

IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-00-L12-835-F-(L9)-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
[ISSUE DATE] 04-30-2026
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
[LUMINAIRE] 4' DIRECT SUSPENDED LUMINAIRE
[MORE] WITH FROSTED ACRYLIC LENS
[LUMCAT] MX4D-4-L12-835-S-F-(L9)-DIM-UNV
[LAMPCAT] HLM 80 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	3612
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	28.2
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	10419	9949	9577
55	9601	9153	8585
65	8494	7990	7649
75	6535	6269	6221
85	3019	3738	3450

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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	1427.037	1427.037	1427.037	1427.037	1427.037
5	1456.391	1424.779	1415.747	1408.221	1400.694
10	1436.822	1402.952	1392.415	1381.125	1372.846
15	1407.468	1369.835	1350.266	1332.203	1326.934
20	1345.750	1308.118	1297.580	1266.721	1261.453
25	1259.195	1229.841	1219.304	1195.972	1190.703
30	1172.639	1146.296	1132.749	1116.190	1107.911
35	1091.352	1060.493	1038.666	1028.882	1019.850
40	1001.034	976.949	945.337	930.284	918.241
45	885.124	868.566	845.234	830.933	813.622
50	778.247	750.399	745.883	719.540	705.239
55	661.585	645.027	630.726	608.147	591.588
60	553.955	529.870	521.591	501.269	486.969
65	431.272	418.477	405.682	392.887	388.371
70	316.869	305.579	297.299	285.257	290.526
75	203.217	203.970	194.938	194.938	193.433
80	100.103	106.125	103.114	109.135	101.609
85	31.612	37.633	39.138	45.912	36.128
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	516.16	N.A.	14.30
0-30	1077.15	N.A.	29.80
0-40	1731.65	N.A.	47.90
0-60	2948.19	N.A.	81.60
0-80	3562.18	N.A.	98.60
0-90	3612.01	N.A.	100.00
10-90	3477.29	N.A.	96.30
20-40	1215.48	N.A.	33.70
20-50	1869.92	N.A.	51.80
40-70	1619.85	N.A.	44.80
60-80	613.98	N.A.	17.00
70-80	210.68	N.A.	5.80
80-90	49.83	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	3612.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	134.72
10-20	381.45
20-30	560.98
30-40	654.50
40-50	654.44
50-60	562.11
60-70	403.30
70-80	210.68
80-90	49.83
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	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	67	63	61
4	84	72	63	57	81	71	63	56	68	61	56	66	60	55	64	58	54	52
5	77	64	56	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	43	55	48	43	54	47	42	52	46	42	40
7	66	53	44	38	64	52	44	38	51	43	38	49	42	38	48	42	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	39	34	44	38	33	32
9	58	44	36	31	56	44	36	31	43	36	31	42	35	30	41	35	30	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

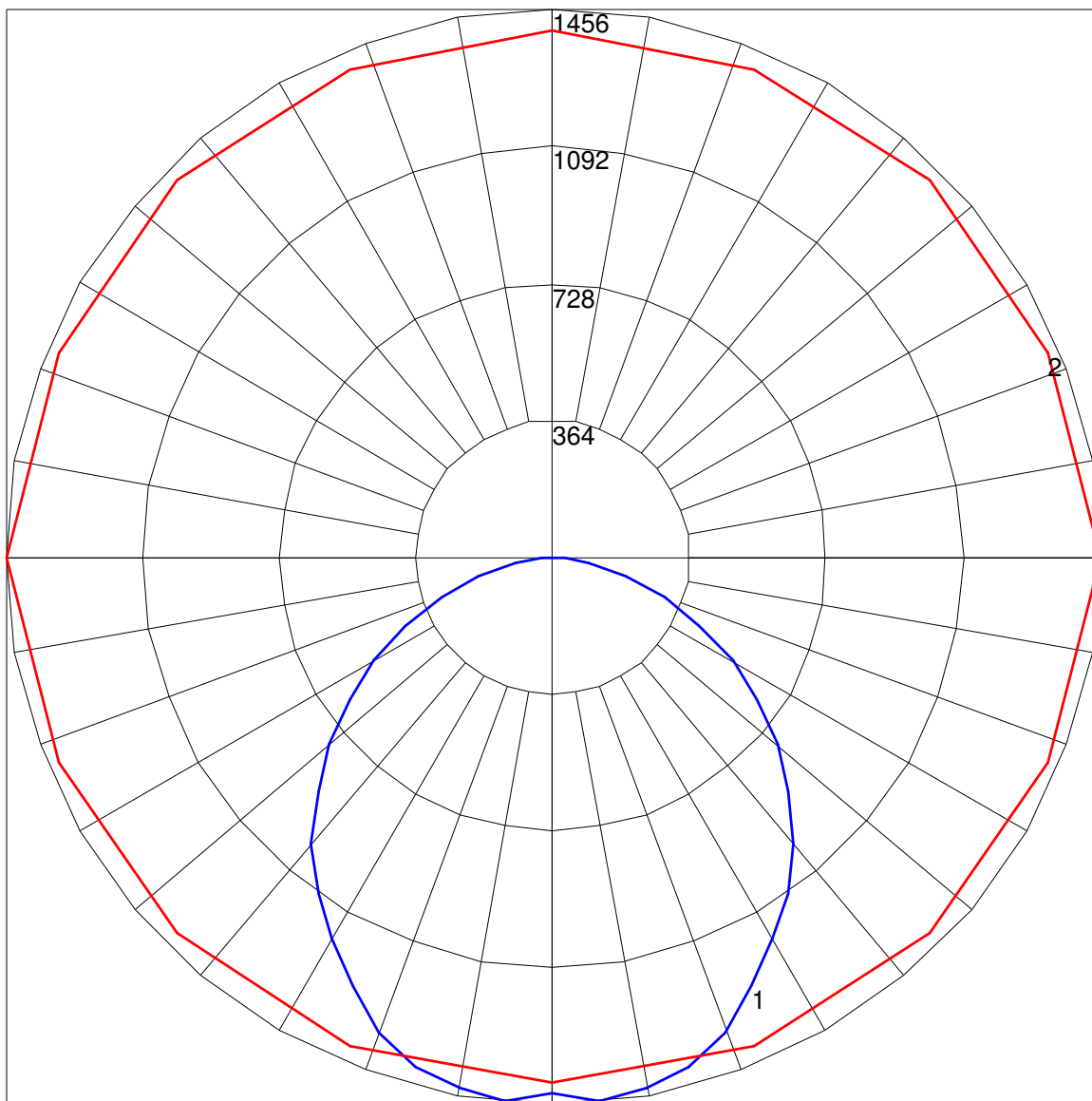
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UGR TABLE - CORRECTED

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					UGR Viewed Endwise				
X=2H	Y=2H	19.9	21.5	20.3	21.8	22.1	19.4	21.0	19.8	21.3	21.7
	3H	21.6	23.0	21.9	23.3	23.7	21.0	22.5	21.4	22.8	23.2
	4H	22.1	23.4	22.5	23.8	24.2	21.6	23.0	22.0	23.3	23.7
	6H	22.4	23.7	22.8	24.0	24.4	22.0	23.2	22.4	23.6	24.0
	8H	22.5	23.7	22.9	24.1	24.5	22.1	23.3	22.5	23.6	24.0
	12H	22.5	23.7	22.9	24.0	24.5	22.1	23.3	22.5	23.6	24.1
4H	2H	20.4	21.8	20.8	22.1	22.5	20.1	21.4	20.5	21.8	22.1
	3H	22.3	23.4	22.7	23.8	24.2	21.9	23.0	22.3	23.4	23.8
	4H	22.9	24.0	23.4	24.4	24.8	22.5	23.6	23.0	24.0	24.4
	6H	23.4	24.3	23.8	24.7	25.2	23.0	23.9	23.5	24.3	24.8
	8H	23.5	24.3	23.9	24.7	25.2	23.1	24.0	23.6	24.4	24.9
	12H	23.5	24.3	24.0	24.7	25.2	23.2	24.0	23.7	24.4	24.9
8H	4H	23.2	24.0	23.6	24.4	24.9	22.8	23.6	23.3	24.1	24.5
	6H	23.7	24.4	24.2	24.9	25.3	23.4	24.1	23.9	24.5	25.0
	8H	23.8	24.5	24.3	25.0	25.4	23.6	24.2	24.1	24.7	25.2
	12H	23.9	24.5	24.5	25.0	25.5	23.7	24.3	24.2	24.8	25.3
12H	4H	23.2	23.9	23.7	24.4	24.9	22.8	23.6	23.3	24.0	24.5
	6H	23.7	24.3	24.2	24.8	25.3	23.4	24.0	23.9	24.5	25.0
	8H	23.9	24.4	24.4	24.9	25.5	23.7	24.2	24.2	24.7	25.2

Maximum UGR = 25.5

POLAR GRAPH



Maximum Candela = 1456.391 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.)