



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L8-835U-L15-835D-A-F-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20656.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIOES, INC

[ISSUEDATE] 06-30-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 8' LED DIRECT/INDIRECT SUSPENDED LUMINAIRE

[MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS

[LUMCAT] MX4UD-8-00-L8-835U-L15-835D-A-F-DIM-UNV

[LAMPCAT] HLMX 80 CRI, 3500K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	18536
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	149.3
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.32
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	16868	17045	17445
55	15377	15924	16089
65	13146	13443	13740
75	10430	10551	10308
85	5762	5042	4322

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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0	4796.767	4796.767	4796.767	4796.767	4796.767	4796.767	4796.767	4796.767	4796.767
5	4804.192	4796.767	4796.767	4833.894	4833.894	4789.342	4781.917	4774.491	4767.066
10	4707.663	4707.663	4700.238	4759.640	4744.790	4715.088	4677.962	4670.536	4692.813
15	4559.156	4566.582	4574.007	4611.134	4611.134	4581.432	4544.306	4529.455	4544.306
20	4366.098	4380.948	4395.799	4440.351	4440.351	4410.649	4358.672	4343.822	4351.247
25	4135.912	4128.487	4165.613	4180.464	4195.315	4165.613	4121.062	4106.211	4083.935
30	3816.623	3883.451	3876.025	3905.727	3928.003	3883.451	3838.899	3816.623	3786.921
35	3519.609	3556.736	3556.736	3623.564	3608.713	3616.139	3504.759	3512.184	3475.057
40	3192.895	3207.745	3215.170	3281.999	3289.424	3267.148	3200.320	3155.768	3140.917
45	2821.628	2829.053	2851.329	2903.306	2918.157	2873.605	2843.904	2843.904	2799.352
50	2457.786	2435.510	2494.913	2532.040	2546.890	2509.764	2487.488	2435.510	2413.234
55	2086.520	2131.072	2160.773	2227.601	2183.049	2153.347	2079.094	2071.669	2056.818
60	1700.402	1707.827	1730.103	1752.379	1782.081	1767.230	1767.230	1685.551	1678.126
65	1314.284	1321.710	1343.986	1366.262	1373.687	1366.262	1329.135	1321.710	1284.583
70	965.294	987.570	965.294	980.144	994.995	1009.846	980.144	957.868	935.592
75	638.579	631.154	646.004	631.154	631.154	616.303	638.579	608.878	594.027
80	334.140	334.140	326.715	311.864	311.864	311.864	311.864	334.140	319.289
85	118.805	126.231	103.955	96.529	89.104	96.529	96.529	111.380	103.955
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	79.118	82.885	79.118	79.118	71.583	79.118	79.118	82.885	79.118
100	180.840	180.840	180.840	162.003	158.235	162.003	180.840	180.840	180.840
105	312.703	312.703	286.331	275.028	263.726	275.028	286.331	312.703	312.703
110	504.846	482.241	437.031	399.356	395.589	399.356	437.031	482.241	504.846
115	715.827	678.152	610.337	568.894	557.591	568.894	610.337	678.152	715.827
120	934.343	885.365	810.015	742.200	730.897	742.200	810.015	885.365	934.343
125	1186.766	1126.485	1017.228	945.645	915.505	945.645	1017.228	1126.485	1186.766
130	1450.491	1382.676	1250.813	1164.161	1149.091	1164.161	1250.813	1382.676	1450.491
135	1672.774	1567.284	1488.167	1397.746	1382.676	1397.746	1488.167	1567.284	1672.774
140	1902.593	1819.707	1710.450	1627.564	1604.959	1627.564	1710.450	1819.707	1902.593
145	2109.806	2083.433	1921.430	1842.312	1823.475	1842.312	1921.430	2083.433	2109.806
150	2286.879	2256.739	2113.573	2049.525	2015.618	2049.525	2113.573	2256.739	2286.879
155	2441.346	2403.671	2286.879	2252.971	2219.063	2252.971	2286.879	2403.671	2441.346
160	2573.209	2550.604	2475.254	2433.812	2403.671	2433.812	2475.254	2550.604	2573.209
165	2667.397	2667.397	2614.652	2584.512	2558.139	2584.512	2614.652	2667.397	2667.397
170	2738.980	2746.515	2723.910	2712.607	2690.002	2712.607	2723.910	2746.515	2738.980
175	2776.655	2795.492	2787.958	2772.887	2761.585	2772.887	2787.958	2795.492	2776.655
180	2795.492	2795.492	2795.492	2795.492	2795.492	2795.492	2795.492	2795.492	2795.492

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-8-00-L8-835U-L15-835D-A-F-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1744.02	N.A.	9.40
0-30	3653.57	N.A.	19.70
0-40	5878.76	N.A.	31.70
0-60	9983.73	N.A.	53.90
0-80	11991.99	N.A.	64.70
0-90	12135.96	N.A.	65.50
10-90	11681.09	N.A.	63.00
20-40	4134.74	N.A.	22.30
20-50	6340.74	N.A.	34.20
40-70	5439.7	N.A.	29.30
60-80	2008.26	N.A.	10.80
70-80	673.53	N.A.	3.60
80-90	143.97	N.A.	0.80
90-110	405.91	N.A.	2.20
90-120	1026.09	N.A.	5.50
90-130	1956.49	N.A.	10.60
90-150	4330.31	N.A.	23.40
90-180	6400.4	N.A.	34.50
110-180	5994.49	N.A.	32.30
0-180	18536.36	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	454.87
10-20	1289.15
20-30	1909.55
30-40	2225.19
40-50	2206.00
50-60	1898.97
60-70	1334.73
70-80	673.53
80-90	143.97
90-100	90.25
100-110	315.66
110-120	620.18
120-130	930.40
130-140	1156.42
140-150	1217.4
150-160	1068.57
160-170	737.89
170-180	263.63

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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	65
1	102	97	93	90	95	92	88	85	81	79	76	72	70	68	63	61	60	56
2	93	85	79	74	87	80	75	70	71	67	63	63	60	57	55	53	51	47
3	85	75	68	62	79	71	64	59	63	58	54	56	52	48	49	46	43	40
4	78	67	58	52	73	63	56	50	56	50	46	50	45	42	44	40	37	34
5	71	59	51	45	67	56	49	43	50	44	40	45	40	36	40	36	33	30
6	66	53	45	39	62	51	43	38	45	39	35	41	36	32	36	32	29	26
7	61	48	40	35	57	46	38	33	41	35	31	37	32	28	33	29	26	23
8	57	44	36	31	53	42	35	30	38	32	27	34	29	25	30	26	23	21
9	53	40	33	27	50	38	31	26	35	29	25	31	26	23	28	24	21	19
10	49	37	30	25	46	35	28	24	32	26	22	29	24	21	26	22	19	17

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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

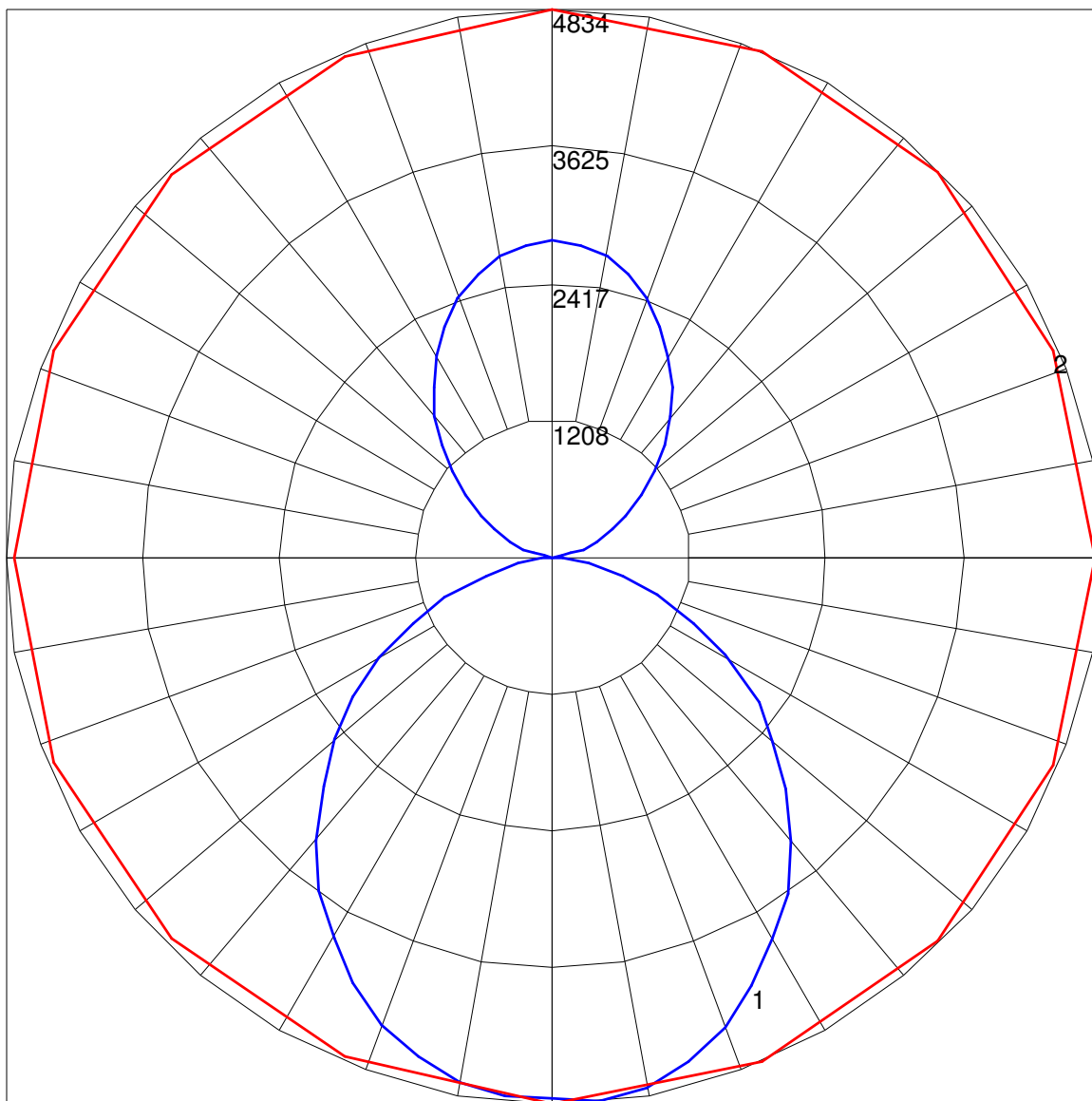
X=2H	Y=2H	18.9	19.9	19.7	20.8	21.8	19.1	20.1	20.0	21.0	22.0
	3H	20.4	21.3	21.2	22.2	23.2	20.6	21.5	21.5	22.4	23.4
	4H	20.9	21.8	21.8	22.6	23.7	21.1	21.9	21.9	22.8	23.9
	6H	21.2	22.0	22.1	22.8	23.9	21.3	22.1	22.2	23.0	24.1
	8H	21.3	22.0	22.1	22.9	24.0	21.4	22.1	22.2	23.0	24.1
	12H	21.3	22.0	22.2	22.9	24.0	21.4	22.1	22.2	22.9	24.1

### UGR Viewed Endwise

4H	2H	19.4	20.3	20.3	21.1	22.2	19.6	20.4	20.4	21.3	22.4
	3H	21.1	21.8	22.0	22.7	23.8	21.3	22.0	22.1	22.9	24.0
	4H	21.7	22.3	22.6	23.2	24.4	21.8	22.5	22.7	23.4	24.5
	6H	22.1	22.7	23.0	23.6	24.7	22.2	22.7	23.1	23.6	24.8
	8H	22.2	22.7	23.1	23.6	24.8	22.2	22.8	23.1	23.7	24.8
	12H	22.2	22.7	23.2	23.6	24.8	22.2	22.7	23.2	23.6	24.8
8H	4H	21.9	22.4	22.8	23.3	24.5	22.0	22.5	22.9	23.4	24.6
	6H	22.4	22.8	23.3	23.8	24.9	22.4	22.8	23.3	23.8	24.9
	8H	22.6	22.9	23.5	23.9	25.0	22.6	22.9	23.5	23.9	25.0
	12H	22.6	23.0	23.6	23.9	25.1	22.6	22.9	23.5	23.8	25.1
12H	4H	21.9	22.3	22.8	23.3	24.4	22.0	22.4	22.9	23.4	24.5
	6H	22.4	22.8	23.3	23.7	24.9	22.4	22.8	23.4	23.7	24.9
	8H	22.6	22.9	23.5	23.8	25.0	22.6	22.9	23.5	23.8	25.0

Maximum UGR = 25.1

POLAR GRAPH



Maximum Candela = 4833.894 Located At Horizontal Angle = 67.5, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)