



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-22-L40-835-D-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from BALLABS TEST NO. 18882.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 12-30-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 2x2' RECESSED LUMINAIRE
 [MORE] WITH FROST CONCAVE ACRYLIC LENS w/DEEP ACRYLIC CENTER
 [MORE] DIFFUSER
 [LUMCAT] AT2-22-L40-835-D-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Office, Direct
 [_SEARCH_MOUNTING] Ceiling, Recessed
 [_SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4025
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	37.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.28
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	4237	4544	4860
55	3711	4006	4337
65	3160	3545	3865
75	2514	3012	3405
85	1244	1867	1633

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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	1645.647	1645.647	1645.647	1645.647	1645.647
5	1641.729	1633.893	1635.852	1633.893	1633.893
10	1602.547	1602.547	1606.465	1608.424	1610.383
15	1539.856	1545.733	1557.488	1565.324	1573.160
20	1465.410	1473.246	1492.837	1510.469	1524.183
25	1365.495	1381.168	1408.596	1430.146	1449.737
30	1249.908	1265.581	1310.641	1338.068	1353.741
35	1130.403	1140.198	1195.053	1228.358	1249.908
40	999.143	1010.898	1063.793	1101.016	1122.567
45	865.924	881.597	928.615	969.756	993.266
50	736.623	754.255	797.355	830.660	858.088
55	615.159	628.872	664.136	691.564	718.991
60	497.612	517.203	546.590	575.977	593.608
65	385.943	411.412	432.962	452.553	472.144
70	282.111	315.416	327.170	344.802	364.393
75	188.074	205.706	225.297	250.765	254.684
80	101.873	119.505	133.219	144.974	141.055
85	31.346	41.141	47.018	50.937	41.141
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	594.05	N.A.	14.80
0-30	1241.24	N.A.	30.80
0-40	1983.27	N.A.	49.30
0-60	3295.6	N.A.	81.90
0-80	3965.34	N.A.	98.50
0-90	4024.52	N.A.	100.00
10-90	3869.35	N.A.	96.10
20-40	1389.22	N.A.	34.50
20-50	2105.06	N.A.	52.30
40-70	1742.27	N.A.	43.30
60-80	669.74	N.A.	16.60
70-80	239.80	N.A.	6.00
80-90	59.18	N.A.	1.50
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	4024.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	155.18
10-20	438.87
20-30	647.19
30-40	742.03
40-50	715.84
50-60	596.49
60-70	429.94
70-80	239.80
80-90	59.18
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	102	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	87	81	77	83	79	75	80	77	74	72
3	91	81	73	67	89	80	72	67	77	70	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	69	62	56	66	60	55	64	59	55	53
5	77	65	56	50	75	64	56	50	62	55	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	42	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	44	39	34	32
9	58	45	37	32	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	27

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UGR TABLE - CORRECTED

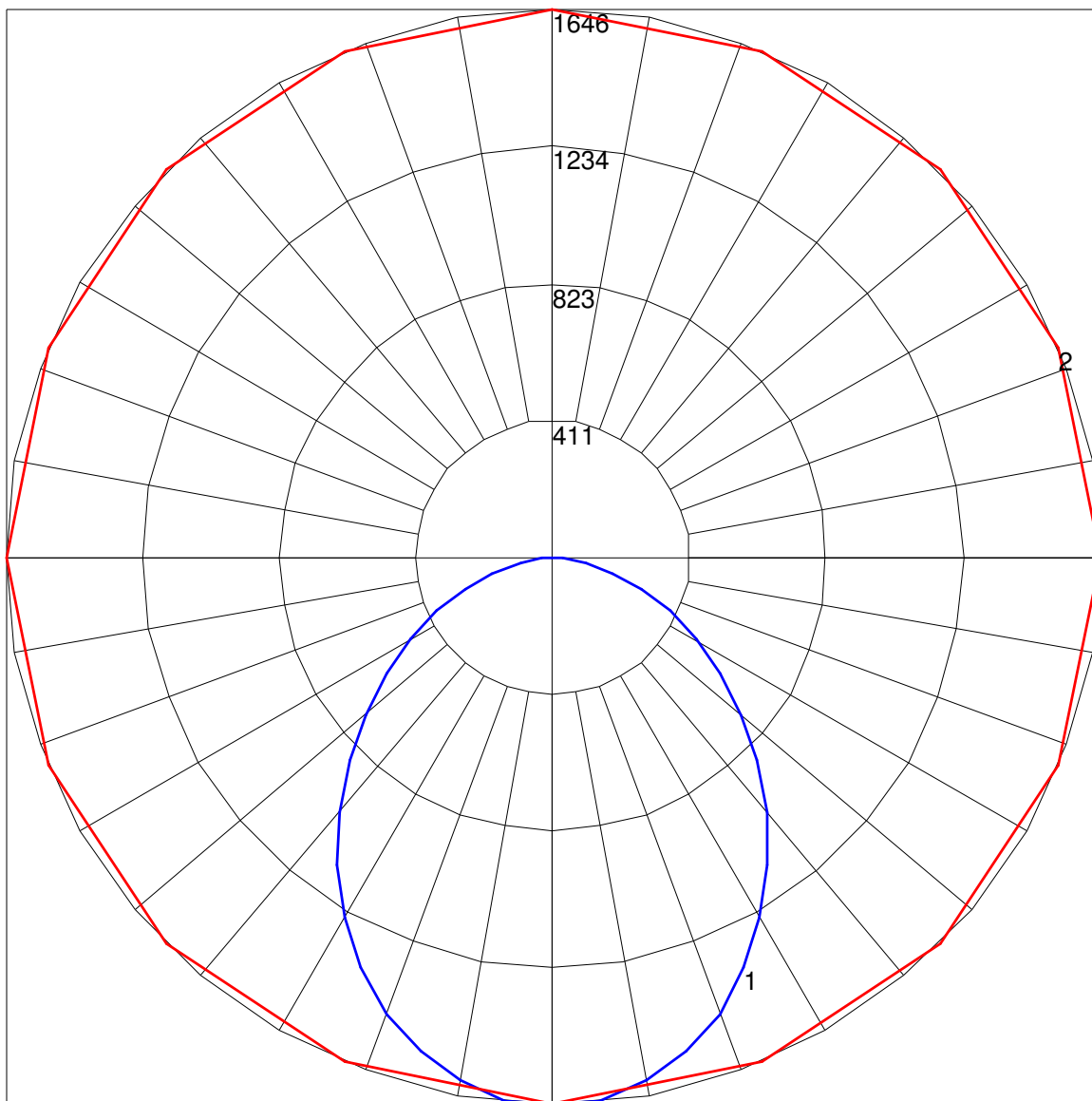
Reflectances

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	16.2	17.8	16.5	18.1	18.4	17.0	18.5	17.3	18.9	19.2
	3H	17.8	19.2	18.2	19.5	19.9	18.7	20.1	19.1	20.5	20.8
	4H	18.3	19.7	18.7	20.0	20.4	19.4	20.7	19.8	21.1	21.4
	6H	18.7	19.9	19.1	20.3	20.7	19.8	21.1	20.3	21.4	21.8
	8H	18.7	19.9	19.2	20.3	20.7	20.0	21.1	20.4	21.5	21.9
	12H	18.8	19.9	19.2	20.3	20.7	20.0	21.1	20.4	21.5	22.0
4H	2H	16.9	18.2	17.3	18.5	18.9	17.5	18.8	17.9	19.2	19.5
	3H	18.7	19.8	19.1	20.2	20.6	19.4	20.6	19.9	21.0	21.4
	4H	19.3	20.3	19.8	20.8	21.2	20.3	21.3	20.7	21.7	22.1
	6H	19.8	20.7	20.2	21.1	21.6	20.8	21.7	21.3	22.2	22.6
	8H	19.9	20.7	20.4	21.2	21.7	21.0	21.8	21.5	22.3	22.8
	12H	20.0	20.7	20.5	21.2	21.7	21.1	21.8	21.6	22.3	22.8
8H	4H	19.7	20.5	20.1	20.9	21.4	20.5	21.3	21.0	21.8	22.2
	6H	20.3	20.9	20.8	21.4	21.9	21.2	21.9	21.7	22.4	22.9
	8H	20.4	21.1	20.9	21.6	22.0	21.4	22.1	22.0	22.6	23.1
	12H	20.6	21.1	21.1	21.6	22.1	21.6	22.1	22.1	22.6	23.2
12H	4H	19.7	20.5	20.2	20.9	21.4	20.5	21.3	21.0	21.7	22.2
	6H	20.3	20.9	20.8	21.4	21.9	21.2	21.9	21.8	22.3	22.9
	8H	20.6	21.1	21.1	21.6	22.2	21.5	22.1	22.0	22.6	23.1

Maximum UGR = 23.2

POLAR GRAPH



Maximum Candela = 1645.647 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.)