



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-04-L12-930-F-DIM1-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] 02-03-2025
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4D-4-04-L12-930-F-DIM1-UNV
 [LAMPCAT] HLM 90 CRI, 3000K 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	4397
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	41.1
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)	4.33 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	11708	11181	10763
55	10789	10286	9647
65	9545	8979	8596
75	7344	7045	6991
85	3393	4200	3877

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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	1737.177	1737.177	1737.177	1737.177	1737.177
5	1772.910	1734.428	1723.433	1714.271	1705.109
10	1749.088	1707.857	1695.030	1681.287	1671.208
15	1713.355	1667.543	1643.721	1621.732	1615.318
20	1638.224	1592.412	1579.585	1542.019	1535.606
25	1532.857	1497.124	1484.297	1455.893	1449.480
30	1427.490	1395.422	1378.930	1358.773	1348.694
35	1328.537	1290.972	1264.401	1252.490	1241.495
40	1218.589	1189.270	1150.788	1132.463	1117.804
45	1077.489	1057.332	1028.929	1011.521	990.447
50	947.384	913.484	907.986	875.918	858.510
55	805.368	785.211	767.803	740.316	720.159
60	674.347	645.028	634.949	610.211	592.802
65	525.001	509.425	493.849	478.273	472.776
70	385.734	371.990	361.912	347.252	353.666
75	247.383	248.299	237.304	237.304	235.472
80	121.859	129.189	125.524	132.854	123.691
85	38.482	45.812	47.644	55.890	43.979
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	628.34	N.A.	14.30
0-30	1311.24	N.A.	29.80
0-40	2107.99	N.A.	47.90
0-60	3588.93	N.A.	81.60
0-80	4336.35	N.A.	98.60
0-90	4397.01	N.A.	100.00
10-90	4233.01	N.A.	96.30
20-40	1479.65	N.A.	33.70
20-50	2276.32	N.A.	51.80
40-70	1971.89	N.A.	44.80
60-80	747.42	N.A.	17.00
70-80	256.47	N.A.	5.80
80-90	60.66	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	4397.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	163.99
10-20	464.35
20-30	682.90
30-40	796.74
40-50	796.67
50-60	684.27
60-70	490.95
70-80	256.47
80-90	60.66
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

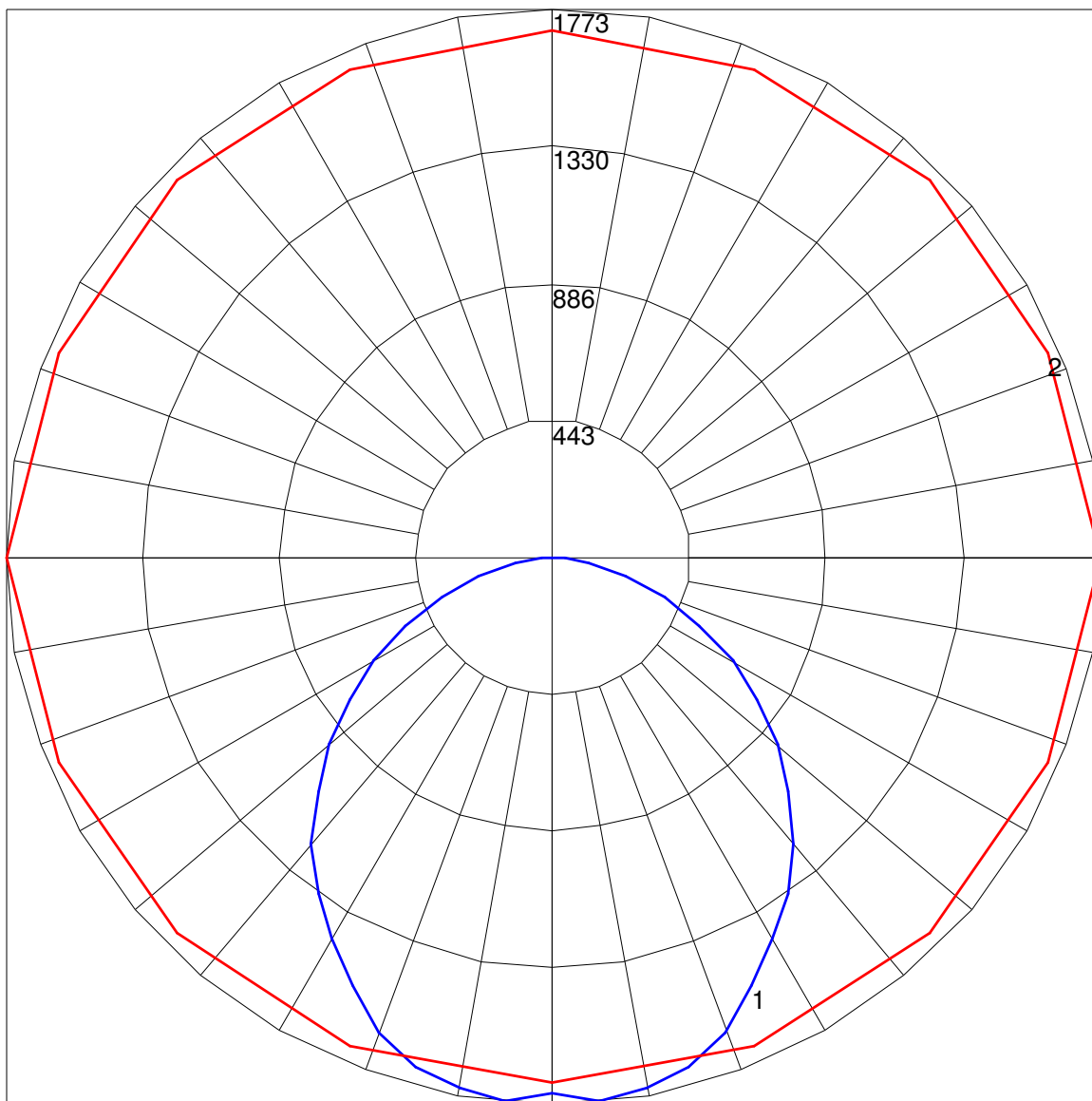
Reflectances

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	20.2	21.8	20.6	22.1	22.5	19.8	21.4	20.1	21.7	22.0
	3H	21.9	23.3	22.2	23.6	24.0	21.4	22.8	21.7	23.1	23.5
	4H	22.4	23.8	22.8	24.1	24.5	21.9	23.3	22.3	23.6	24.0
	6H	22.7	24.0	23.1	24.4	24.7	22.3	23.5	22.7	23.9	24.3
	8H	22.8	24.0	23.2	24.4	24.8	22.4	23.6	22.8	24.0	24.4
	12H	22.8	24.0	23.3	24.4	24.8	22.4	23.6	22.9	24.0	24.4
4H	2H	20.8	22.1	21.2	22.5	22.8	20.4	21.7	20.8	22.1	22.5
	3H	22.6	23.7	23.0	24.1	24.5	22.2	23.3	22.6	23.7	24.1
	4H	23.3	24.3	23.7	24.7	25.1	22.9	23.9	23.3	24.3	24.7
	6H	23.7	24.6	24.1	25.0	25.5	23.3	24.2	23.8	24.7	25.1
	8H	23.8	24.6	24.3	25.1	25.5	23.5	24.3	23.9	24.7	25.2
	12H	23.8	24.6	24.3	25.1	25.5	23.5	24.3	24.0	24.8	25.2
8H	4H	23.5	24.3	23.9	24.8	25.2	23.1	24.0	23.6	24.4	24.9
	6H	24.0	24.7	24.5	25.2	25.7	23.7	24.4	24.2	24.9	25.3
	8H	24.2	24.8	24.7	25.3	25.8	23.9	24.5	24.4	25.0	25.5
	12H	24.3	24.8	24.8	25.3	25.9	24.0	24.6	24.6	25.1	25.6
12H	4H	23.5	24.2	24.0	24.7	25.2	23.1	23.9	23.6	24.4	24.8
	6H	24.0	24.7	24.6	25.1	25.7	23.7	24.4	24.3	24.8	25.4
	8H	24.2	24.8	24.7	25.3	25.8	24.0	24.5	24.5	25.0	25.6

Maximum UGR = 25.9

POLAR GRAPH



Maximum Candela = 1772.91 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.)