



IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX4D-4-00-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 DIFFUSE ACRYLIC LENS
 [LUMCAT] MX4D-4-L12-930-F-DIM-UNV
 [LAMPCAT] HLM 90 CRI, 300K 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	3854
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	43.2
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	11117	10616	10219
55	10244	9766	9160
65	9063	8525	8161
75	6973	6689	6637
85	3221	3988	3681

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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	1522.647	1522.647	1522.647	1522.647	1522.647
5	1553.968	1520.238	1510.601	1502.570	1494.539
10	1533.087	1496.949	1485.705	1473.659	1464.825
15	1501.767	1461.613	1440.733	1421.459	1415.837
20	1435.914	1395.760	1384.517	1351.590	1345.969
25	1343.560	1312.239	1300.996	1276.101	1270.479
30	1251.205	1223.097	1208.641	1190.974	1182.140
35	1164.472	1131.545	1108.256	1097.816	1088.179
40	1068.102	1042.403	1008.674	992.612	979.762
45	944.427	926.759	901.863	886.605	868.134
50	830.389	800.675	795.856	767.748	752.490
55	705.911	688.243	672.984	648.892	631.224
60	591.070	565.371	556.537	534.854	519.595
65	460.167	446.515	432.862	419.210	414.391
70	338.098	326.052	317.218	304.369	309.990
75	216.833	217.636	207.999	207.999	206.393
80	106.810	113.235	110.023	116.447	108.416
85	33.730	40.154	41.760	48.988	38.548
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	550.74	N.A.	14.30
0-30	1149.31	N.A.	29.80
0-40	1847.66	N.A.	47.90
0-60	3145.72	N.A.	81.60
0-80	3800.84	N.A.	98.60
0-90	3854.01	N.A.	100.00
10-90	3710.27	N.A.	96.30
20-40	1296.92	N.A.	33.70
20-50	1995.21	N.A.	51.80
40-70	1728.38	N.A.	44.80
60-80	655.12	N.A.	17.00
70-80	224.80	N.A.	5.80
80-90	53.17	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	3854.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	143.74
10-20	407.00
20-30	598.57
30-40	698.35
40-50	698.29
50-60	599.77
60-70	430.32
70-80	224.80
80-90	53.17
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

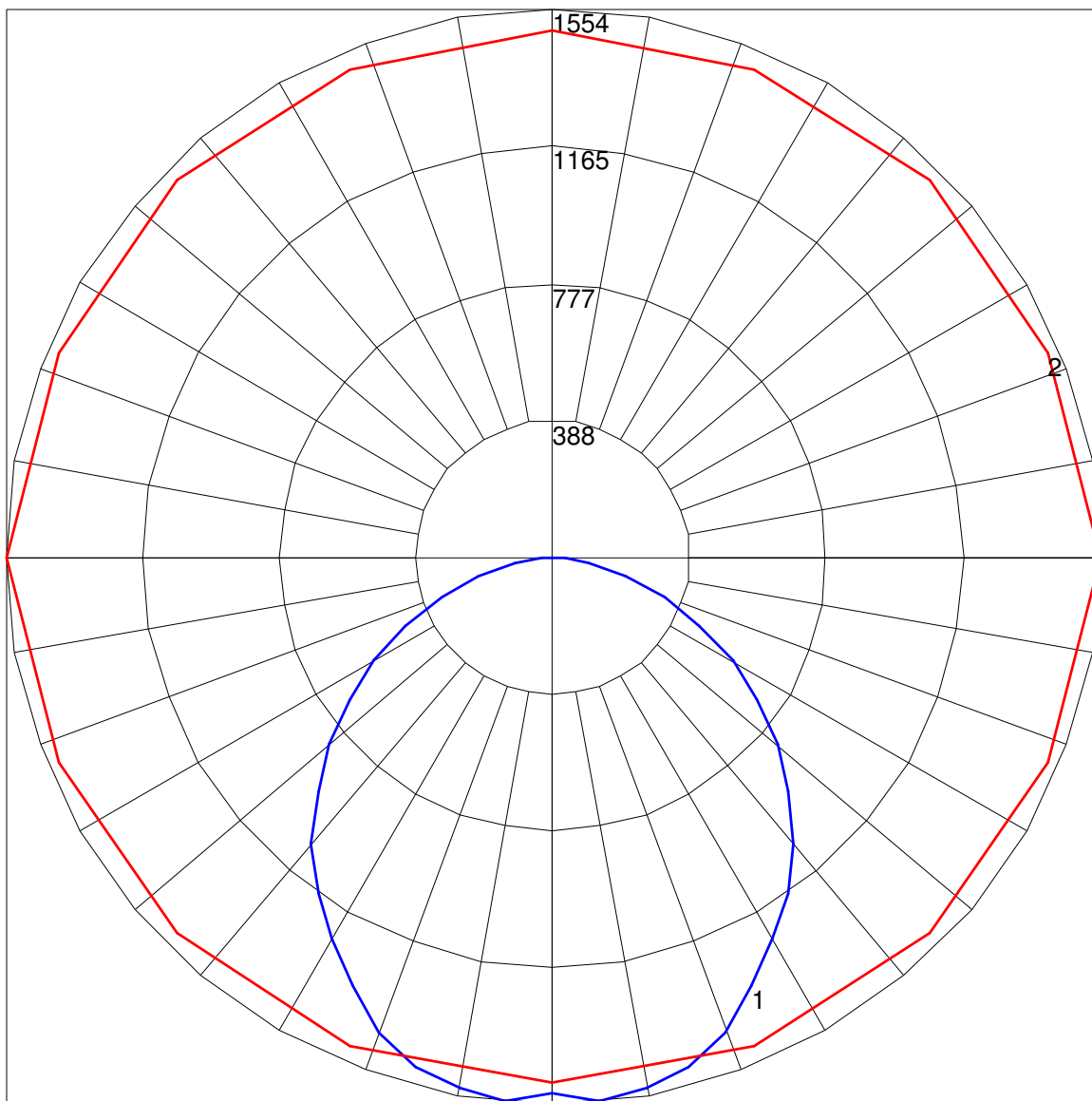
Reflectances

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	20.1	21.7	20.5	22.0	22.3	19.6	21.2	20.0	21.5	21.9
	3H	21.8	23.2	22.1	23.5	23.9	21.2	22.7	21.6	23.0	23.4
	4H	22.3	23.6	22.7	24.0	24.4	21.8	23.2	22.2	23.5	23.9
	6H	22.6	23.9	23.0	24.2	24.6	22.2	23.4	22.6	23.8	24.2
	8H	22.7	23.9	23.1	24.3	24.7	22.3	23.5	22.7	23.8	24.2
	12H	22.7	23.9	23.1	24.2	24.7	22.3	23.5	22.7	23.8	24.3
4H	2H	20.6	22.0	21.0	22.3	22.7	20.3	21.6	20.7	22.0	22.3
	3H	22.5	23.6	22.9	24.0	24.4	22.1	23.2	22.5	23.6	24.0
	4H	23.1	24.2	23.6	24.6	25.0	22.7	23.8	23.2	24.2	24.6
	6H	23.6	24.5	24.0	24.9	25.4	23.2	24.1	23.7	24.5	25.0
	8H	23.7	24.5	24.1	24.9	25.4	23.3	24.2	23.8	24.6	25.1
	12H	23.7	24.5	24.2	24.9	25.4	23.4	24.2	23.9	24.6	25.1
8H	4H	23.4	24.2	23.8	24.6	25.1	23.0	23.8	23.5	24.3	24.7
	6H	23.9	24.6	24.4	25.1	25.5	23.6	24.3	24.1	24.7	25.2
	8H	24.0	24.7	24.5	25.2	25.6	23.8	24.4	24.3	24.9	25.4
	12H	24.1	24.7	24.7	25.2	25.7	23.9	24.5	24.4	25.0	25.5
12H	4H	23.4	24.1	23.9	24.6	25.1	23.0	23.8	23.5	24.2	24.7
	6H	23.9	24.5	24.4	25.0	25.5	23.6	24.2	24.1	24.7	25.2
	8H	24.1	24.6	24.6	25.1	25.7	23.9	24.4	24.4	24.9	25.4

Maximum UGR = 25.7

POLAR GRAPH



Maximum Candela = 1553.968 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.)