



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-P7-835U-P7-835D-F-A-POE\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20194.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 13-MAR-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4-72 LED TOP & 8-72 LED BTM 8' DIRECT/INDIRECT LUMINAIRE

[MORE] WHITE REFLS w/FROSTED ACRYLIC LENS TOP/BTM

[LUMCAT] MX4UD-8-P7-835U-P7-835D-F-A-PoE

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11480
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
Total Luminaire Watts	96
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	8586	8183	8039
55	7770	7442	7326
65	6605	6580	6315
75	5097	5254	5176
85	2162	3156	2922

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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	2412.268	2412.268	2412.268	2412.268	2412.268
5	2444.088	2389.014	2385.342	2375.551	2360.865
10	2390.238	2340.059	2346.178	2326.596	2308.238
15	2315.581	2273.969	2276.417	2250.715	2232.357
20	2225.014	2191.969	2171.163	2141.790	2130.775
25	2091.611	2070.805	2043.880	2009.611	1997.372
30	1952.089	1933.730	1906.805	1859.074	1846.835
35	1805.223	1781.969	1737.910	1695.074	1685.283
40	1652.238	1616.746	1565.343	1533.522	1532.298
45	1458.865	1428.268	1390.328	1363.402	1365.850
50	1263.044	1238.567	1214.089	1181.044	1193.283
55	1070.895	1052.537	1025.611	1014.597	1009.701
60	871.403	859.164	842.029	839.582	832.238
65	670.686	669.462	668.239	659.671	641.313
70	485.880	488.328	495.671	490.776	474.865
75	316.985	318.209	326.776	330.448	321.880
80	157.881	173.791	171.343	181.134	177.463
85	45.284	64.866	66.090	63.642	61.194
90	8.567	17.134	20.806	17.134	17.134
95	22.030	36.716	40.388	39.164	40.388
100	90.567	124.836	126.060	111.373	117.492
105	214.179	232.537	238.657	206.836	205.612
110	378.179	373.283	386.746	337.791	336.567
115	562.985	547.074	555.642	474.865	477.313
120	753.910	750.238	730.656	654.776	656.000
125	963.194	947.283	909.343	854.268	824.895
130	1181.044	1141.880	1136.985	1080.686	1024.388
135	1385.432	1341.373	1340.149	1291.193	1249.582
140	1578.805	1535.969	1537.193	1493.134	1461.313
145	1775.850	1714.656	1724.447	1668.149	1653.462
150	1939.850	1883.551	1897.014	1839.492	1822.357
155	2070.805	2016.954	2037.760	1986.357	1971.671
160	2183.402	2127.104	2135.671	2101.402	2086.715
165	2276.417	2220.118	2211.551	2191.969	2174.835
170	2327.820	2272.745	2267.850	2254.387	2238.477
175	2365.760	2313.133	2310.686	2300.894	2291.103
180	2333.939	2333.939	2333.939	2333.939	2333.939

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-8-00-P7-835U-P7-835D-F-A-POE\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	865.84	N.A.	7.50
0-30	1806.55	N.A.	15.70
0-40	2895.96	N.A.	25.20
0-60	4898.95	N.A.	42.70
0-80	5903.54	N.A.	51.40
0-90	5989.13	N.A.	52.20
10-90	5762.58	N.A.	50.20
20-40	2030.12	N.A.	17.70
20-50	3109.28	N.A.	27.10
40-70	2662.16	N.A.	23.20
60-80	1004.59	N.A.	8.80
70-80	345.41	N.A.	3.00
80-90	85.59	N.A.	0.70
90-110	300.14	N.A.	2.60
90-120	825.18	N.A.	7.20
90-130	1636.17	N.A.	14.30
90-150	3721.14	N.A.	32.40
90-180	5490.59	N.A.	47.80
110-180	5190.45	N.A.	45.20
0-180	11479.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	226.54
10-20	639.29
20-30	940.71
30-40	1089.41
40-50	1079.16
50-60	923.83
60-70	659.17
70-80	345.41
80-90	85.59
90-100	56.44
100-110	243.70
110-120	525.04
120-130	810.99
130-140	1019.27
140-150	1065.7
150-160	926.64
160-170	623.30
170-180	219.50

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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	50	49	44
2	90	82	76	71	83	76	71	67	65	61	58	55	52	50	46	44	42	37
3	82	72	65	59	76	67	61	56	58	53	49	49	45	42	40	38	36	32
4	75	64	56	50	69	60	53	47	51	46	42	44	39	36	36	33	31	27
5	69	57	49	43	63	53	46	41	46	40	36	39	35	31	33	29	27	24
6	63	51	43	38	59	48	41	36	41	36	32	35	31	28	30	26	24	21
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	27	24	21	19
8	55	42	34	29	50	39	33	28	34	29	25	29	25	22	25	22	19	17
9	51	39	31	26	47	36	29	25	31	26	22	27	23	20	23	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	21	18	16	14

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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

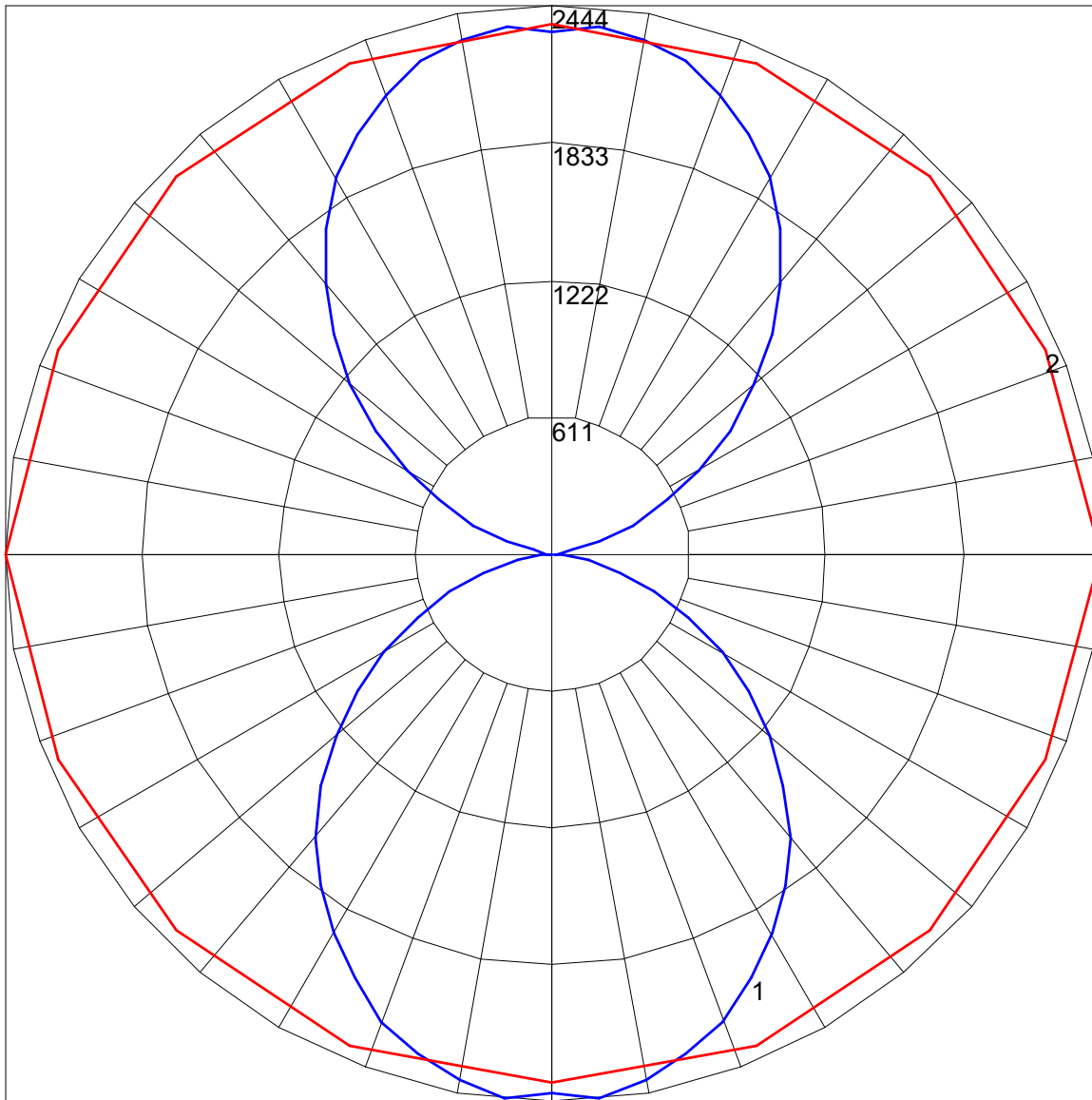
X=2H	Y=2H	15.4	16.3	16.4	17.3	18.5	15.2	16.1	16.2	17.0	18.3
	3H	16.9	17.7	17.9	18.7	20.0	16.8	17.5	17.7	18.5	19.8
	4H	17.4	18.2	18.4	19.1	20.4	17.3	18.0	18.3	19.0	20.3
	6H	17.7	18.4	18.7	19.4	20.6	17.6	18.3	18.6	19.3	20.6
	8H	17.8	18.4	18.7	19.4	20.7	17.7	18.4	18.7	19.3	20.6
	12H	17.8	18.4	18.7	19.4	20.7	17.7	18.3	18.7	19.3	20.6

### UGR Viewed Endwise

4H	2H	15.9	16.7	16.9	17.6	18.9	15.7	16.5	16.7	17.4	18.7
	3H	17.6	18.2	18.6	19.2	20.5	17.5	18.1	18.5	19.1	20.4
	4H	18.2	18.8	19.2	19.8	21.1	18.1	18.7	19.1	19.7	21.0
	6H	18.6	19.1	19.6	20.1	21.4	18.6	19.1	19.6	20.1	21.4
	8H	18.7	19.1	19.7	20.1	21.5	18.7	19.1	19.7	20.2	21.5
	12H	18.7	19.1	19.7	20.1	21.5	18.7	19.1	19.8	20.2	21.5
8H	4H	18.4	18.9	19.4	19.9	21.2	18.3	18.8	19.3	19.8	21.1
	6H	18.9	19.3	19.9	20.3	21.6	18.9	19.3	19.9	20.3	21.6
	8H	19.0	19.4	20.1	20.4	21.7	19.1	19.4	20.1	20.4	21.8
	12H	19.1	19.4	20.2	20.4	21.8	19.2	19.5	20.2	20.5	21.9
12H	4H	18.4	18.8	19.4	19.8	21.2	18.3	18.7	19.3	19.7	21.1
	6H	18.9	19.2	19.9	20.3	21.6	18.9	19.2	19.9	20.3	21.6
	8H	19.1	19.4	20.1	20.4	21.8	19.1	19.4	20.2	20.4	21.8

Maximum UGR = 21.9

POLAR GRAPH



Maximum Candela = 2444.088 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.)