



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-L40-935-D-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18874.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 06/07/2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x2' RECESSED LED LUMINAIRE w/WHITE

[MORE] REFL, FROST CONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC CENTER

[LUMCAT] AT1-22-L40-935-D-DIM-UNV

[LAMPCAT] HLM 90 CRI 3500K CCT

[_SEARCH_SOURCETYPE] LED

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

[_SEARCH_MOUNTING] Ceiling, Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3419
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
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	3386	3856	4294
55	3000	3606	3987
65	2552	3308	3809
75	2016	2982	3336
85	1016	1306	1198

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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	1327.375	1327.375	1327.375	1327.375	1327.375
5	1323.718	1320.062	1319.147	1320.062	1320.062
10	1293.551	1290.808	1295.379	1300.864	1303.606
15	1245.100	1247.842	1260.640	1275.267	1281.666
20	1174.708	1182.022	1208.533	1236.872	1246.928
25	1097.004	1111.631	1142.713	1188.421	1205.790
30	1011.072	1022.956	1072.321	1123.515	1148.198
35	902.286	928.797	991.874	1053.124	1078.721
40	799.899	830.981	888.573	958.964	984.561
45	692.027	724.023	788.015	854.749	877.603
50	593.296	617.979	694.769	750.534	776.130
55	497.308	525.648	597.867	638.091	660.945
60	406.806	430.574	498.223	536.618	562.215
65	311.732	343.728	404.063	447.029	465.313
70	230.371	264.195	314.474	344.642	360.183
75	150.838	183.748	223.057	244.998	249.568
80	85.932	109.700	120.670	94.160	97.816
85	25.597	31.996	32.910	32.910	30.168
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	480.68	N.A.	14.10
0-30	1009.35	N.A.	29.50
0-40	1627.82	N.A.	47.60
0-60	2761.58	N.A.	80.80
0-80	3373.84	N.A.	98.70
0-90	3419.27	N.A.	100.00
10-90	3294.01	N.A.	96.30
20-40	1147.14	N.A.	33.50
20-50	1756.34	N.A.	51.40
40-70	1525.86	N.A.	44.60
60-80	612.26	N.A.	17.90
70-80	220.15	N.A.	6.40
80-90	45.43	N.A.	1.30
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	3419.27	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	125.26
10-20	355.42
20-30	528.66
30-40	618.48
40-50	609.20
50-60	524.56
60-70	392.10
70-80	220.15
80-90	45.43
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	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	91	85	79	97	90	84	78	86	81	76	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	31	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	27	38	32	27	26

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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	15.5	17.1	15.9	17.4	17.7	17.1	18.7	17.4	19.0	19.3
	3H	17.1	18.5	17.4	18.8	19.2	19.0	20.4	19.4	20.8	21.1
	4H	17.6	19.0	18.0	19.3	19.7	19.7	21.1	20.1	21.4	21.8
	6H	18.0	19.3	18.4	19.6	20.0	20.0	21.3	20.4	21.7	22.0
	8H	18.1	19.3	18.5	19.7	20.1	20.1	21.3	20.5	21.7	22.1
	12H	18.1	19.3	18.5	19.7	20.1	20.1	21.2	20.5	21.6	22.1

UGR Viewed Endwise

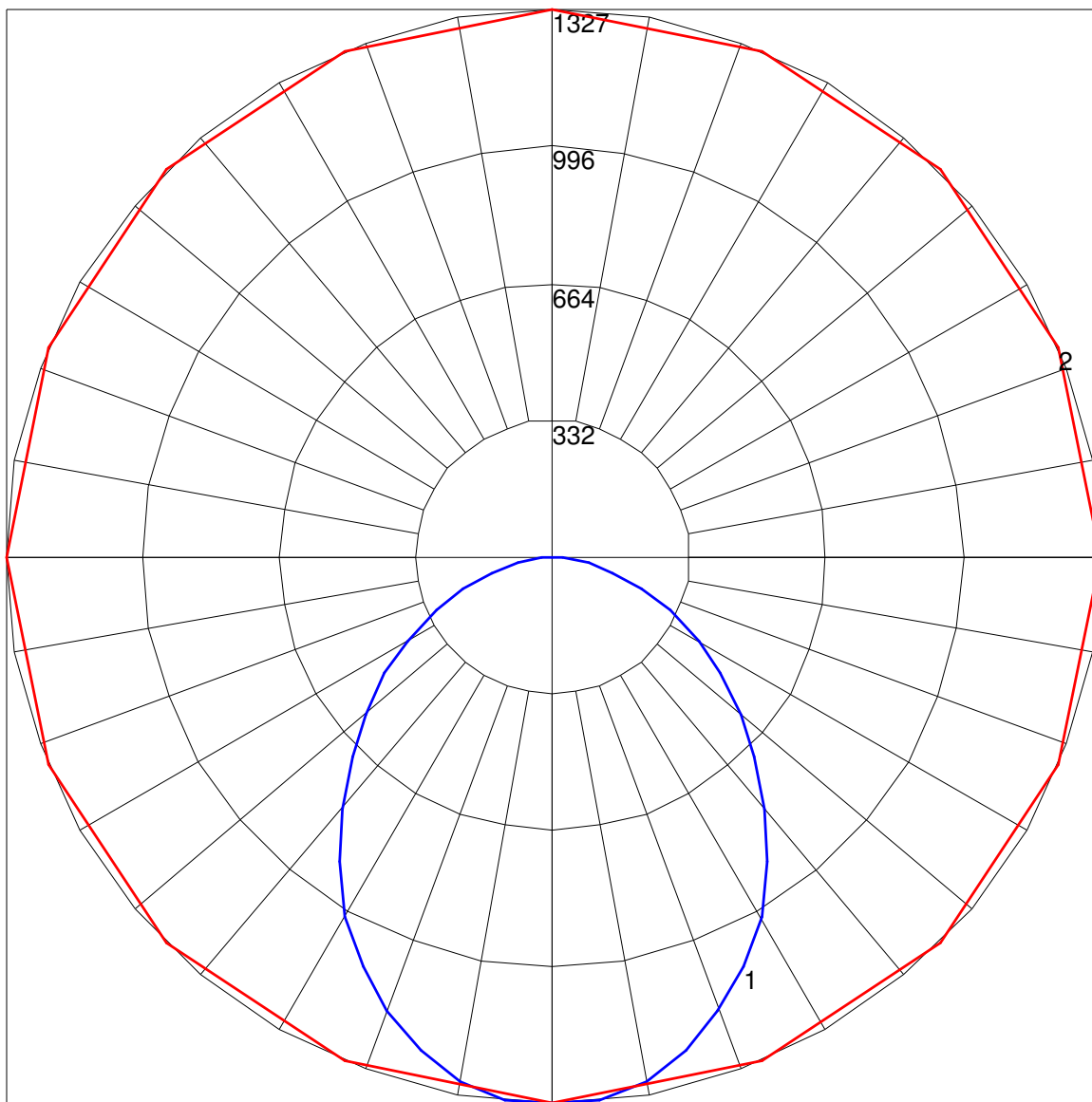
4H	2H	16.4	17.7	16.8	18.1	18.4	17.6	18.9	18.0	19.3	19.7
	3H	18.2	19.3	18.6	19.7	20.1	19.7	20.9	20.2	21.3	21.7
	4H	18.8	19.9	19.3	20.3	20.7	20.6	21.6	21.0	22.0	22.5
	6H	19.3	20.2	19.8	20.7	21.1	21.0	21.9	21.5	22.3	22.8
	8H	19.5	20.3	19.9	20.7	21.2	21.1	21.9	21.5	22.4	22.8
	12H	19.5	20.3	20.0	20.7	21.2	21.1	21.9	21.6	22.3	22.8

8H	4H	19.3	20.1	19.8	20.6	21.0	20.8	21.7	21.3	22.1	22.6
	6H	19.9	20.6	20.4	21.1	21.6	21.3	22.0	21.8	22.5	23.0
	8H	20.1	20.7	20.6	21.2	21.7	21.4	22.0	21.9	22.5	23.0
	12H	20.2	20.7	20.7	21.2	21.8	21.5	22.0	22.0	22.5	23.1

12H	4H	19.3	20.1	19.8	20.6	21.0	20.8	21.6	21.3	22.1	22.5
	6H	20.0	20.6	20.5	21.1	21.6	21.3	22.0	21.9	22.4	23.0
	8H	20.2	20.7	20.7	21.2	21.8	21.5	22.0	22.0	22.5	23.1

Maximum UGR = 23.1

POLAR GRAPH



Maximum Candela = 1327.375 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.)