



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-24-L40-835-D-(L15)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18887.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 08-03-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4' RECESSED LUMINAIRE

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

[MORE] DIFFUSER

[LUMCAT] AT2-24-L40-835-D-(L15)-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	1441
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	11.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.26
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	712	757	789
55	613	661	686
65	533	590	618
75	441	528	554
85	336	422	388

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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	605.248	605.248	605.248	605.248	605.248
5	605.248	605.248	605.248	606.175	606.175
10	587.624	588.087	589.943	592.262	594.117
15	566.289	568.144	572.782	576.957	579.739
20	533.824	537.070	544.491	551.912	555.622
25	489.300	493.010	503.677	512.489	515.736
30	447.095	452.660	464.255	474.922	479.097
35	409.992	415.557	429.007	440.602	443.848
40	354.800	361.757	375.671	385.874	390.512
45	310.740	317.233	330.683	339.959	344.597
50	262.506	268.999	281.058	290.333	292.652
55	217.054	222.620	234.215	242.099	243.027
60	176.705	182.270	192.010	198.039	200.822
65	139.137	144.703	153.979	159.080	161.399
70	104.353	108.527	117.803	122.905	124.760
75	70.496	75.598	84.410	88.584	88.584
80	41.741	46.843	54.727	52.872	51.481
85	18.088	22.726	22.726	20.871	20.871
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	218.32	N.A.	15.10
0-30	450.52	N.A.	31.30
0-40	715.64	N.A.	49.70
0-60	1177.65	N.A.	81.70
0-80	1415.85	N.A.	98.20
0-90	1441.21	N.A.	100.00
10-90	1383.96	N.A.	96.00
20-40	497.32	N.A.	34.50
20-50	750.39	N.A.	52.10
40-70	613.06	N.A.	42.50
60-80	238.20	N.A.	16.50
70-80	87.15	N.A.	6.00
80-90	25.36	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	1441.21	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	57.26
10-20	161.07
20-30	232.19
30-40	265.13
40-50	253.07
50-60	208.93
60-70	151.06
70-80	87.15
80-90	25.36
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	89	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	71	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	69	62	56	66	60	56	64	59	55	53
5	78	65	56	50	75	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	49	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	35	45	39	34	33
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	36	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	39	33	29	27

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UGR TABLE - CORRECTED

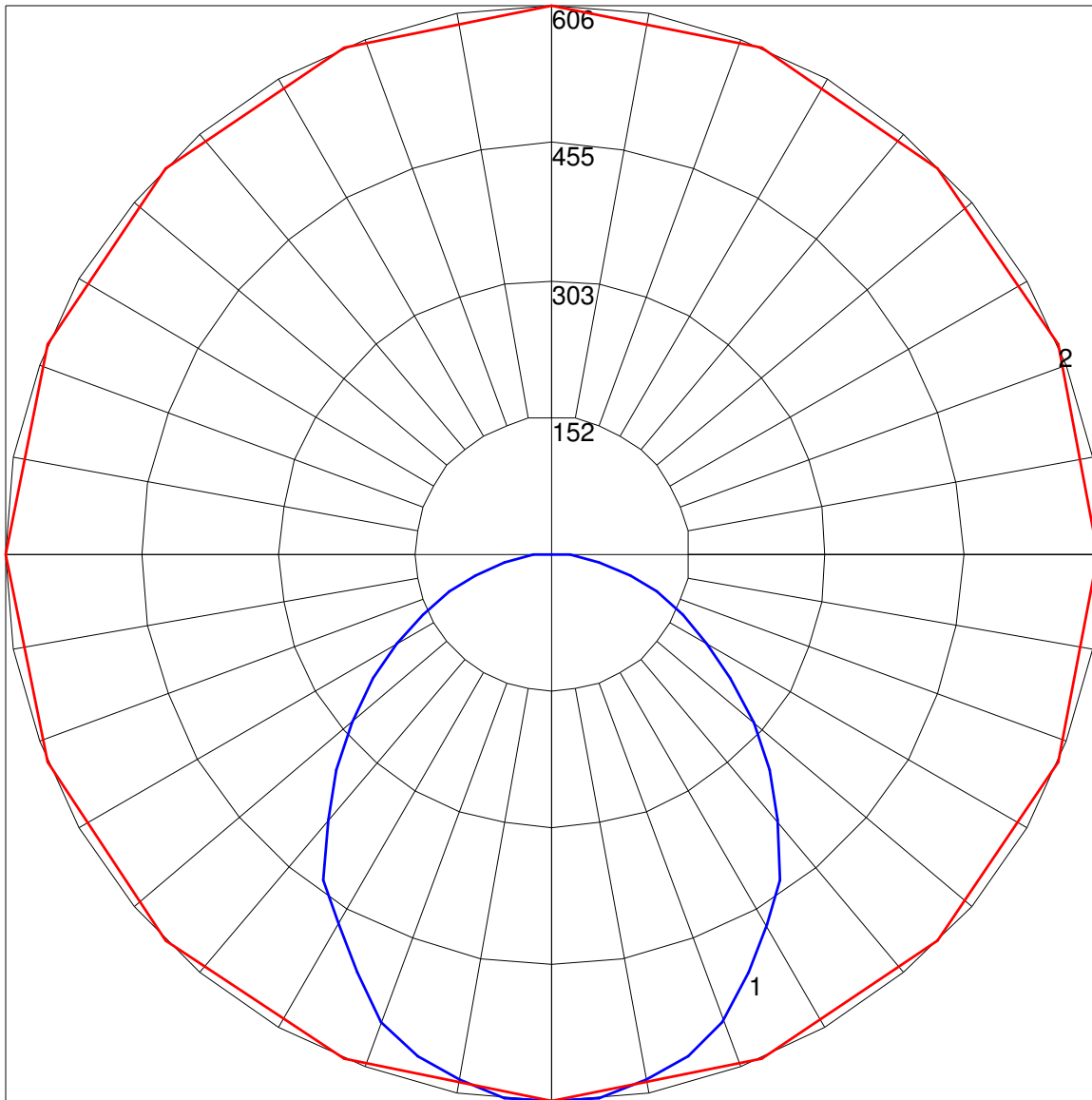
Reflectances

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	10.0	11.5	10.3	11.8	12.2	10.6	12.2	10.9	12.5	12.8
	3H	11.6	13.0	12.0	13.3	13.7	12.3	13.8	12.7	14.1	14.5
	4H	12.2	13.5	12.6	13.8	14.2	13.0	14.4	13.4	14.7	15.1
	6H	12.6	13.8	13.0	14.2	14.6	13.5	14.8	13.9	15.1	15.5
	8H	12.7	13.9	13.1	14.3	14.7	13.7	14.9	14.1	15.2	15.6
	12H	12.8	13.9	13.2	14.3	14.8	13.8	14.9	14.2	15.3	15.7
4H	2H	10.6	12.0	11.0	12.3	12.7	11.1	12.5	11.5	12.8	13.2
	3H	12.5	13.6	12.9	14.0	14.4	13.1	14.2	13.5	14.6	15.0
	4H	13.2	14.2	13.6	14.6	15.0	13.9	15.0	14.4	15.4	15.8
	6H	13.7	14.6	14.2	15.1	15.5	14.6	15.5	15.0	15.9	16.4
	8H	13.9	14.7	14.4	15.2	15.7	14.8	15.6	15.2	16.1	16.5
	12H	14.0	14.8	14.5	15.3	15.7	14.9	15.7	15.4	16.1	16.6
8H	4H	13.6	14.4	14.0	14.8	15.3	14.2	15.1	14.7	15.5	16.0
	6H	14.3	14.9	14.8	15.4	15.9	15.0	15.7	15.5	16.2	16.7
	8H	14.5	15.1	15.0	15.6	16.1	15.3	15.9	15.8	16.4	16.9
	12H	14.7	15.3	15.3	15.8	16.3	15.5	16.0	16.0	16.5	17.1
12H	4H	13.6	14.3	14.1	14.8	15.3	14.3	15.0	14.7	15.5	15.9
	6H	14.3	15.0	14.9	15.4	16.0	15.1	15.7	15.6	16.1	16.7
	8H	14.7	15.2	15.2	15.7	16.3	15.4	15.9	15.9	16.4	17.0

Maximum UGR = 17.1

POLAR GRAPH



Maximum Candela = 606.175 Located At Horizontal Angle = 67.5, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)