



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-24-L70-B40S-D-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18892.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 09-AUG-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE w/WHITE

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

[MORE] W/BIOS SKY BLUE MODULES

[LUMCAT] AT2-24-L70-B40S-D-DIM-UNV

[LAMPCAT] BIOS SKY BLUE BH-00SM

[_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	7397
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	69
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 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	3714	3959	4116
55	3202	3456	3627
65	2819	3116	3275
75	2317	2772	2936
85	1819	2250	2062

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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	3054.243	3054.243	3054.243	3054.243	3054.243
5	3023.973	3023.973	3024.982	3027.000	3029.018
10	2967.469	2970.496	2981.595	2993.703	2998.748
15	2836.299	2843.362	2866.569	2887.758	2893.812
20	2721.273	2736.408	2776.768	2814.101	2827.218
25	2455.906	2478.104	2525.527	2567.905	2591.112
30	2236.953	2261.169	2322.718	2370.141	2395.366
35	2063.405	2094.684	2163.296	2219.800	2240.989
40	1817.209	1850.506	1920.127	1979.658	1990.757
45	1621.463	1656.778	1728.417	1782.903	1797.029
50	1360.132	1393.429	1461.032	1504.419	1522.581
55	1134.116	1163.377	1223.917	1262.259	1284.457
60	910.118	936.352	990.838	1024.135	1036.243
65	735.561	763.813	813.254	848.569	854.623
70	549.905	576.139	623.562	654.841	659.886
75	370.303	395.528	442.951	463.131	469.185
80	226.016	253.259	289.583	282.520	282.520
85	97.873	120.071	121.080	114.017	110.990
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1099.4	N.A.	14.90
0-30	2267.85	N.A.	30.70
0-40	3606.06	N.A.	48.80
0-60	6006.12	N.A.	81.20
0-80	7260.5	N.A.	98.20
0-90	7396.52	N.A.	100.00
10-90	7108.92	N.A.	96.10
20-40	2506.66	N.A.	33.90
20-50	3819.75	N.A.	51.60
40-70	3193.87	N.A.	43.20
60-80	1254.38	N.A.	17.00
70-80	460.56	N.A.	6.20
80-90	136.02	N.A.	1.80
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	7396.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	287.60
10-20	811.80
20-30	1168.45
30-40	1338.21
40-50	1313.08
50-60	1086.97
60-70	793.82
70-80	460.56
80-90	136.02
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	97	106	102	98	95	98	95	92	94	92	89	90	88	87	85
2	100	92	85	79	97	90	84	79	86	81	77	83	79	75	80	76	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	67	63	61
4	84	72	64	57	81	71	63	57	68	61	56	66	60	55	64	59	54	52
5	77	65	56	49	75	64	55	49	61	54	49	60	53	48	58	52	48	46
6	71	58	50	43	70	58	49	43	56	48	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	38	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	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	15.7	17.3	16.1	17.6	17.9	16.4	17.9	16.7	18.3	18.6
	3H	17.4	18.8	17.8	19.1	19.5	18.2	19.6	18.6	19.9	20.3
	4H	18.0	19.3	18.4	19.7	20.0	18.9	20.2	19.3	20.6	20.9
	6H	18.4	19.7	18.8	20.0	20.4	19.4	20.6	19.8	21.0	21.4
	8H	18.6	19.8	19.0	20.1	20.5	19.6	20.7	20.0	21.1	21.5
	12H	18.7	19.8	19.1	20.2	20.6	19.6	20.8	20.1	21.2	21.6

UGR Viewed Endwise

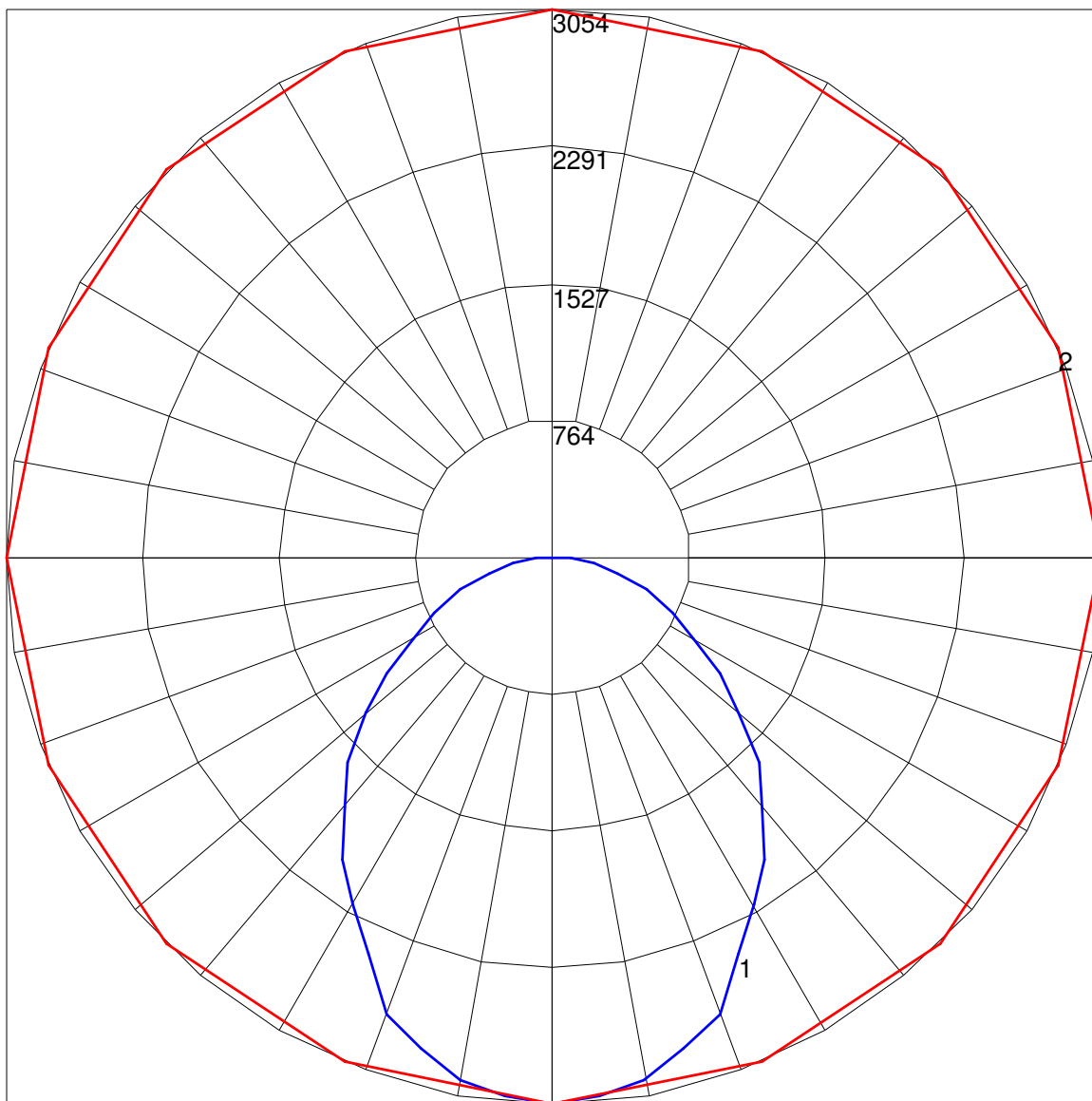
4H	2H	16.4	17.8	16.8	18.1	18.5	16.9	18.3	17.3	18.6	19.0
	3H	18.3	19.4	18.7	19.8	20.2	19.0	20.1	19.4	20.5	20.9
	4H	19.0	20.0	19.5	20.4	20.9	19.8	20.8	20.2	21.2	21.7
	6H	19.6	20.5	20.1	20.9	21.4	20.5	21.4	20.9	21.8	22.3
	8H	19.8	20.6	20.3	21.1	21.5	20.7	21.5	21.1	22.0	22.4
	12H	19.9	20.7	20.4	21.2	21.6	20.8	21.6	21.3	22.0	22.5

8H	4H	19.4	20.2	19.9	20.7	21.1	20.1	20.9	20.6	21.4	21.8
	6H	20.1	20.8	20.6	21.3	21.8	20.9	21.6	21.4	22.1	22.5
	8H	20.4	21.0	20.9	21.5	22.0	21.2	21.8	21.7	22.3	22.8
	12H	20.6	21.2	21.1	21.7	22.2	21.4	21.9	21.9	22.4	23.0

12H	4H	19.5	20.2	19.9	20.7	21.1	20.1	20.9	20.6	21.3	21.8
	6H	20.2	20.8	20.7	21.3	21.8	21.0	21.6	21.5	22.0	22.6
	8H	20.5	21.1	21.1	21.6	22.2	21.3	21.8	21.8	22.3	22.9

Maximum UGR = 23.0

POLAR GRAPH



Maximum Candela = 3054.243 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.)