



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L8-835U-L8-835D-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-L8-835U-L8-835D-AF-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	13464
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	113.6
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	8704	8513	8298
55	7930	7665	7399
65	6722	6521	6241
75	5096	4965	4965
85	2716	2910	2522

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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	2484	2484	2484	2484	2484
5	2512	2476	2464	2456	2452
10	2460	2420	2412	2396	2396
15	2384	2344	2328	2316	2308
20	2272	2236	2220	2208	2196
25	2140	2104	2092	2072	2064
30	1980	1956	1944	1916	1892
35	1808	1804	1784	1752	1732
40	1640	1612	1608	1576	1560
45	1456	1436	1424	1384	1388
50	1264	1252	1240	1208	1196
55	1076	1064	1040	1016	1004
60	868	864	836	824	812
65	672	668	652	640	624
70	496	484	464	472	464
75	312	304	304	312	304
80	156	172	172	172	160
85	56	60	60	60	52
90	4	4	4	4	4
95	92	96	92	80	80
100	216	212	212	196	180
105	372	372	352	332	304
110	584	572	536	520	492
115	792	772	748	708	676
120	1048	1048	984	940	916
125	1304	1324	1236	1208	1168
130	1580	1596	1520	1476	1444
135	1832	1808	1784	1764	1756
140	2068	2064	2052	2024	2032
145	2272	2276	2264	2244	2276
150	2460	2468	2464	2436	2476
155	2604	2616	2616	2596	2636
160	2716	2740	2728	2716	2740
165	2808	2832	2808	2808	2820
170	2860	2888	2864	2860	2852
175	2900	2924	2900	2896	2876
180	2908	2908	2908	2908	2908

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Zone	Lumens	%Lamp	%Fixt
0-20	891.18	N.A.	6.60
0-30	1854.01	N.A.	13.80
0-40	2964.49	N.A.	22.00
0-60	4987.01	N.A.	37.00
0-80	5966.96	N.A.	44.30
0-90	6045.75	N.A.	44.90
10-90	5811.84	N.A.	43.20
20-40	2073.31	N.A.	15.40
20-50	3166.93	N.A.	23.50
40-70	2670.83	N.A.	19.80
60-80	979.95	N.A.	7.30
70-80	331.63	N.A.	2.50
80-90	78.79	N.A.	0.60
90-110	485.54	N.A.	3.60
90-120	1230.48	N.A.	9.10
90-130	2351.94	N.A.	17.50
90-150	5146.56	N.A.	38.20
90-180	7418.14	N.A.	55.10
110-180	6932.6	N.A.	51.50
0-180	13463.89	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	233.92
10-20	657.26
20-30	962.84
30-40	1110.48
40-50	1093.61
50-60	928.91
60-70	648.31
70-80	331.63
80-90	78.79
90-100	104.94
100-110	380.60
110-120	744.93
120-130	1121.47
130-140	1379.62
140-150	1414.99
150-160	1201.81
160-170	793.94
170-180	275.83

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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	62	62	62	62	57	57	57	57	47	47	47	38	38	38	30	30	30	26
1	57	54	52	50	52	50	48	46	41	40	39	34	33	32	27	26	26	22
2	52	47	44	41	47	43	40	38	36	34	32	30	28	27	24	23	22	19
3	47	42	37	34	43	38	35	32	32	29	27	26	24	23	21	20	19	16
4	43	37	32	29	39	34	30	27	29	26	23	23	21	20	19	17	16	14
5	40	33	28	25	36	30	26	23	26	22	20	21	19	17	17	15	14	12
6	36	29	25	21	33	27	23	20	23	20	17	19	17	15	15	14	12	11
7	34	27	22	19	31	25	21	18	21	18	15	17	15	13	14	12	11	9
8	31	24	20	17	29	22	18	16	19	16	14	16	14	12	13	11	10	8
9	29	22	18	15	27	20	17	14	17	14	12	15	12	11	12	10	9	8
10	27	20	16	13	25	19	15	13	16	13	11	14	11	10	11	9	8	7

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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

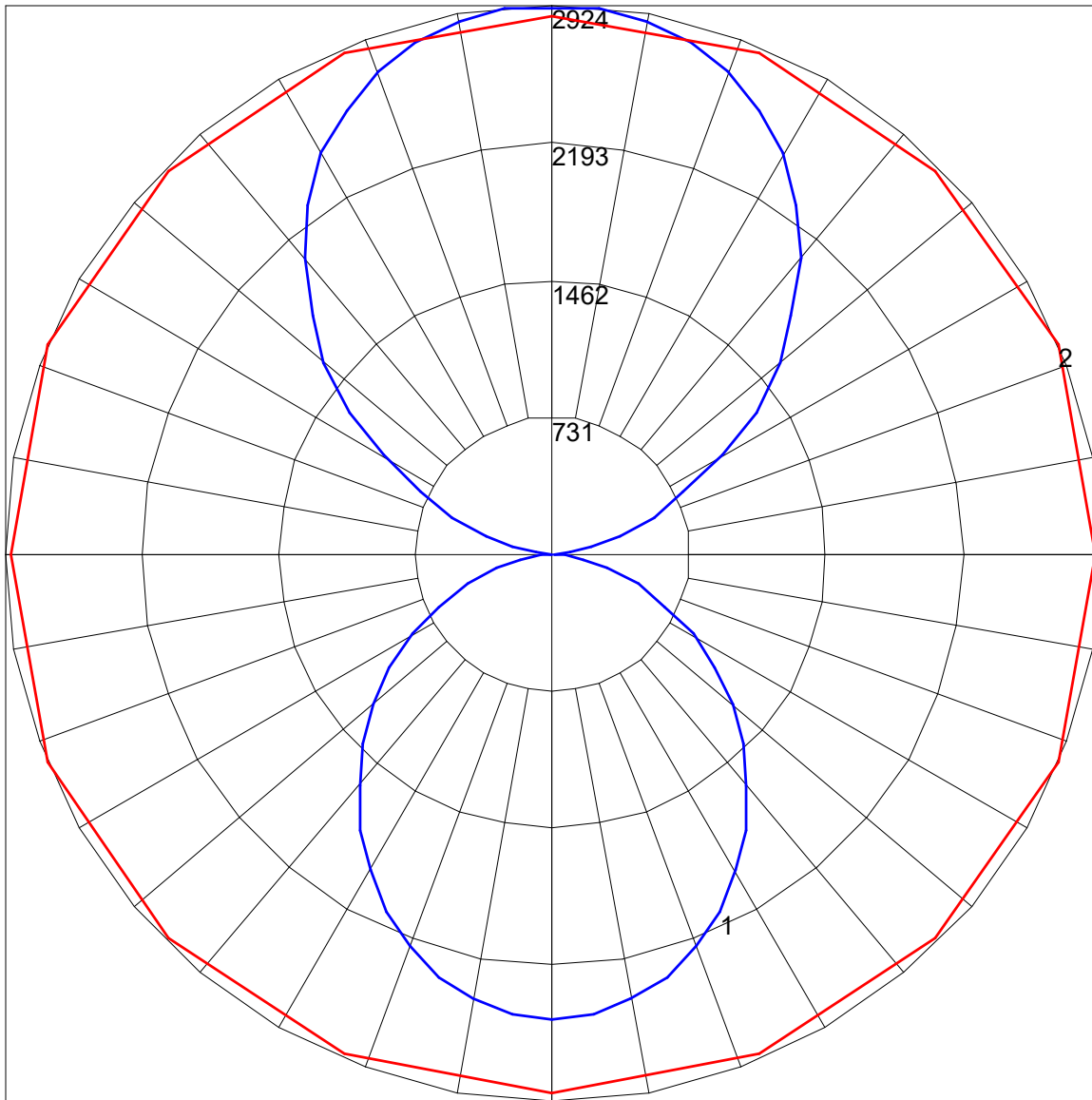
4H	2H	17.1	17.8	18.1	18.8	20.2	16.8	17.5	17.9	18.5	19.9
	3H	18.8	19.3	19.8	20.4	21.8	18.5	19.1	19.5	20.1	21.5
	4H	19.3	19.9	20.4	20.9	22.3	19.1	19.6	20.2	20.7	22.1
	6H	19.7	20.2	20.8	21.2	22.6	19.5	20.0	20.6	21.0	22.4
	8H	19.8	20.2	20.8	21.3	22.7	19.6	20.0	20.7	21.1	22.5
	12H	19.8	20.2	20.9	21.3	22.7	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 = 2924 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.)