



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-22-P16-835-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-P16-835-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	1534
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	14.4
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	1584	1724	1863
55	1393	1573	1691
65	1231	1440	1581
75	1022	1295	1497
85	550	487	462

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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>	603.721	603.721	603.721	603.721	603.721
<b>5</b>	602.463	600.575	600.261	599.946	599.317
<b>10</b>	588.935	588.621	587.362	591.137	592.081
<b>15</b>	568.801	568.171	570.374	578.239	580.755
<b>20</b>	538.284	539.857	548.666	559.992	565.340
<b>25</b>	500.847	506.195	520.352	536.082	544.262
<b>30</b>	462.150	469.072	487.319	508.082	515.947
<b>35</b>	419.994	427.544	448.308	471.274	478.824
<b>40</b>	372.803	379.725	402.061	423.769	433.207
<b>45</b>	323.726	331.905	352.354	372.803	380.669
<b>50</b>	276.850	284.715	305.164	324.984	330.332
<b>55</b>	230.918	238.154	260.805	277.479	280.310
<b>60</b>	188.447	195.683	217.075	232.806	234.064
<b>65</b>	150.380	156.357	175.863	189.705	193.166
<b>70</b>	112.313	117.976	136.537	148.807	153.526
<b>75</b>	76.448	82.426	96.897	106.021	111.998
<b>80</b>	42.471	50.022	50.966	50.651	50.022
<b>85</b>	13.842	16.359	12.269	11.955	11.640
<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	218.45	N.A.	14.20
0-30	458.60	N.A.	29.90
0-40	738.68	N.A.	48.20
0-60	1242.6	N.A.	81.00
0-80	1513.16	N.A.	98.60
0-90	1533.88	N.A.	100.00
10-90	1476.92	N.A.	96.30
20-40	520.23	N.A.	33.90
20-50	792.66	N.A.	51.70
40-70	676.01	N.A.	44.10
60-80	270.56	N.A.	17.60
70-80	98.47	N.A.	6.40
80-90	20.72	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	1533.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	56.96
10-20	161.50
20-30	240.14
30-40	280.08
40-50	272.44
50-60	231.49
60-70	172.09
70-80	98.47
80-90	20.72
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	122	122	122	122	119	119	119	119	114	114	114	109	109	109	105	105	105	103
1	112	107	103	99	109	105	101	98	101	98	95	97	94	92	93	91	89	87
2	102	94	87	82	100	92	86	81	89	83	79	85	81	77	82	78	75	73
3	94	83	75	68	91	81	74	68	78	72	66	76	70	65	73	68	64	62
4	86	74	65	58	83	72	64	58	70	63	57	67	61	56	65	60	56	53
5	79	66	57	50	77	65	56	50	63	55	50	61	54	49	59	53	49	46
6	73	60	51	44	71	59	50	44	57	49	44	55	48	43	54	48	43	41
7	68	54	45	39	66	53	45	39	52	44	39	50	44	39	49	43	38	36
8	63	50	41	35	62	49	41	35	48	40	35	46	40	35	45	39	34	32
9	59	46	37	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
10	56	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	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

X=2H	Y=2H	12.7	14.3	13.1	14.6	14.9	13.9	15.5	14.3	15.8	16.1
	3H	14.4	15.8	14.7	16.1	16.5	15.8	17.2	16.2	17.6	17.9
	4H	15.0	16.3	15.4	16.7	17.0	16.5	17.9	16.9	18.2	18.6
	6H	15.4	16.6	15.8	17.0	17.4	16.9	18.2	17.4	18.6	19.0
	8H	15.5	16.7	15.9	17.1	17.5	17.0	18.2	17.5	18.6	19.0
	12H	15.5	16.7	15.9	17.0	17.5	17.0	18.2	17.5	18.6	19.0

UGR Viewed Endwise

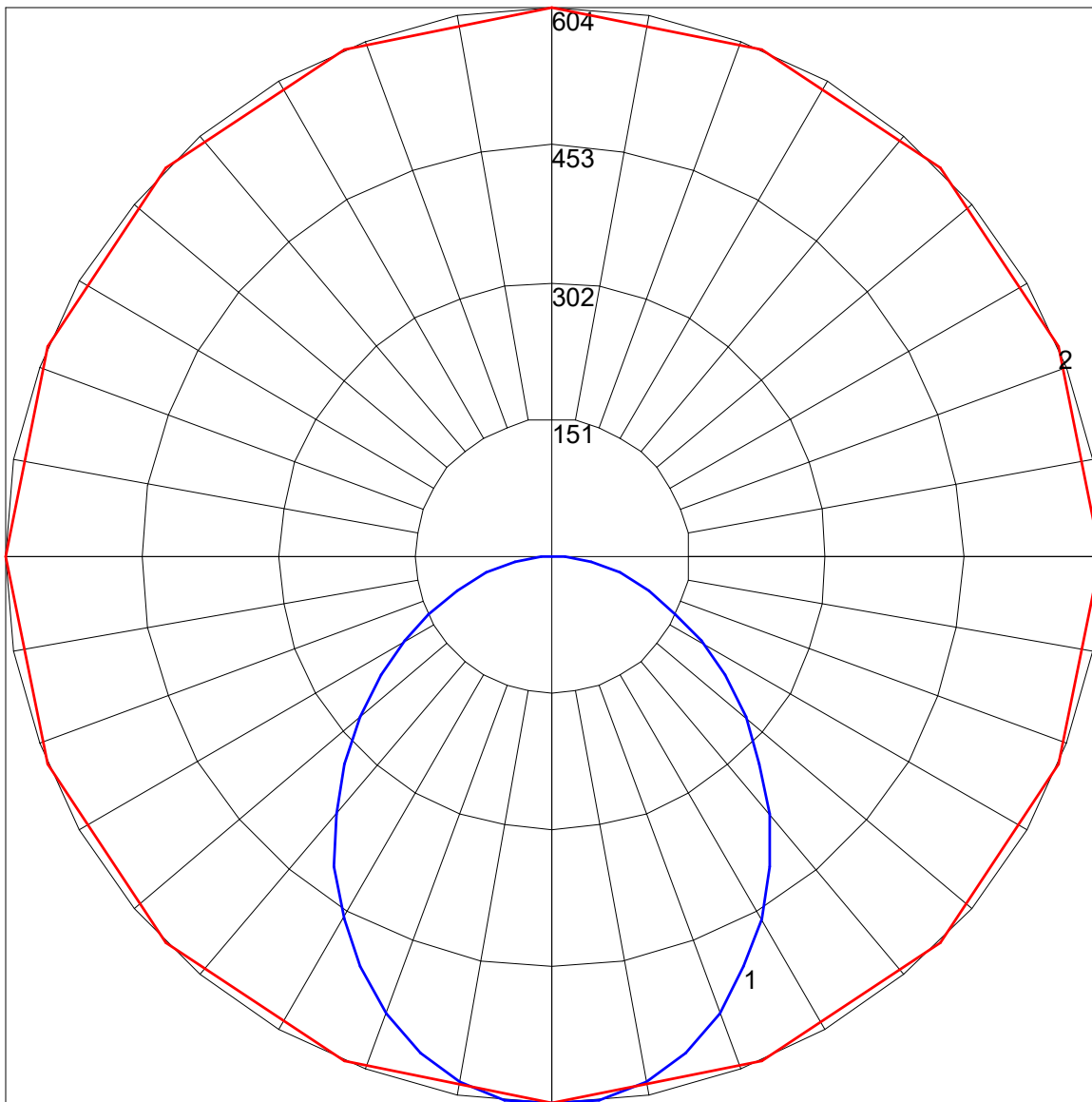
4H	2H	13.5	14.8	13.9	15.2	15.6	14.4	15.8	14.8	16.1	16.5
	3H	15.4	16.5	15.8	16.9	17.3	16.6	17.7	17.0	18.1	18.5
	4H	16.1	17.1	16.5	17.5	17.9	17.4	18.5	17.9	18.9	19.3
	6H	16.6	17.5	17.0	17.9	18.4	18.0	18.8	18.4	19.3	19.7
	8H	16.7	17.6	17.2	18.0	18.5	18.1	18.9	18.5	19.3	19.8
	12H	16.8	17.6	17.3	18.0	18.5	18.1	18.8	18.6	19.3	19.8

8H	4H	16.5	17.3	16.9	17.7	18.2	17.7	18.5	18.1	19.0	19.4
	6H	17.1	17.8	17.6	18.3	18.8	18.3	19.0	18.8	19.5	19.9
	8H	17.3	17.9	17.8	18.4	18.9	18.4	19.0	18.9	19.5	20.0
	12H	17.4	18.0	18.0	18.5	19.0	18.5	19.0	19.0	19.5	20.1

12H	4H	16.5	17.3	17.0	17.7	18.2	17.7	18.4	18.2	18.9	19.4
	6H	17.2	17.8	17.7	18.3	18.8	18.3	18.9	18.8	19.4	19.9
	8H	17.4	18.0	17.9	18.5	19.0	18.5	19.0	19.0	19.5	20.1

Maximum UGR = 20.1

POLAR GRAPH



Maximum Candela = 603.721 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.)