



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-00-L8-835-F-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] 03-01-2022
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
[LUMINAIRE] 4' DIRECT SUSPENDED LUMINAIRE
[MORE] WITH FROSTED ACRYLIC LENS
[LUMCAT] MX4D-4-00-L8-835-F-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	3296
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	29.2
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	9507	9079	8739
55	8761	8352	7834
65	7751	7291	6980
75	5964	5721	5676
85	2755	3411	3148

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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	1302.191	1302.191	1302.191	1302.191	1302.191
5	1328.977	1300.131	1291.889	1285.021	1278.153
10	1311.120	1280.213	1270.598	1260.296	1252.741
15	1284.334	1249.994	1232.137	1215.653	1210.846
20	1228.016	1193.675	1184.060	1155.901	1151.093
25	1149.033	1122.247	1112.632	1091.341	1086.533
30	1070.050	1046.011	1033.649	1018.539	1010.984
35	995.874	967.715	947.797	938.869	930.627
40	913.457	891.479	862.633	848.897	837.908
45	807.688	792.578	771.287	758.238	742.441
50	710.161	684.749	680.628	656.590	643.541
55	603.706	588.596	575.547	554.942	539.832
60	505.492	483.514	475.959	457.415	444.366
65	393.542	381.866	370.190	358.515	354.394
70	289.147	278.845	271.290	260.301	265.109
75	185.439	186.125	177.884	177.884	176.510
80	91.346	96.840	94.093	99.587	92.719
85	28.846	34.340	35.714	41.895	32.967
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	471.00	N.A.	14.30
0-30	982.91	N.A.	29.80
0-40	1580.15	N.A.	47.90
0-60	2690.27	N.A.	81.60
0-80	3250.54	N.A.	98.60
0-90	3296.01	N.A.	100.00
10-90	3173.08	N.A.	96.30
20-40	1109.15	N.A.	33.70
20-50	1706.33	N.A.	51.80
40-70	1478.14	N.A.	44.80
60-80	560.27	N.A.	17.00
70-80	192.25	N.A.	5.80
80-90	45.47	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	3296.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	122.93
10-20	348.07
20-30	511.90
30-40	597.24
40-50	597.18
50-60	512.93
60-70	368.02
70-80	192.25
80-90	45.47
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

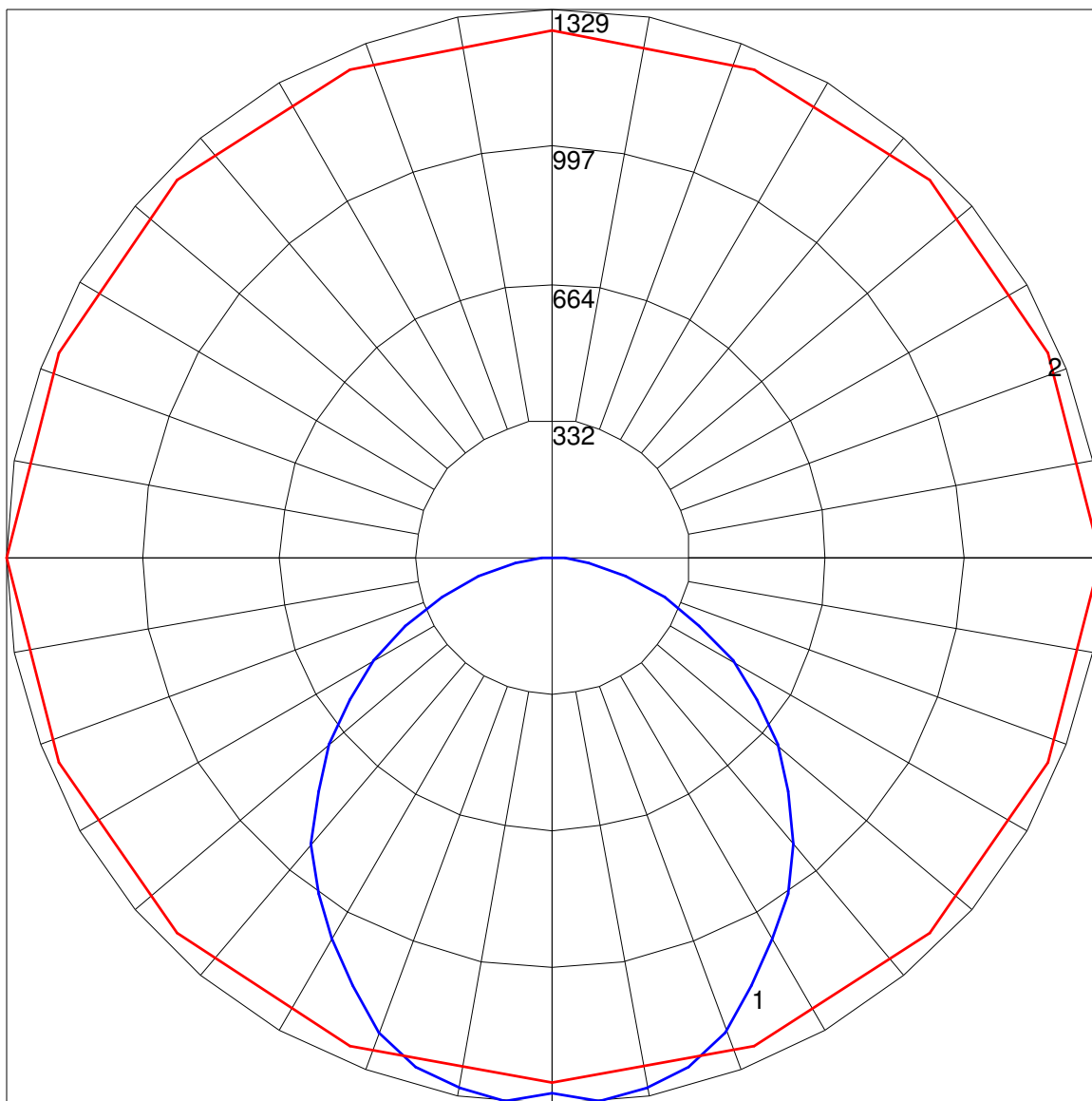
Reflectances

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	19.5	21.1	19.9	21.4	21.7	19.0	20.6	19.4	20.9	21.3
	3H	21.2	22.6	21.5	22.9	23.3	20.6	22.1	21.0	22.4	22.8
	4H	21.7	23.0	22.1	23.4	23.8	21.2	22.6	21.6	22.9	23.3
	6H	22.0	23.3	22.4	23.6	24.0	21.6	22.8	22.0	23.2	23.6
	8H	22.1	23.3	22.5	23.7	24.1	21.7	22.9	22.1	23.2	23.6
	12H	22.1	23.3	22.5	23.6	24.1	21.7	22.9	22.1	23.2	23.7
4H	2H	20.0	21.4	20.4	21.7	22.1	19.7	21.0	20.1	21.4	21.7
	3H	21.9	23.0	22.3	23.4	23.8	21.5	22.6	21.9	23.0	23.4
	4H	22.5	23.6	23.0	24.0	24.4	22.1	23.2	22.6	23.6	24.0
	6H	23.0	23.9	23.4	24.3	24.8	22.6	23.5	23.1	23.9	24.4
	8H	23.1	23.9	23.5	24.3	24.8	22.7	23.6	23.2	24.0	24.5
	12H	23.1	23.9	23.6	24.3	24.8	22.8	23.6	23.3	24.0	24.5
8H	4H	22.8	23.6	23.2	24.0	24.5	22.4	23.2	22.9	23.7	24.1
	6H	23.3	24.0	23.8	24.5	24.9	23.0	23.7	23.5	24.1	24.6
	8H	23.4	24.1	23.9	24.6	25.0	23.2	23.8	23.7	24.3	24.8
	12H	23.5	24.1	24.1	24.6	25.1	23.3	23.9	23.8	24.4	24.9
12H	4H	22.8	23.5	23.3	24.0	24.5	22.4	23.2	22.9	23.6	24.1
	6H	23.3	23.9	23.8	24.4	24.9	23.0	23.6	23.5	24.1	24.6
	8H	23.5	24.0	24.0	24.5	25.1	23.3	23.8	23.8	24.3	24.8

Maximum UGR = 25.1

POLAR GRAPH



Maximum Candela = 1328.977 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.)