



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L15-835U-L15-835D-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-L15-835U-L15-835D-AF-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	23080
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
Total Luminaire Watts	220.8
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	14921	14593	14224
55	13593	13139	12684
65	11522	11179	10699
75	8735	8511	8511
85	4656	4988	4323

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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	4258.075	4258.075	4258.075	4258.075	4258.075
5	4306.072	4244.361	4223.791	4210.077	4203.220
10	4216.934	4148.366	4134.652	4107.225	4107.225
15	4086.655	4018.087	3990.659	3970.089	3956.375
20	3894.664	3832.953	3805.526	3784.955	3764.385
25	3668.390	3606.678	3586.108	3551.824	3538.110
30	3394.117	3352.977	3332.406	3284.409	3243.268
35	3099.275	3092.418	3058.134	3003.280	2968.996
40	2811.289	2763.292	2756.435	2701.580	2674.153
45	2495.876	2461.592	2441.022	2372.454	2379.311
50	2166.750	2146.179	2125.609	2070.754	2050.184
55	1844.480	1823.910	1782.769	1741.628	1721.058
60	1487.926	1481.069	1433.072	1412.501	1391.931
65	1151.943	1145.086	1117.659	1097.088	1069.661
70	850.244	829.673	795.389	809.103	795.389
75	534.831	521.117	521.117	534.831	521.117
80	267.415	294.843	294.843	294.843	274.272
85	95.995	102.852	102.852	102.852	89.138
90	6.857	6.857	6.857	6.857	6.857
95	157.706	164.563	157.706	137.136	137.136
100	370.267	363.411	363.411	335.983	308.556
105	637.683	637.683	603.399	569.115	521.117
110	1001.093	980.523	918.812	891.384	843.387
115	1357.647	1323.363	1282.222	1213.654	1158.800
120	1796.482	1796.482	1686.774	1611.349	1570.208
125	2235.318	2269.602	2118.752	2070.754	2002.186
130	2708.437	2735.864	2605.585	2530.160	2475.306
135	3140.416	3099.275	3058.134	3023.850	3010.136
140	3544.967	3538.110	3517.540	3469.542	3483.256
145	3894.664	3901.521	3880.950	3846.666	3901.521
150	4216.934	4230.647	4223.791	4175.793	4244.361
155	4463.779	4484.349	4484.349	4450.065	4518.633
160	4655.769	4696.910	4676.340	4655.769	4696.910
165	4813.476	4854.616	4813.476	4813.476	4834.046
170	4902.614	4950.612	4909.471	4902.614	4888.900
175	4971.182	5012.323	4971.182	4964.325	4930.041
180	4984.896	4984.896	4984.896	4984.896	4984.896

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-8-00-L15-835U-L15-835D-F-A-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1527.66	N.A.	6.60
0-30	3178.15	N.A.	13.80
0-40	5081.73	N.A.	22.00
0-60	8548.74	N.A.	37.00
0-80	10228.56	N.A.	44.30
0-90	10363.63	N.A.	44.90
10-90	9962.65	N.A.	43.20
20-40	3554.08	N.A.	15.40
20-50	5428.75	N.A.	23.50
40-70	4578.34	N.A.	19.80
60-80	1679.83	N.A.	7.30
70-80	568.49	N.A.	2.50
80-90	135.07	N.A.	0.60
90-110	832.32	N.A.	3.60
90-120	2109.28	N.A.	9.10
90-130	4031.7	N.A.	17.50
90-150	8822.23	N.A.	38.20
90-180	12716.18	N.A.	55.10
110-180	11883.87	N.A.	51.50
0-180	23079.81	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	400.98
10-20	1126.68
20-30	1650.5
30-40	1903.58
40-50	1874.67
50-60	1592.33
60-70	1111.34
70-80	568.49
80-90	135.07
90-100	179.89
100-110	652.42
110-120	1276.97
120-130	1922.42
130-140	2364.95
140-150	2425.58
150-160	2060.14
160-170	1360.98
170-180	472.83

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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	212	212	212	212	194	194	194	194	161	161	161	131	131	131	103	103	103	90
1	194	185	178	171	177	170	164	158	142	137	133	116	112	110	92	90	88	76
2	177	162	150	140	161	149	139	130	125	117	111	102	97	92	81	77	74	65
3	161	143	128	117	147	131	119	109	110	101	93	90	84	78	72	67	64	55
4	148	126	111	99	135	117	103	92	98	88	80	81	73	67	64	59	55	47
5	135	113	97	85	124	104	90	79	88	77	69	72	64	58	58	52	48	41
6	125	101	85	74	114	93	79	69	79	68	60	65	57	51	53	47	42	36
7	115	91	76	65	106	84	71	61	72	61	53	60	51	45	48	42	38	32
8	107	83	68	57	98	77	63	54	65	55	47	54	46	40	44	38	34	29
9	100	76	61	51	91	70	57	48	60	49	42	50	42	36	41	35	31	26
10	93	69	55	46	85	64	52	43	55	45	38	46	38	33	38	32	28	24

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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	17.2	17.3	18.2	19.5
	3H	18.2	18.9	19.2	19.9	21.3	17.8	18.6	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	20.6	21.9	18.6	19.2	19.6	20.3	21.7
	8H	18.9	19.5	20.0	20.6	22.0	18.7	19.3	19.7	20.3	21.7
	12H	19.0	19.5	20.0	20.6	22.0	18.7	19.3	19.7	20.3	21.7

### UGR Viewed Endwise

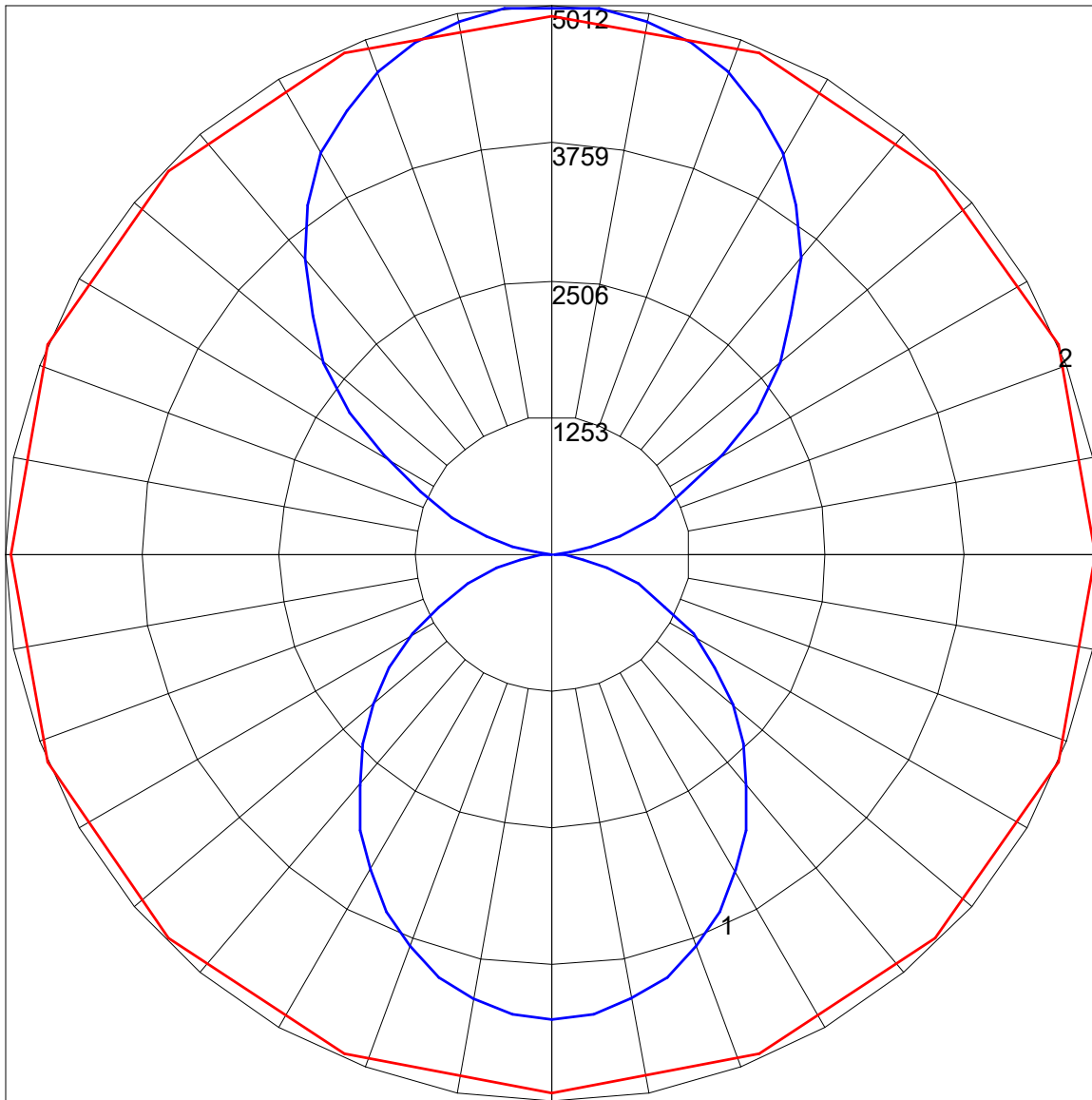
4H	2H	17.1	17.8	18.2	18.8	20.2	16.8	17.5	17.9	18.5	19.9
	3H	18.8	19.4	19.8	20.4	21.8	18.5	19.1	19.5	20.1	21.5
	4H	19.4	19.9	20.4	20.9	22.3	19.1	19.6	20.2	20.7	22.1
	6H	19.7	20.2	20.8	21.2	22.6	19.5	20.0	20.6	21.0	22.4
	8H	19.8	20.2	20.9	21.3	22.7	19.6	20.0	20.7	21.1	22.5
	12H	19.8	20.2	20.9	21.3	22.7	19.6	20.0	20.7	21.1	22.5

8H	4H	19.5	19.9	20.6	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	20.2	20.9	21.2	22.7
	8H	20.1	20.4	21.2	21.5	22.9	20.0	20.3	21.0	21.4	22.8
	12H	20.2	20.5	21.3	21.5	23.0	20.1	20.3	21.1	21.4	22.9

12H	4H	19.5	19.9	20.5	20.9	22.4	19.3	19.7	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	22.7
	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

POLAR GRAPH



Maximum Candela = 5012.323 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.)