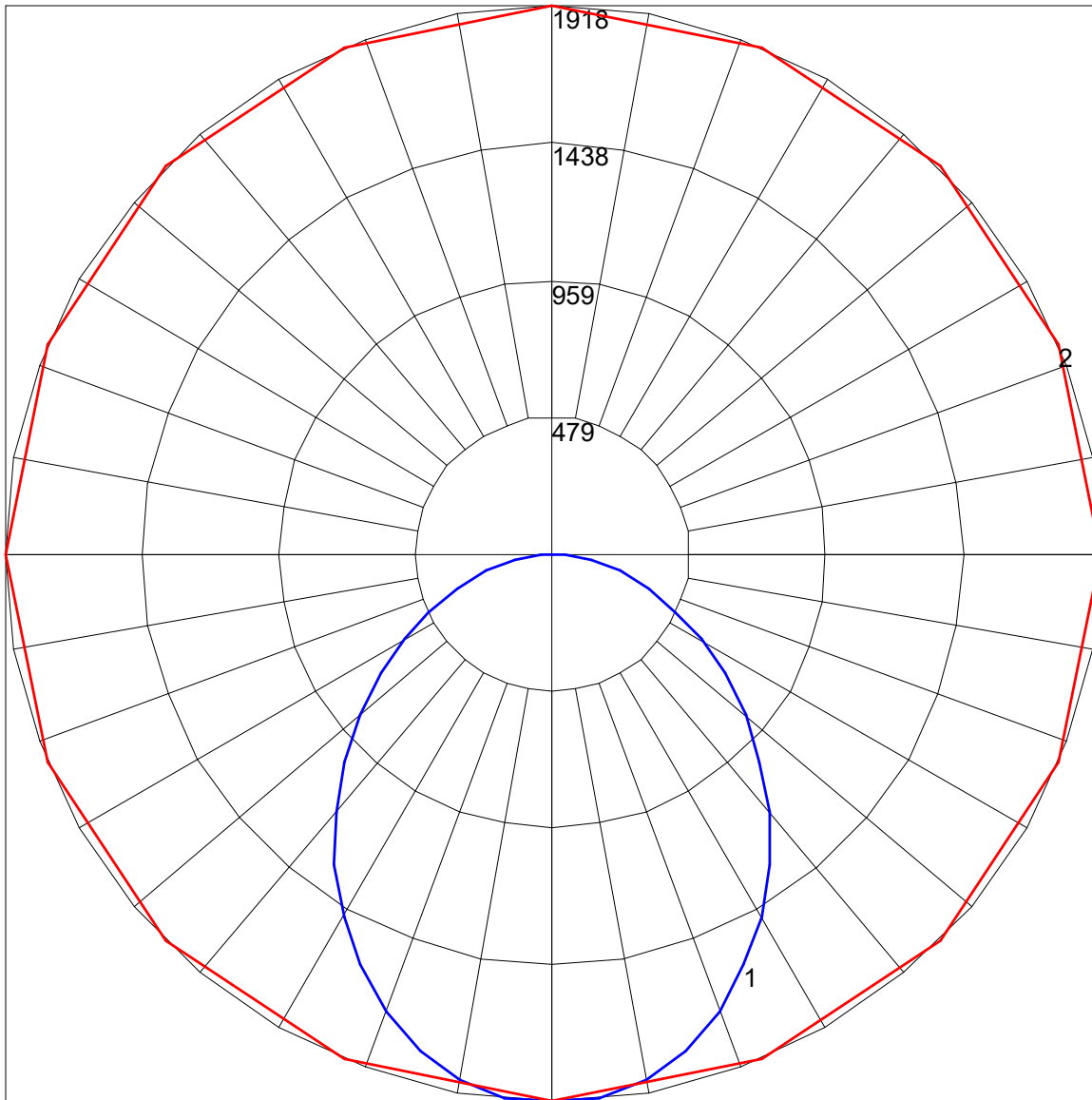
X=2H	Y=2H	12.8	14.4	13.2	14.7	15.0	14.0	15.6	14.4	15.9	16.2
	3H	14.5	15.9	14.8	16.2	16.6	15.9	17.3	16.3	17.7	18.0
	4H	15.1	16.4	15.5	16.8	17.1	16.6	18.0	17.0	18.3	18.7
	6H	15.5	16.7	15.9	17.1	17.5	17.0	18.3	17.5	18.7	19.1
	8H	15.6	16.8	16.0	17.2	17.6	17.1	18.3	17.6	18.7	19.1
	12H	15.6	16.8	16.0	17.1	17.6	17.1	18.3	17.6	18.7	19.1

UGR Viewed Endwise

4H	2H	13.6	14.9	14.0	15.3	15.7	14.5	15.9	14.9	16.2	16.6
	3H	15.5	16.6	15.9	17.0	17.4	16.7	17.8	17.1	18.2	18.6
	4H	16.2	17.2	16.6	17.6	18.0	17.5	18.6	18.0	19.0	19.4
	6H	16.7	17.6	17.1	18.0	18.5	18.1	18.9	18.5	19.4	19.8
	8H	16.8	17.7	17.3	18.1	18.6	18.2	19.0	18.6	19.4	19.9
	12H	16.9	17.7	17.4	18.1	18.6	18.2	18.9	18.7	19.4	19.9
8H	4H	16.6	17.4	17.0	17.8	18.3	17.8	18.6	18.2	19.1	19.5
	6H	17.2	17.9	17.7	18.4	18.9	18.4	19.1	18.9	19.6	20.0
	8H	17.4	18.0	17.9	18.5	19.0	18.5	19.1	19.0	19.6	20.1
	12H	17.5	18.1	18.1	18.6	19.1	18.6	19.1	19.1	19.6	20.2
12H	4H	16.6	17.4	17.1	17.8	18.3	17.8	18.5	18.3	19.0	19.5
	6H	17.3	17.9	17.8	18.4	18.9	18.4	19.0	18.9	19.5	20.0
	8H	17.5	18.1	18.0	18.6	19.1	18.6	19.1	19.1	19.6	20.2

Maximum UGR = 20.2

POLAR GRAPH



Maximum Candela = 1917.819 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.)