



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-22-P16-8TW-D-POE 4000K.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] 3-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] AT2-22-P16-8TW-D-PoE 4000k

[\_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	1653
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	15.44
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	1707	1858	2007
55	1501	1695	1822
65	1327	1551	1704
75	1101	1396	1613
85	592	525	498

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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>	650.555	650.555	650.555	650.555	650.555
<b>5</b>	649.199	647.165	646.826	646.487	645.809
<b>10</b>	634.622	634.283	632.927	636.995	638.012
<b>15</b>	612.925	612.247	614.620	623.095	625.807
<b>20</b>	580.041	581.737	591.229	603.433	609.196
<b>25</b>	539.700	545.463	560.718	577.668	586.483
<b>30</b>	498.002	505.460	525.122	547.497	555.972
<b>35</b>	452.575	460.711	483.085	507.833	515.969
<b>40</b>	401.724	409.182	433.251	456.643	466.813
<b>45</b>	348.838	357.653	379.688	401.724	410.199
<b>50</b>	298.326	306.802	328.837	350.195	355.958
<b>55</b>	248.831	256.629	281.037	299.004	302.055
<b>60</b>	203.065	210.863	233.915	250.865	252.221
<b>65</b>	162.045	168.487	189.505	204.421	208.150
<b>70</b>	121.026	127.128	147.129	160.350	165.436
<b>75</b>	82.379	88.820	104.414	114.245	120.687
<b>80</b>	45.766	53.902	54.919	54.580	53.902
<b>85</b>	14.916	17.628	13.221	12.882	12.543
<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	235.40	N.A.	14.20
0-30	494.17	N.A.	29.90
0-40	795.98	N.A.	48.20
0-60	1339.00	N.A.	81.00
0-80	1630.55	N.A.	98.60
0-90	1652.87	N.A.	100.00
10-90	1591.49	N.A.	96.30
20-40	560.58	N.A.	33.90
20-50	854.15	N.A.	51.70
40-70	728.45	N.A.	44.10
60-80	291.55	N.A.	17.60
70-80	106.11	N.A.	6.40
80-90	22.32	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	1652.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	61.38
10-20	174.02
20-30	258.77
30-40	301.81
40-50	293.57
50-60	249.44
60-70	185.44
70-80	106.11
80-90	22.32
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	76	76	76	76	74	74	74	74	71	71	71	68	68	68	65	65	65	63
1	69	66	64	61	68	65	63	60	62	60	59	60	58	57	58	56	55	54
2	63	58	54	50	62	57	53	50	55	51	49	53	50	48	51	48	46	45
3	58	51	46	42	56	50	46	42	48	44	41	47	43	40	45	42	40	38
4	53	46	40	36	52	45	40	36	43	39	35	42	38	35	40	37	34	33
5	49	41	35	31	48	40	35	31	39	34	31	38	34	30	36	33	30	29
6	45	37	31	27	44	36	31	27	35	30	27	34	30	27	33	29	26	25
7	42	34	28	24	41	33	28	24	32	27	24	31	27	24	30	27	24	22
8	39	31	25	22	38	30	25	22	29	25	21	29	24	21	28	24	21	20
9	37	28	23	20	36	28	23	20	27	23	19	26	22	19	26	22	19	18
10	34	26	21	18	34	26	21	18	25	21	18	25	20	18	24	20	18	16

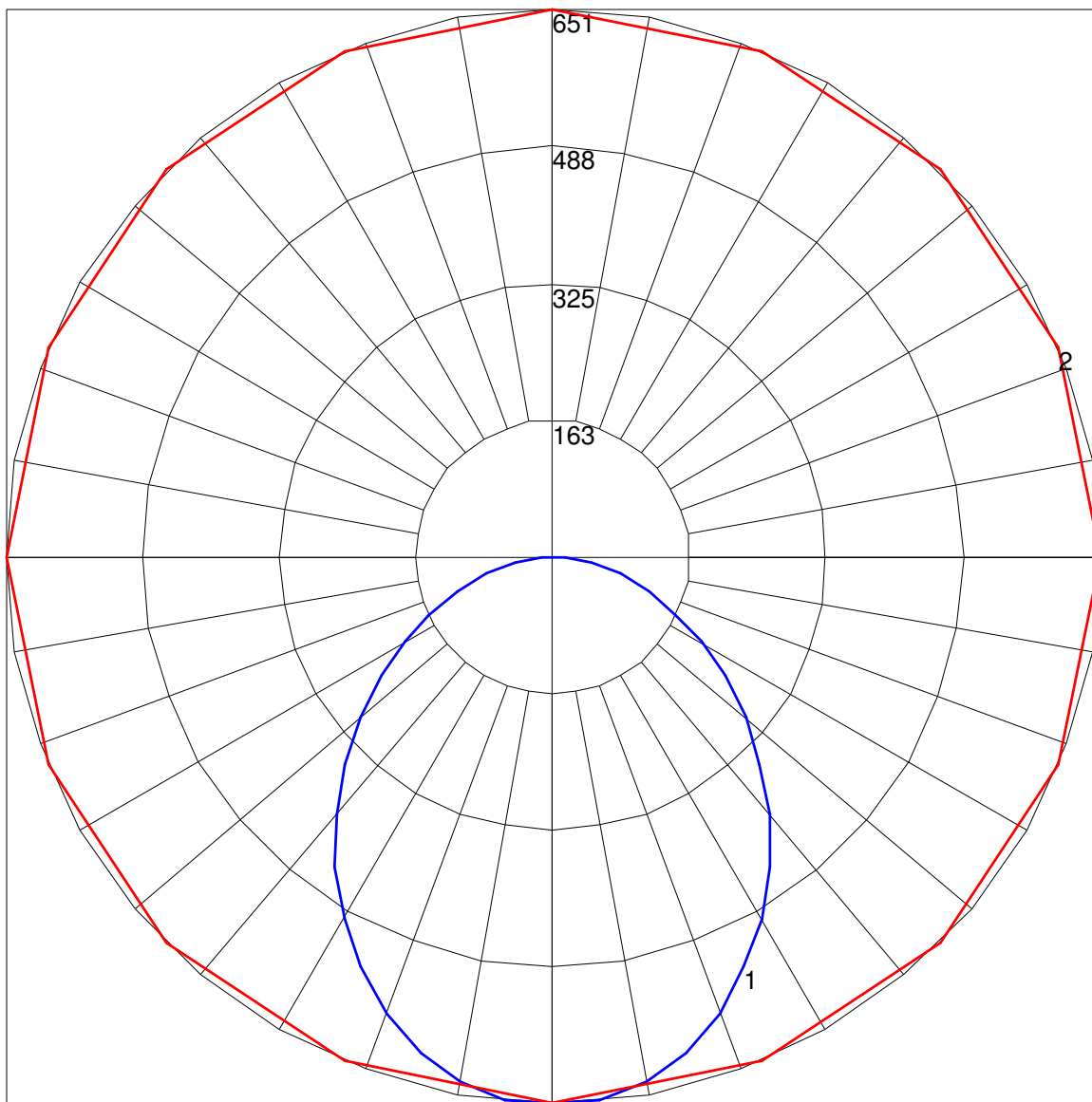
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**UGR TABLE - CORRECTED**

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	15.0	16.5	16.8	15.8	17.4	16.2	17.7	18.0
	3H	16.3	17.7	16.6	18.0	18.4	17.7	19.1	18.1	19.5	19.8
	4H	16.9	18.2	17.3	18.6	18.9	18.4	19.8	18.8	20.1	20.5
	6H	17.3	18.5	17.7	18.9	19.3	18.8	20.1	19.3	20.5	20.9
	8H	17.4	18.6	17.8	19.0	19.4	18.9	20.1	19.4	20.5	20.9
	12H	17.4	18.6	17.8	18.9	19.4	18.9	20.1	19.4	20.5	20.9
4H	2H	15.4	16.7	15.8	17.1	17.5	16.3	17.7	16.7	18.0	18.4
	3H	17.3	18.4	17.7	18.8	19.2	18.5	19.6	18.9	20.0	20.4
	4H	18.0	19.0	18.4	19.4	19.8	19.3	20.4	19.8	20.8	21.2
	6H	18.5	19.4	18.9	19.8	20.3	19.9	20.7	20.3	21.2	21.6
	8H	18.6	19.5	19.1	19.9	20.4	20.0	20.8	20.4	21.2	21.7
	12H	18.7	19.5	19.2	19.9	20.4	20.0	20.7	20.5	21.2	21.7
8H	4H	18.4	19.2	18.8	19.6	20.1	19.6	20.4	20.0	20.9	21.3
	6H	19.0	19.7	19.5	20.2	20.7	20.2	20.9	20.7	21.4	21.8
	8H	19.2	19.8	19.7	20.3	20.8	20.3	20.9	20.8	21.4	21.9
	12H	19.3	19.9	19.9	20.4	20.9	20.4	20.9	20.9	21.4	22.0
12H	4H	18.4	19.2	18.9	19.6	20.1	19.6	20.3	20.1	20.8	21.3
	6H	19.1	19.7	19.6	20.2	20.7	20.2	20.8	20.7	21.3	21.8
	8H	19.3	19.9	19.8	20.4	20.9	20.4	20.9	20.9	21.4	22.0

Maximum UGR = 22.0

POLAR GRAPH



Maximum Candela = 650.555 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.)