



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-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] 15-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] AT1-22-P16-835-D-PoE

[_SEARCH_SOURCE] 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	1649
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
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	1703	1853	2002
55	1497	1691	1818
65	1323	1548	1700
75	1099	1392	1609
85	591	524	497

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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>
0	648.981	648.981	648.981	648.981	648.981
5	647.628	645.599	645.261	644.923	644.246
10	633.086	632.748	631.395	635.453	636.468
15	611.442	610.766	613.133	621.588	624.293
20	578.638	580.329	589.798	601.973	607.722
25	538.394	544.143	559.361	576.271	585.064
30	496.797	504.237	523.852	546.172	554.627
35	451.480	459.596	481.916	506.604	514.721
40	400.752	408.192	432.203	455.538	465.684
45	347.994	356.787	378.769	400.752	409.206
50	297.605	306.059	328.041	349.347	355.096
55	248.229	256.008	280.357	298.281	301.325
60	202.574	210.352	233.349	250.258	251.611
65	161.653	168.079	189.047	203.927	207.647
70	120.733	126.820	146.773	159.962	165.035
75	82.179	88.605	104.162	113.969	120.395
80	45.655	53.772	54.786	54.448	53.772
85	14.880	17.586	13.189	12.851	12.513
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	234.83	N.A.	14.20
0-30	492.98	N.A.	29.90
0-40	794.06	N.A.	48.20
0-60	1335.76	N.A.	81.00
0-80	1626.6	N.A.	98.60
0-90	1648.87	N.A.	100.00
10-90	1587.64	N.A.	96.30
20-40	559.23	N.A.	33.90
20-50	852.09	N.A.	51.70
40-70	726.69	N.A.	44.10
60-80	290.85	N.A.	17.60
70-80	105.85	N.A.	6.40
80-90	22.27	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	1648.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	61.23
10-20	173.60
20-30	258.15
30-40	301.08
40-50	292.86
50-60	248.84
60-70	184.99
70-80	105.85
80-90	22.27
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

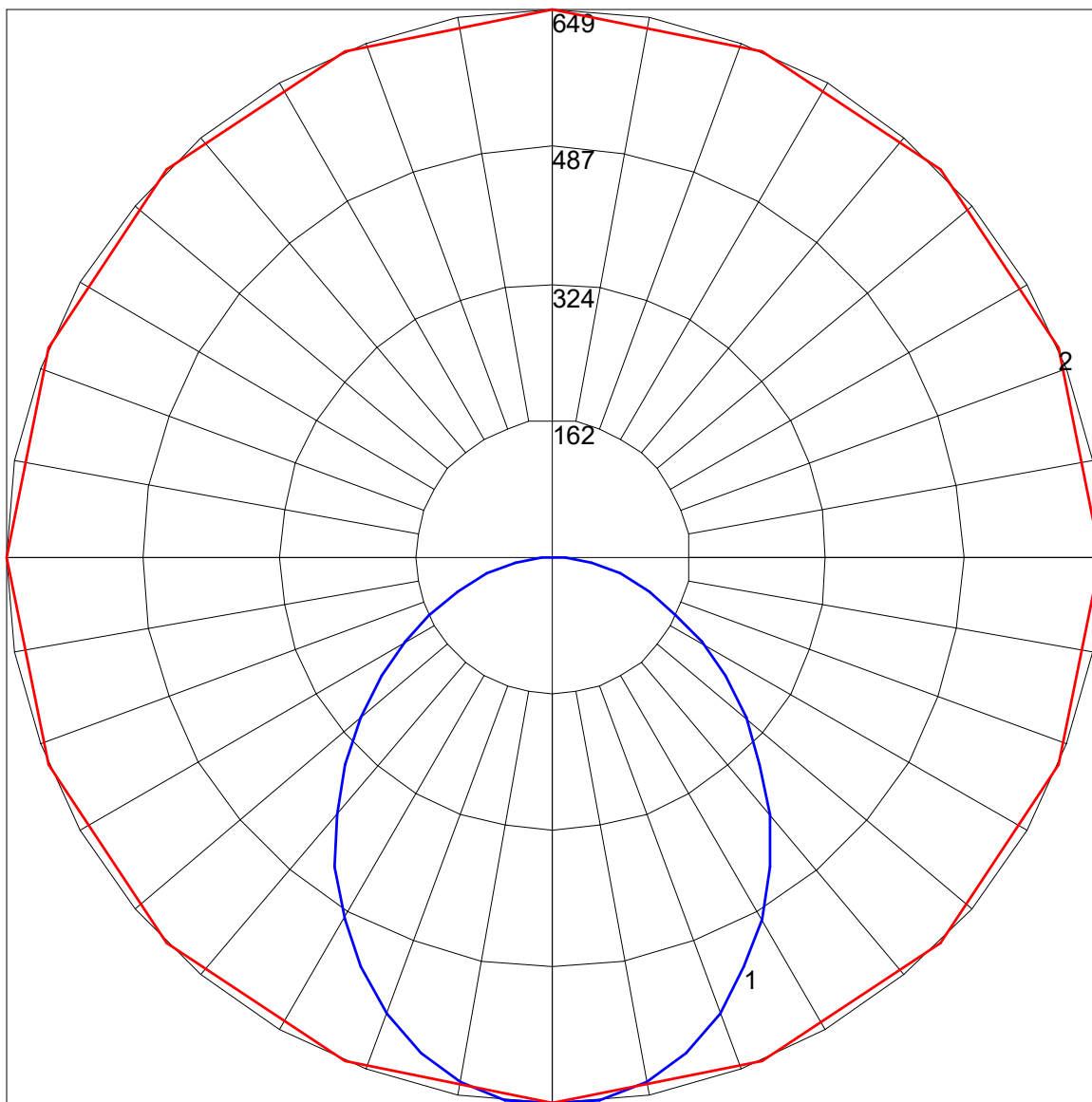
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	12.9	14.5	13.3	14.8	15.1	14.1	15.7	14.5	16.0	16.3
	3H	14.6	16.0	14.9	16.3	16.7	16.0	17.4	16.4	17.8	18.1
	4H	15.2	16.5	15.6	16.9	17.2	16.7	18.1	17.1	18.4	18.8
	6H	15.6	16.8	16.0	17.2	17.6	17.1	18.4	17.6	18.8	19.2
	8H	15.7	16.9	16.1	17.3	17.7	17.2	18.4	17.7	18.8	19.2
	12H	15.7	16.9	16.1	17.2	17.7	17.2	18.4	17.7	18.8	19.2
4H	2H	13.7	15.0	14.1	15.4	15.8	14.6	16.0	15.0	16.3	16.7
	3H	15.6	16.7	16.0	17.1	17.5	16.8	17.9	17.2	18.3	18.7
	4H	16.3	17.3	16.7	17.7	18.1	17.6	18.7	18.1	19.1	19.5
	6H	16.8	17.7	17.2	18.1	18.6	18.2	19.0	18.6	19.5	19.9
	8H	16.9	17.8	17.4	18.2	18.7	18.3	19.1	18.7	19.5	20.0
	12H	17.0	17.8	17.5	18.2	18.7	18.3	19.0	18.8	19.5	20.0
8H	4H	16.7	17.5	17.1	17.9	18.4	17.9	18.7	18.3	19.2	19.6
	6H	17.3	18.0	17.8	18.5	19.0	18.5	19.2	19.0	19.7	20.1
	8H	17.5	18.1	18.0	18.6	19.1	18.6	19.2	19.1	19.7	20.2
	12H	17.6	18.2	18.2	18.7	19.2	18.7	19.2	19.2	19.7	20.3
12H	4H	16.7	17.5	17.2	17.9	18.4	17.9	18.6	18.4	19.1	19.6
	6H	17.4	18.0	17.9	18.5	19.0	18.5	19.1	19.0	19.6	20.1
	8H	17.6	18.2	18.1	18.7	19.2	18.7	19.2	19.2	19.7	20.3

Maximum UGR = 20.3

POLAR GRAPH



Maximum Candela = 648.981 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.)