

IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-00-L12-840-F-(L10)-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] 06-12-2026
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
[LUMINAIRE] 4' DIRECT SUSPENDED LUMINAIRE
[MORE] WITH FROSTED ACRYLIC LENS
[LUMCAT] MX4D-4-L12-840-S-F-(L10)-DIM-UNV
[LAMPCAT] HLM 80 CRI 4000K 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	4193
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	132
Total Luminaire Watts	31.8
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	12095	11550	11118
55	11145	10625	9966
65	9860	9275	8879
75	7587	7277	7221
85	3504	4339	4005

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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	1656.580	1656.580	1656.580	1656.580	1656.580
5	1690.655	1653.959	1643.474	1634.737	1626.000
10	1667.939	1628.621	1616.389	1603.283	1593.672
15	1633.863	1590.177	1567.460	1546.491	1540.375
20	1562.218	1518.532	1506.300	1470.477	1464.361
25	1461.740	1427.665	1415.432	1388.347	1382.231
30	1361.262	1330.681	1314.954	1295.732	1286.121
35	1266.899	1231.077	1205.739	1194.380	1183.896
40	1162.053	1134.093	1097.397	1079.922	1065.943
45	1027.499	1008.277	981.192	964.591	944.495
50	903.430	871.103	865.860	835.280	818.679
55	768.003	748.781	732.180	705.969	686.747
60	643.061	615.101	605.491	581.900	565.299
65	500.644	485.790	470.937	456.084	450.841
70	367.838	354.732	345.121	331.141	337.257
75	235.905	236.779	226.294	226.294	224.547
80	116.205	123.195	119.700	126.690	117.953
85	36.696	43.686	45.434	53.297	41.939
90	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4D-4-00-L12-840-F-(L10)-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	599.19	N.A.	14.30
0-30	1250.41	N.A.	29.80
0-40	2010.19	N.A.	47.90
0-60	3422.42	N.A.	81.60
0-80	4135.16	N.A.	98.60
0-90	4193.01	N.A.	100.00
10-90	4036.62	N.A.	96.30
20-40	1411.00	N.A.	33.70
20-50	2170.71	N.A.	51.80
40-70	1880.41	N.A.	44.80
60-80	712.74	N.A.	17.00
70-80	244.57	N.A.	5.80
80-90	57.85	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	4193.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	156.39
10-20	442.80
20-30	651.22
30-40	759.78
40-50	759.71
50-60	652.53
60-70	468.17
70-80	244.57
80-90	57.85
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

X=2H	Y=2H	20.4	22.0	20.8	22.3	22.6	19.9	21.5	20.3	21.9	22.2
	3H	22.1	23.5	22.4	23.8	24.2	21.5	23.0	21.9	23.3	23.7
	4H	22.6	23.9	23.0	24.3	24.7	22.1	23.5	22.5	23.8	24.2
	6H	22.9	24.2	23.3	24.5	24.9	22.5	23.7	22.9	24.1	24.5
	8H	23.0	24.2	23.4	24.6	25.0	22.6	23.8	23.0	24.1	24.5
	12H	23.0	24.2	23.4	24.5	25.0	22.6	23.8	23.0	24.1	24.6

UGR Viewed Endwise

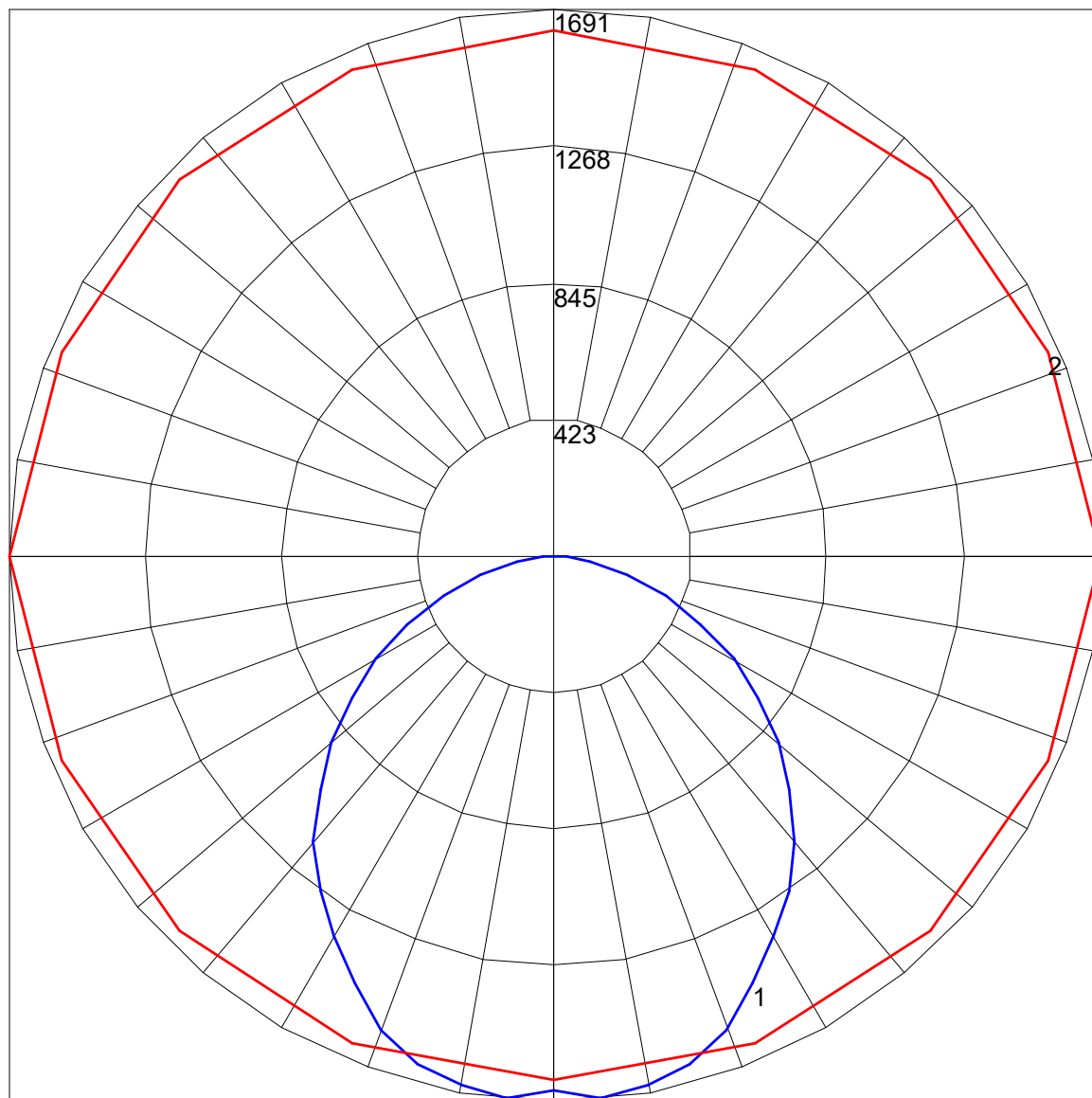
4H	2H	20.9	22.3	21.3	22.6	23.0	20.6	21.9	21.0	22.3	22.6
	3H	22.8	23.9	23.2	24.3	24.7	22.4	23.5	22.8	23.9	24.3
	4H	23.4	24.5	23.9	24.9	25.3	23.0	24.1	23.5	24.5	24.9
	6H	23.9	24.8	24.3	25.2	25.7	23.5	24.4	24.0	24.8	25.3
	8H	24.0	24.8	24.4	25.2	25.7	23.6	24.5	24.1	24.9	25.4
	12H	24.0	24.8	24.5	25.2	25.7	23.7	24.5	24.2	24.9	25.4

8H	4H	23.7	24.5	24.1	24.9	25.4	23.3	24.1	23.8	24.6	25.0
	6H	24.2	24.9	24.7	25.4	25.8	23.9	24.6	24.4	25.0	25.5
	8H	24.3	25.0	24.8	25.5	25.9	24.1	24.7	24.6	25.2	25.7
	12H	24.4	25.0	25.0	25.5	26.0	24.2	24.8	24.7	25.3	25.8

12H	4H	23.7	24.4	24.2	24.9	25.4	23.3	24.1	23.8	24.5	25.0
	6H	24.2	24.8	24.7	25.3	25.8	23.9	24.5	24.4	25.0	25.5
	8H	24.4	25.0	24.9	25.4	26.0	24.2	24.7	24.7	25.2	25.7

Maximum UGR = 26.0

POLAR GRAPH



Maximum Candela = 1690.655 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.)