



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-L40-840-D-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18872.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 11-04-20211

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 2x2' RECESSED LUMINAIRE

[MORE] WITH FROST CONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT1-22-L40-840-D-DIM-UNV

[LAMPCAT] HLM 80 CRI, 4000K CCT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Educational, Office, Direct

[_SEARCH_MOUNTING] Ceiling, Recessed

[_SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4244
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	37.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.32
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	4234	4781	5314
55	3731	4493	4930
65	3221	4172	4754
75	2717	3998	4444
85	1787	2190	1960

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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	1602.783	1602.783	1602.783	1602.783	1602.783
5	1604.235	1598.427	1596.976	1595.524	1595.524
10	1570.843	1569.392	1567.940	1575.199	1582.458
15	1512.771	1517.127	1530.193	1541.807	1556.325
20	1432.923	1445.989	1472.121	1498.254	1524.386
25	1334.201	1354.526	1393.724	1437.278	1472.121
30	1232.575	1257.255	1305.165	1370.495	1406.790
35	1122.238	1139.660	1206.443	1289.195	1321.134
40	995.932	1019.161	1093.202	1189.021	1213.702
45	865.270	894.306	977.059	1067.070	1085.943
50	737.512	769.452	860.915	934.957	952.378
55	618.465	651.856	744.771	804.295	817.361
60	499.418	542.972	627.176	679.441	698.314
65	393.437	436.991	509.580	553.134	580.718
70	297.618	329.558	407.955	435.539	460.219
75	203.251	233.739	299.070	307.781	332.461
80	116.144	140.824	180.023	143.728	145.180
85	45.006	49.361	55.168	46.457	49.361
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	583.37	N.A.	13.70
0-30	1227.47	N.A.	28.90
0-40	1986.02	N.A.	46.80
0-60	3395.35	N.A.	80.00
0-80	4176.73	N.A.	98.40
0-90	4244.19	N.A.	100.00
10-90	4092.53	N.A.	96.40
20-40	1402.65	N.A.	33.00
20-50	2157.79	N.A.	50.80
40-70	1902.9	N.A.	44.80
60-80	781.37	N.A.	18.40
70-80	287.81	N.A.	6.80
80-90	67.46	N.A.	1.60
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	4244.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	151.66
10-20	431.71
20-30	644.10
30-40	758.55
40-50	755.14
50-60	654.20
60-70	493.56
70-80	287.81
80-90	67.46
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	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

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UGR TABLE - CORRECTED

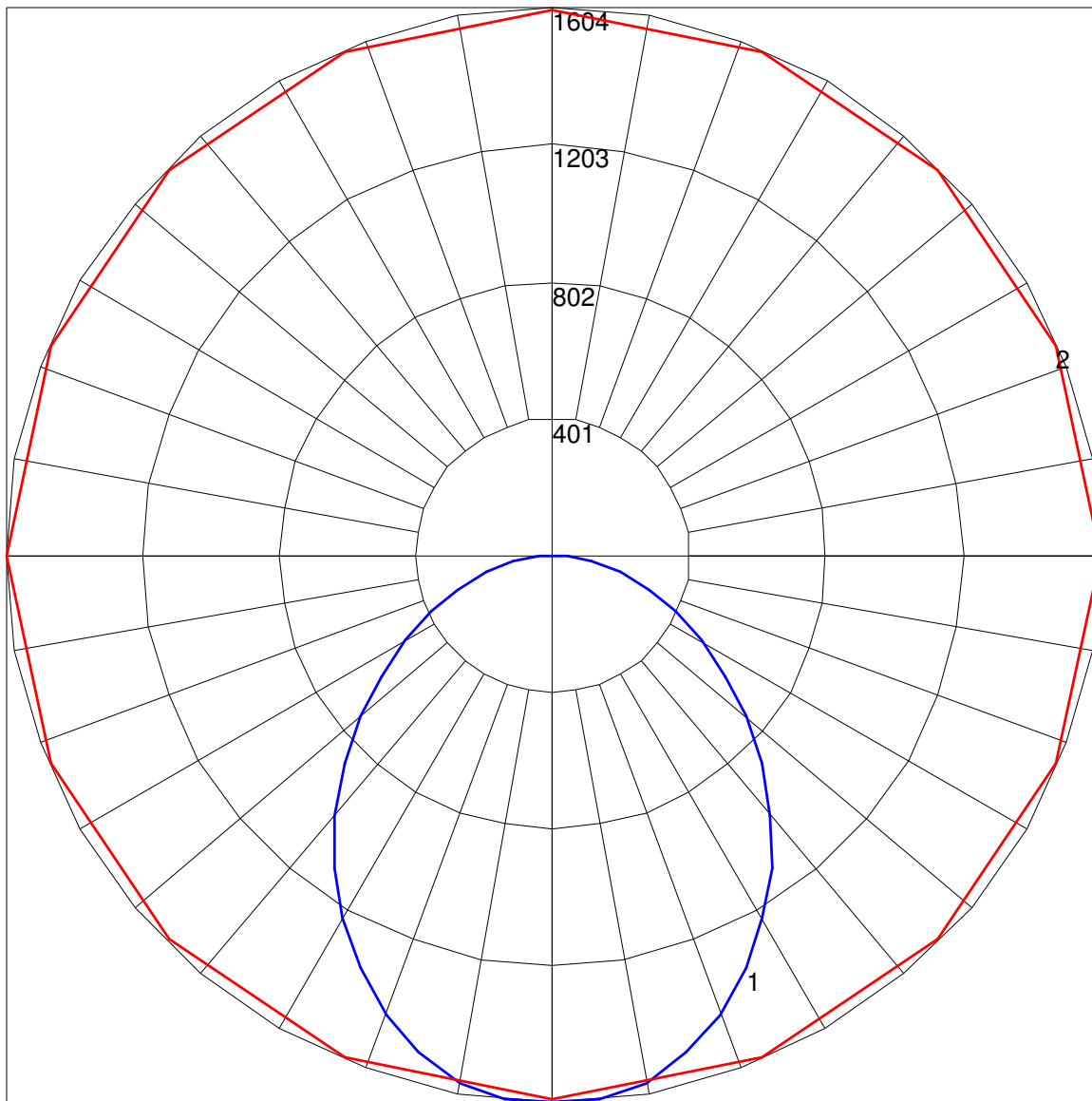
Reflectances

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	16.6	18.1	18.5	17.8	19.5	18.2	19.8	20.1
	3H	17.8	19.3	18.2	19.6	20.0	19.8	21.2	20.2	21.6	21.9
	4H	18.4	19.8	18.8	20.2	20.5	20.5	21.9	20.9	22.3	22.6
	6H	18.8	20.1	19.3	20.5	20.9	20.9	22.2	21.3	22.6	23.0
	8H	19.0	20.2	19.4	20.6	21.0	21.0	22.2	21.5	22.6	23.0
	12H	19.0	20.2	19.4	20.6	21.0	21.0	22.2	21.5	22.6	23.0
4H	2H	17.1	18.5	17.5	18.8	19.2	18.4	19.7	18.8	20.1	20.5
	3H	19.0	20.1	19.4	20.5	20.9	20.5	21.7	21.0	22.1	22.5
	4H	19.7	20.7	20.1	21.1	21.6	21.4	22.5	21.9	22.9	23.3
	6H	20.2	21.1	20.6	21.5	22.0	21.9	22.8	22.4	23.3	23.7
	8H	20.3	21.2	20.8	21.6	22.1	22.0	22.9	22.5	23.3	23.8
	12H	20.4	21.2	20.9	21.7	22.1	22.1	22.9	22.6	23.3	23.8
8H	4H	20.2	21.0	20.6	21.5	21.9	21.7	22.5	22.2	23.0	23.5
	6H	20.8	21.5	21.3	22.0	22.5	22.3	23.0	22.8	23.5	24.0
	8H	21.0	21.7	21.5	22.2	22.7	22.4	23.1	23.0	23.6	24.1
	12H	21.2	21.7	21.7	22.2	22.8	22.6	23.1	23.1	23.6	24.2
12H	4H	20.2	21.0	20.7	21.5	21.9	21.7	22.5	22.2	23.0	23.4
	6H	20.9	21.6	21.4	22.0	22.6	22.3	23.0	22.9	23.4	24.0
	8H	21.2	21.8	21.7	22.2	22.8	22.5	23.1	23.0	23.6	24.2

Maximum UGR = 24.2

POLAR GRAPH



Maximum Candela = 1604.235 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)