



IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX4D-4-00-L8-935-F-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]GEN from BALLABS TEST NO. 20195.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 11 NOV, 2024
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
[LUMINAIRE] 4' DIRECT SUSPENDED LUMINAIRE
[MORE] WITH FROSTED ACRYLIC LENS
[LUMCAT] MX4D-4-00-L8-935-F-DIM-UNV
[LAMPCAT] HLM 90 CRI, 3500K CCT
[SEARCH_SOURCETYPE] LED
[SEARCH_APPLICATION] Indoor, Architectural, Classroom, Direct
[SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2736
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	29.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.32 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7891	7535	7254
55	7271	6932	6502
65	6433	6051	5793
75	4950	4748	4711
85	2286	2831	2613

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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	1080.817	1080.817	1080.817	1080.817	1080.817
5	1103.049	1079.107	1072.267	1066.566	1060.866
10	1088.228	1062.576	1054.595	1046.044	1039.774
15	1065.996	1037.493	1022.672	1008.991	1005.001
20	1019.252	990.749	982.769	959.396	955.406
25	953.696	931.464	923.483	905.812	901.821
30	888.140	868.188	857.927	845.386	839.116
35	826.574	803.202	786.671	779.260	772.420
40	758.168	739.927	715.985	704.583	695.463
45	670.380	657.839	640.168	629.337	616.226
50	589.433	568.341	564.921	544.969	534.138
55	501.075	488.534	477.703	460.602	448.060
60	419.558	401.316	395.046	379.654	368.823
65	326.639	316.949	307.258	297.567	294.147
70	239.992	231.441	225.170	216.049	220.040
75	153.914	154.484	147.643	147.643	146.503
80	75.817	80.377	78.097	82.657	76.957
85	23.942	28.503	29.643	34.773	27.362
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	390.93	N.A.	14.30
0-30	815.81	N.A.	29.80
0-40	1311.52	N.A.	47.90
0-60	2232.92	N.A.	81.60
0-80	2697.94	N.A.	98.60
0-90	2735.68	N.A.	100.00
10-90	2633.65	N.A.	96.30
20-40	920.59	N.A.	33.70
20-50	1416.25	N.A.	51.80
40-70	1226.85	N.A.	44.80
60-80	465.02	N.A.	17.00
70-80	159.57	N.A.	5.80
80-90	37.74	N.A.	1.40
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	2735.68	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	102.03
10-20	288.90
20-30	424.88
30-40	495.71
40-50	495.66
50-60	425.73
60-70	305.45
70-80	159.57
80-90	37.74
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	99	99	99	99	97	97	97	97	92	92	92	88	88	88	85	85	85	83
1	91	87	84	80	88	85	82	79	82	79	77	78	76	74	75	74	72	70
2	83	76	71	66	81	75	70	65	72	67	64	69	65	62	66	64	61	59
3	76	67	61	55	74	66	60	55	63	58	54	61	57	53	59	55	52	50
4	69	60	53	47	68	59	52	47	57	51	46	55	50	46	53	49	45	43
5	64	54	46	41	62	53	46	41	51	45	40	49	44	40	48	43	39	38
6	59	48	41	36	58	48	41	36	46	40	35	45	39	35	43	39	35	33
7	55	44	37	32	53	43	36	32	42	36	31	41	35	31	40	35	31	29
8	51	40	33	28	50	40	33	28	38	32	28	37	32	28	36	32	28	26
9	48	37	30	26	47	36	30	26	35	30	25	35	29	25	34	29	25	24
10	45	34	28	23	44	34	27	23	33	27	23	32	27	23	31	26	23	22

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UGR TABLE - CORRECTED

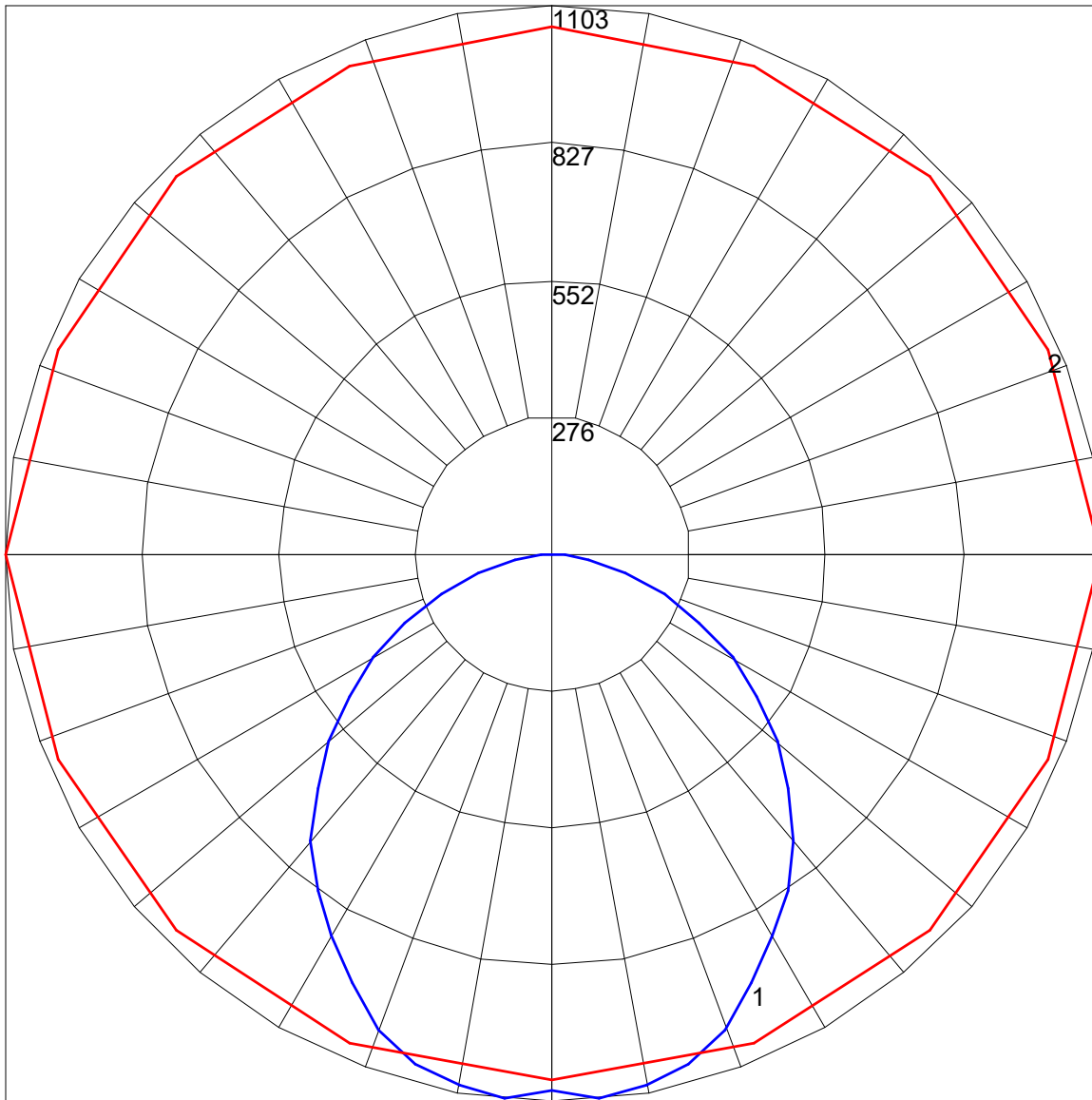
Reflectances

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	19.5	21.1	19.9	21.4	21.7	19.0	20.6	19.4	20.9	21.3
	3H	21.2	22.6	21.5	22.9	23.3	20.6	22.1	21.0	22.4	22.8
	4H	21.7	23.0	22.1	23.4	23.8	21.2	22.6	21.6	22.9	23.3
	6H	22.0	23.3	22.4	23.6	24.0	21.6	22.8	22.0	23.2	23.6
	8H	22.1	23.3	22.5	23.7	24.1	21.7	22.9	22.1	23.2	23.6
	12H	22.1	23.3	22.5	23.6	24.1	21.7	22.9	22.1	23.2	23.7
4H	2H	20.0	21.4	20.4	21.7	22.1	19.7	21.0	20.1	21.4	21.7
	3H	21.9	23.0	22.3	23.4	23.8	21.5	22.6	21.9	23.0	23.4
	4H	22.5	23.6	23.0	24.0	24.4	22.1	23.2	22.6	23.6	24.0
	6H	23.0	23.9	23.4	24.3	24.8	22.6	23.5	23.1	23.9	24.4
	8H	23.1	23.9	23.5	24.3	24.8	22.7	23.6	23.2	24.0	24.5
	12H	23.1	23.9	23.6	24.3	24.8	22.8	23.6	23.3	24.0	24.5
8H	4H	22.8	23.6	23.2	24.0	24.5	22.4	23.2	22.9	23.7	24.1
	6H	23.3	24.0	23.8	24.5	24.9	23.0	23.7	23.5	24.1	24.6
	8H	23.4	24.1	23.9	24.6	25.0	23.2	23.8	23.7	24.3	24.8
	12H	23.5	24.1	24.1	24.6	25.1	23.3	23.9	23.8	24.4	24.9
12H	4H	22.8	23.5	23.3	24.0	24.5	22.4	23.2	22.9	23.6	24.1
	6H	23.3	23.9	23.8	24.4	24.9	23.0	23.6	23.5	24.1	24.6
	8H	23.5	24.0	24.0	24.5	25.1	23.3	23.8	23.8	24.3	24.8

Maximum UGR = 25.1

POLAR GRAPH



Maximum Candela = 1103.049 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.)