

IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-24-L40-935-D-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] 08-31-2023

[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-L40-935-D-DIM-UNV

[LAMPCAT] HLM 90 CRI, 3500K CCT

[_SEARCH_SOURCETYPE] LED

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

[_SEARCH_MOUNTING] Ceiling, Recessed

[_SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3285
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	30.9
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	1622	1727	1799
55	1397	1508	1564
65	1215	1345	1410
75	1006	1204	1264
85	766	963	884

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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	1379.763	1379.763	1379.763	1379.763	1379.763
5	1379.763	1379.763	1379.763	1381.878	1381.878
10	1339.586	1340.644	1344.873	1350.159	1354.388
15	1290.951	1295.180	1305.753	1315.269	1321.612
20	1216.941	1224.342	1241.258	1258.175	1266.633
25	1115.441	1123.899	1148.217	1168.305	1175.706
30	1019.228	1031.915	1058.347	1082.665	1092.181
35	934.644	947.332	977.993	1004.425	1011.826
40	808.827	824.686	856.405	879.665	890.238
45	708.384	723.186	753.848	774.994	785.566
50	598.426	613.228	640.718	661.864	667.150
55	494.812	507.499	533.931	551.905	554.020
60	402.827	415.515	437.718	451.463	457.807
65	317.187	329.874	351.020	362.650	367.937
70	237.890	247.406	268.552	280.182	284.411
75	160.708	172.338	192.427	201.942	201.942
80	95.156	106.786	124.760	120.531	117.359
85	41.234	51.807	51.807	47.578	47.578
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	497.71	N.A.	15.10
0-30	1027.03	N.A.	31.30
0-40	1631.43	N.A.	49.70
0-60	2684.65	N.A.	81.70
0-80	3227.67	N.A.	98.20
0-90	3285.49	N.A.	100.00
10-90	3154.96	N.A.	96.00
20-40	1133.72	N.A.	34.50
20-50	1710.65	N.A.	52.10
40-70	1397.58	N.A.	42.50
60-80	543.03	N.A.	16.50
70-80	198.67	N.A.	6.00
80-90	57.81	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	3285.49	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	130.52
10-20	367.18
20-30	529.32
30-40	604.40
40-50	576.93
50-60	476.29
60-70	344.36
70-80	198.67
80-90	57.81
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

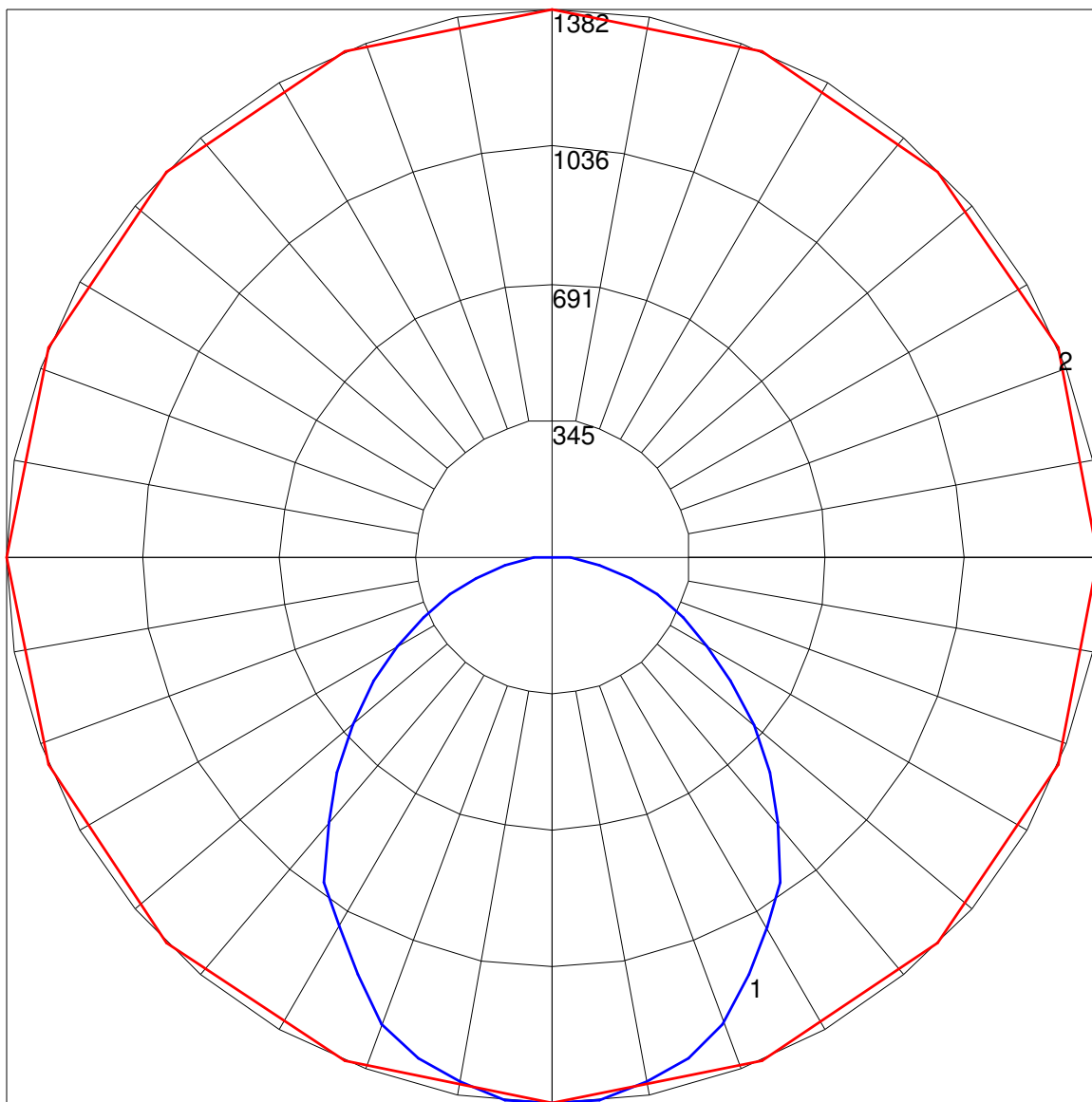
Reflectances

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	12.7	14.3	13.1	14.6	15.0	13.4	15.0	13.7	15.3	15.6
	3H	14.4	15.8	14.8	16.1	16.5	15.1	16.6	15.5	16.9	17.3
	4H	15.0	16.3	15.4	16.6	17.0	15.8	17.2	16.2	17.5	17.9
	6H	15.4	16.6	15.8	17.0	17.4	16.3	17.6	16.7	17.9	18.3
	8H	15.5	16.7	15.9	17.1	17.5	16.5	17.7	16.9	18.0	18.4
	12H	15.6	16.7	16.0	17.1	17.5	16.6	17.7	17.0	18.1	18.5
4H	2H	13.4	14.8	13.8	15.1	15.5	13.9	15.3	14.3	15.6	16.0
	3H	15.3	16.4	15.7	16.8	17.2	15.9	17.0	16.3	17.4	17.8
	4H	16.0	17.0	16.4	17.4	17.8	16.7	17.8	17.2	18.2	18.6
	6H	16.5	17.4	17.0	17.9	18.3	17.4	18.3	17.8	18.7	19.2
	8H	16.7	17.5	17.2	18.0	18.5	17.6	18.4	18.0	18.9	19.3
	12H	16.8	17.6	17.3	18.1	18.5	17.7	18.5	18.2	18.9	19.4
8H	4H	16.3	17.2	16.8	17.6	18.1	17.0	17.9	17.5	18.3	18.8
	6H	17.1	17.7	17.5	18.2	18.7	17.8	18.5	18.3	19.0	19.5
	8H	17.3	17.9	17.8	18.4	18.9	18.1	18.7	18.6	19.2	19.7
	12H	17.5	18.1	18.1	18.6	19.1	18.3	18.8	18.8	19.3	19.9
12H	4H	16.4	17.1	16.9	17.6	18.1	17.1	17.8	17.5	18.3	18.7
	6H	17.1	17.8	17.7	18.2	18.8	17.9	18.5	18.4	18.9	19.5
	8H	17.5	18.0	18.0	18.5	19.1	18.2	18.7	18.7	19.2	19.8

Maximum UGR = 19.9

POLAR GRAPH



Maximum Candela = 1381.878 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.)