



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-8-00-L12-940-F-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 29653.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 03-31-2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 8' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4D-8-00-L12-940-F-DIM-UNV
 [LAMPCAT] HLM 90 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	8083
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	86.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	8.00 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	11605	11254	11078
55	10658	10225	9936
65	9071	8924	8630
75	6886	7206	6806
85	3329	4280	4042

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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	3289.487	3289.487	3289.487	3289.487	3289.487
5	3304.194	3269.878	3255.170	3245.366	3245.366
10	3245.366	3211.049	3196.342	3186.537	3176.733
15	3132.611	3108.100	3083.588	3073.783	3059.076
20	3000.248	2965.931	2946.321	2916.907	2907.103
25	2828.665	2789.446	2769.836	2735.520	2730.617
30	2657.082	2612.961	2573.742	2563.937	2539.425
35	2416.866	2387.452	2353.135	2318.819	2318.819
40	2191.357	2161.943	2117.822	2108.017	2073.700
45	1941.337	1911.922	1882.508	1853.094	1853.094
50	1706.023	1666.804	1642.292	1622.683	1598.171
55	1446.198	1411.881	1387.369	1362.858	1348.150
60	1176.568	1156.958	1142.251	1122.642	1107.935
65	906.938	902.035	892.230	867.719	862.816
70	671.624	666.722	652.015	642.210	632.405
75	421.603	436.311	441.213	426.506	416.701
80	215.704	225.509	225.509	230.411	235.314
85	68.633	73.535	88.243	78.438	83.340
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1180.16	N.A.	14.60
0-30	2457.28	N.A.	30.40
0-40	3933.92	N.A.	48.70
0-60	6636.37	N.A.	82.10
0-80	7978.53	N.A.	98.70
0-90	8083.26	N.A.	100.00
10-90	7773.77	N.A.	96.20
20-40	2753.76	N.A.	34.10
20-50	4211.13	N.A.	52.10
40-70	3585.32	N.A.	44.40
60-80	1342.16	N.A.	16.60
70-80	459.29	N.A.	5.70
80-90	104.73	N.A.	1.30
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	8083.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	309.50
10-20	870.67
20-30	1277.11
30-40	1476.65
40-50	1457.37
50-60	1245.08
60-70	882.87
70-80	459.29
80-90	104.73
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	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	87	82	77	83	79	75	80	77	74	72
3	91	81	73	67	89	80	72	67	77	70	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	68	62	56	66	60	55	64	59	55	53
5	77	65	56	50	75	64	56	49	62	54	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	49	43	56	48	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	36	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	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	20.2	21.8	20.6	22.1	22.4	19.9	21.5	20.3	21.8	22.1
	3H	21.8	23.2	22.1	23.5	23.9	21.5	22.9	21.9	23.2	23.6
	4H	22.3	23.6	22.7	24.0	24.4	22.0	23.4	22.4	23.7	24.1
	6H	22.6	23.8	23.0	24.2	24.6	22.4	23.6	22.8	24.0	24.4
	8H	22.7	23.9	23.1	24.2	24.6	22.5	23.7	22.9	24.1	24.5
	12H	22.7	23.8	23.1	24.2	24.6	22.5	23.7	23.0	24.0	24.5

UGR Viewed Endwise

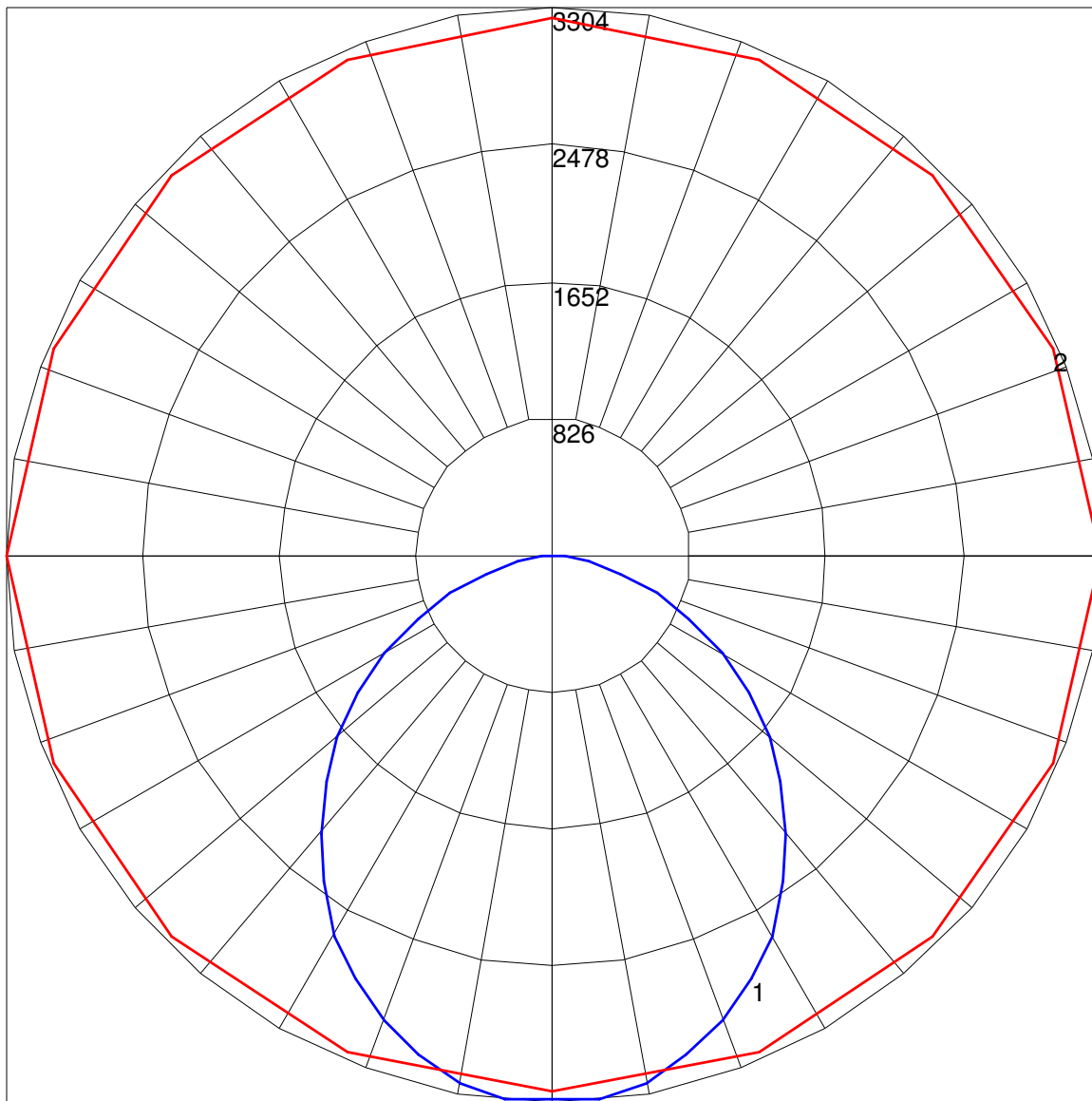
4H	2H	20.7	22.1	21.1	22.4	22.8	20.5	21.9	20.9	22.2	22.6
	3H	22.5	23.6	22.9	24.0	24.4	22.3	23.4	22.7	23.8	24.2
	4H	23.2	24.2	23.6	24.6	25.0	22.9	23.9	23.4	24.4	24.8
	6H	23.6	24.5	24.0	24.9	25.3	23.4	24.3	23.8	24.7	25.2
	8H	23.7	24.5	24.1	24.9	25.4	23.5	24.4	24.0	24.8	25.3
	12H	23.7	24.5	24.2	24.9	25.4	23.6	24.3	24.1	24.8	25.3

8H	4H	23.4	24.2	23.8	24.7	25.1	23.2	24.0	23.6	24.5	24.9
	6H	23.9	24.6	24.4	25.1	25.5	23.7	24.4	24.2	24.9	25.4
	8H	24.0	24.6	24.5	25.2	25.6	23.9	24.5	24.4	25.0	25.5
	12H	24.1	24.7	24.6	25.2	25.7	24.1	24.6	24.6	25.1	25.6

12H	4H	23.4	24.1	23.9	24.6	25.1	23.2	23.9	23.7	24.4	24.9
	6H	23.9	24.5	24.4	25.0	25.5	23.8	24.4	24.3	24.9	25.4
	8H	24.1	24.6	24.6	25.1	25.7	24.0	24.5	24.5	25.0	25.6

Maximum UGR = 25.7

POLAR GRAPH



Maximum Candela = 3304.194 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.)