



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L12-835U-L12-835D-F-A-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20659.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 13-MAR-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 2-72 LED-UP 4-72 LED-DOWN 23.75" ARRAYS 8' LUMINAIRE

[MORE] WHITE ALUM BODY w/REFL & FLAT FROST LENSES-UP/DOWN

[LUMCAT] MX4UD-8-00-L12-835U-L12-835D-AF-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	18960
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	108
Total Luminaire Watts	175.2
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
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	12257	11988	11685
55	11167	10793	10420
65	9465	9184	8789
75	7176	6992	6992
85	3825	4098	3552

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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	3497.968	3497.968	3497.968	3497.968	3497.968
5	3537.398	3486.703	3469.804	3458.539	3452.906
10	3464.171	3407.843	3396.578	3374.047	3374.047
15	3357.148	3300.820	3278.289	3261.391	3250.125
20	3199.430	3148.735	3126.204	3109.305	3092.407
25	3013.548	2962.852	2945.954	2917.790	2906.524
30	2788.236	2754.439	2737.540	2698.111	2664.314
35	2546.025	2540.392	2512.228	2467.166	2439.002
40	2309.448	2270.018	2264.385	2219.323	2196.792
45	2050.339	2022.175	2005.276	1948.949	1954.581
50	1779.965	1763.066	1746.168	1701.105	1684.207
55	1515.223	1498.325	1464.528	1430.731	1413.833
60	1222.317	1216.685	1177.255	1160.357	1143.458
65	946.310	940.677	918.146	901.248	878.717
70	698.467	681.569	653.405	664.670	653.405
75	439.358	428.093	428.093	439.358	428.093
80	219.679	242.210	242.210	242.210	225.312
85	78.859	84.492	84.492	84.492	73.226
90	5.633	5.633	5.633	5.633	5.633
95	129.554	135.187	129.554	112.656	112.656
100	304.171	298.538	298.538	276.007	253.476
105	523.850	523.850	495.686	467.522	428.093
110	822.389	805.490	754.795	732.264	692.834
115	1115.294	1087.130	1053.333	997.005	951.943
120	1475.793	1475.793	1385.669	1323.708	1289.911
125	1836.293	1864.457	1740.535	1701.105	1644.777
130	2224.956	2247.487	2140.464	2078.503	2033.440
135	2579.822	2546.025	2512.228	2484.064	2472.799
140	2912.157	2906.524	2889.626	2850.196	2861.462
145	3199.430	3205.063	3188.164	3160.000	3205.063
150	3464.171	3475.437	3469.804	3430.375	3486.703
155	3666.952	3683.851	3683.851	3655.687	3712.015
160	3824.671	3858.467	3841.569	3824.671	3858.467
165	3954.225	3988.022	3954.225	3954.225	3971.123
170	4027.451	4066.881	4033.084	4027.451	4016.186
175	4083.779	4117.576	4083.779	4078.147	4049.983
180	4095.045	4095.045	4095.045	4095.045	4095.045

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Zone	Lumens	%Lamp	%Fixt
0-20	1254.96	N.A.	6.60
0-30	2610.82	N.A.	13.80
0-40	4174.6	N.A.	22.00
0-60	7022.71	N.A.	37.00
0-80	8402.67	N.A.	44.30
0-90	8513.63	N.A.	44.90
10-90	8184.23	N.A.	43.20
20-40	2919.64	N.A.	15.40
20-50	4459.67	N.A.	23.50
40-70	3761.07	N.A.	19.80
60-80	1379.96	N.A.	7.30
70-80	467.01	N.A.	2.50
80-90	110.96	N.A.	0.60
90-110	683.74	N.A.	3.60
90-120	1732.75	N.A.	9.10
90-130	3312.00	N.A.	17.50
90-150	7247.38	N.A.	38.20
90-180	10446.22	N.A.	55.10
110-180	9762.48	N.A.	51.50
0-180	18959.85	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	329.40
10-20	925.56
20-30	1355.87
30-40	1563.77
40-50	1540.03
50-60	1308.08
60-70	912.96
70-80	467.01
80-90	110.96
90-100	147.78
100-110	535.96
110-120	1049.02
120-130	1579.25
130-140	1942.78
140-150	1992.59
150-160	1692.38
160-170	1118.03
170-180	388.43

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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	87	87	87	87	80	80	80	80	66	66	66	54	54	54	42	42	42	37
1	80	76	73	70	73	70	67	65	58	56	55	47	46	45	38	37	36	31
2	73	67	62	58	66	61	57	53	51	48	45	42	40	38	33	32	31	27
3	66	59	53	48	60	54	49	45	45	41	38	37	34	32	30	28	26	23
4	61	52	46	41	55	48	42	38	40	36	33	33	30	28	26	24	23	19
5	56	46	40	35	51	43	37	33	36	32	28	30	26	24	24	22	20	17
6	51	42	35	30	47	38	33	28	32	28	25	27	24	21	22	19	17	15
7	47	37	31	27	43	35	29	25	29	25	22	24	21	19	20	17	15	13
8	44	34	28	23	40	32	26	22	27	22	19	22	19	17	18	16	14	12
9	41	31	25	21	38	29	23	20	25	20	17	21	17	15	17	14	13	11
10	38	28	23	19	35	26	21	18	23	18	16	19	16	13	16	13	11	10

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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	16.7	17.5	17.7	18.5	19.9	16.3	17.1	17.3	18.2	19.5
	3H	18.2	18.9	19.2	19.9	21.3	17.8	18.5	18.8	19.6	20.9
	4H	18.6	19.3	19.7	20.3	21.7	18.3	19.0	19.3	20.0	21.4
	6H	18.9	19.5	19.9	20.5	21.9	18.6	19.2	19.6	20.3	21.6
	8H	18.9	19.5	20.0	20.6	22.0	18.7	19.3	19.7	20.3	21.7
	12H	18.9	19.5	20.0	20.6	22.0	18.7	19.2	19.7	20.3	21.7

UGR Viewed Endwise

4H	2H	17.1	17.8	18.1	18.8	20.2	16.8	17.5	17.9	18.5	19.9
	3H	18.8	19.3	19.8	20.4	21.8	18.5	19.1	19.5	20.1	21.5
	4H	19.3	19.9	20.4	20.9	22.3	19.1	19.6	20.2	20.7	22.1
	6H	19.7	20.2	20.8	21.2	22.6	19.5	20.0	20.6	21.0	22.4
	8H	19.8	20.2	20.8	21.3	22.7	19.6	20.0	20.7	21.1	22.5
	12H	19.8	20.2	20.9	21.3	22.7	19.6	20.0	20.7	21.1	22.5

8H	4H	19.5	19.9	20.5	21.0	22.4	19.3	19.7	20.3	20.8	22.2
	6H	20.0	20.3	21.0	21.4	22.8	19.8	20.1	20.9	21.2	22.7
	8H	20.1	20.4	21.2	21.5	22.9	20.0	20.3	21.0	21.3	22.8
	12H	20.2	20.5	21.3	21.5	23.0	20.0	20.3	21.1	21.4	22.9

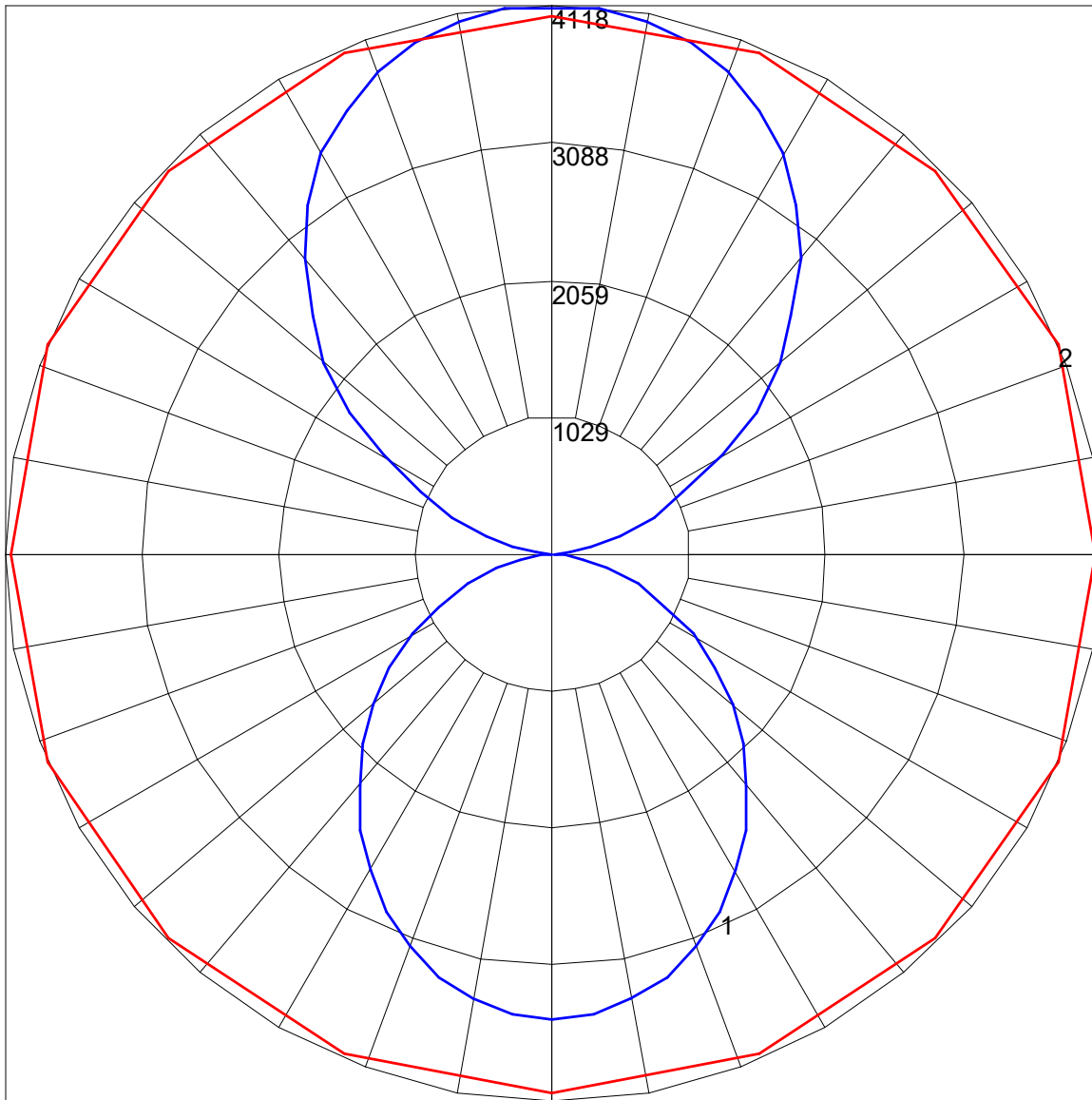
12H	4H	19.5	19.8	20.5	20.9	22.3	19.3	19.6	20.3	20.7	22.1
	6H	20.0	20.3	21.1	21.4	22.8	19.8	20.1	20.9	21.2	22.6
	8H	20.2	20.4	21.3	21.5	23.0	20.0	20.3	21.1	21.4	22.8

Maximum UGR = 23.0

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POLAR GRAPH



Maximum Candela = 4117.576 Located At Horizontal Angle = 22.5, Vertical Angle = 175

1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (175) (Through Max. Cd.)