



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-6-L8-835U-L12-835D-AF-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20657.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 30-JUN2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 6' INDIRECT SUSPENDED LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS  
 [LUMCAT] MX4U-6-00-L8-835-A-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 3500K CCT  
 [SEARCH\_SOURCETYPE] LED  
 [SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Indirect  
 [SEARCH\_MOUNTING] Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	12466
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	95.8
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)	6.00 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	13971	13548	13336
55	12831	12309	11961
65	10921	10744	10389
75	8290	8675	8193
85	4007	5152	4866

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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	2970.060	2970.060	2970.060	2970.060	2970.060
5	2983.339	2952.355	2939.076	2930.223	2930.223
10	2930.223	2899.239	2885.960	2877.107	2868.255
15	2828.418	2806.286	2784.155	2775.302	2762.023
20	2708.907	2677.923	2660.218	2633.660	2624.807
25	2553.986	2518.576	2500.870	2469.886	2465.460
30	2399.065	2359.228	2323.817	2314.965	2292.833
35	2182.175	2155.617	2124.633	2093.649	2093.649
40	1978.565	1952.007	1912.170	1903.317	1872.333
45	1752.822	1726.264	1699.707	1673.149	1673.149
50	1540.359	1504.948	1482.817	1465.112	1442.980
55	1305.764	1274.780	1252.648	1230.517	1217.238
60	1062.317	1044.611	1031.332	1013.627	1000.348
65	818.869	814.443	805.590	783.458	779.032
70	606.406	601.979	588.700	579.848	570.995
75	380.663	393.942	398.369	385.090	376.237
80	194.758	203.611	203.611	208.037	212.463
85	61.968	66.395	79.674	70.821	75.247
90	0.000	0.000	0.000	0.000	0.000
95	92.816	90.960	94.672	92.816	98.385
100	196.770	198.626	187.489	196.770	194.914
105	332.282	330.425	330.425	324.856	319.287
110	475.218	467.793	462.224	458.512	449.230
115	629.293	620.012	608.874	590.310	590.310
120	781.512	764.805	748.098	738.816	729.535
125	920.736	917.023	898.460	879.897	870.615
130	1065.529	1063.673	1045.109	1028.402	1022.833
135	1202.897	1206.609	1186.190	1163.914	1156.489
140	1349.546	1342.121	1329.127	1297.569	1297.569
145	1481.345	1472.063	1451.644	1444.219	1427.512
150	1590.868	1602.006	1581.586	1564.879	1557.454
155	1698.535	1707.816	1692.966	1672.546	1670.690
160	1793.207	1800.632	1785.782	1776.500	1767.219
165	1863.747	1873.029	1860.035	1850.753	1845.184
170	1913.868	1923.150	1912.012	1906.443	1906.443
175	1939.856	1950.994	1941.713	1936.144	1928.719
180	1947.282	1947.282	1947.282	1947.282	1947.282

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1065.56	N.A.	8.50
0-30	2218.66	N.A.	17.80
0-40	3551.92	N.A.	28.50
0-60	5991.94	N.A.	48.10
0-80	7203.77	N.A.	57.80
0-90	7298.34	N.A.	58.50
10-90	7018.89	N.A.	56.30
20-40	2486.35	N.A.	19.90
20-50	3802.2	N.A.	30.50
40-70	3237.17	N.A.	26.00
60-80	1211.83	N.A.	9.70
70-80	414.69	N.A.	3.30
80-90	94.56	N.A.	0.80
90-110	450.37	N.A.	3.60
90-120	1051.68	N.A.	8.40
90-130	1855.47	N.A.	14.90
90-150	3680.9	N.A.	29.50
90-180	5167.78	N.A.	41.50
110-180	4717.41	N.A.	37.80
0-180	12466.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	279.44
10-20	786.12
20-30	1153.1
30-40	1333.26
40-50	1315.85
50-60	1124.18
60-70	797.14
70-80	414.69
80-90	94.56
90-100	103.91
100-110	346.46
110-120	601.31
120-130	803.79
130-140	914.72
140-150	910.71
150-160	778.33
160-170	524.21
170-180	184.34

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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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	100	96	92	88	93	89	86	83	78	75	73	67	65	63	57	56	55	50
2	91	84	78	72	85	78	73	68	68	64	61	59	56	53	50	48	46	42
3	83	74	66	61	77	69	63	57	60	55	51	52	48	45	45	42	39	36
4	76	65	57	51	71	61	54	49	54	48	44	47	42	39	40	37	34	31
5	70	58	50	44	65	55	48	42	48	42	38	42	37	34	36	33	30	27
6	65	52	44	38	60	49	42	37	43	38	33	38	33	30	33	29	26	24
7	60	47	39	34	56	45	37	32	39	34	29	35	30	26	30	26	23	21
8	56	43	35	30	52	41	34	29	36	30	26	32	27	24	28	24	21	19
9	52	39	32	27	48	37	30	26	33	27	23	29	25	21	25	22	19	17
10	48	36	29	24	45	34	28	23	31	25	21	27	22	19	24	20	17	15

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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	17.8	18.7	18.6	19.6	20.7	UGR Viewed Endwise			
	3H	19.3	20.1	20.2	21.0	22.2	17.5	18.4	18.4	19.3
	4H	19.8	20.6	20.7	21.5	22.7	19.0	19.8	19.9	20.8
	6H	20.1	20.8	21.0	21.7	22.9	19.5	20.3	20.4	21.2
	8H	20.1	20.8	21.0	21.7	22.9	19.8	20.6	20.8	21.5
	12H	20.1	20.8	21.0	21.7	22.9	19.9	20.6	20.8	21.6

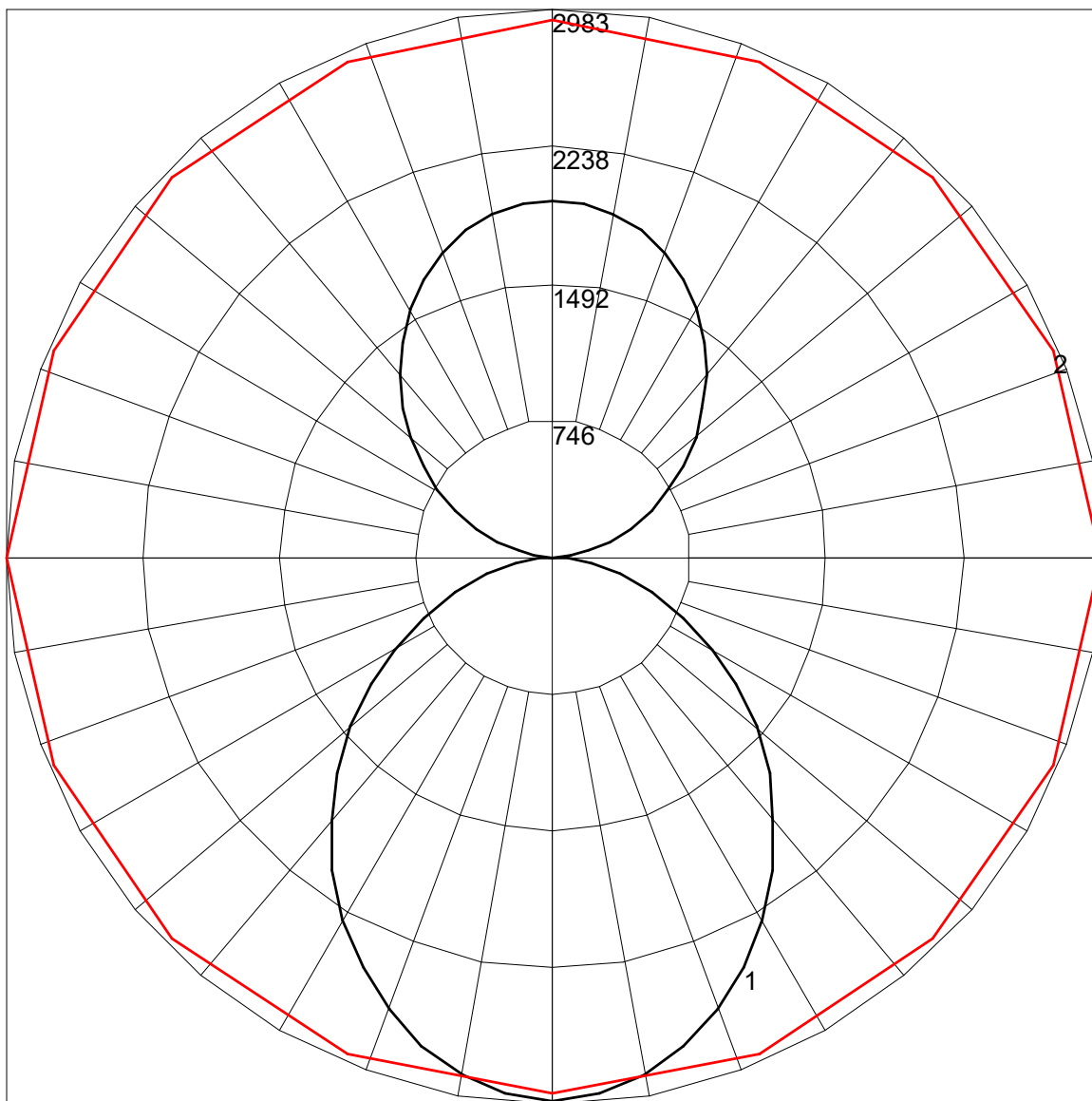
4H	2H	18.2	19.0	19.1	19.9	21.1	17.5	18.4	18.4	19.3
	3H	20.0	20.6	20.9	21.6	22.8	19.0	19.8	19.9	20.8
	4H	20.6	21.2	21.5	22.1	23.3	19.5	20.3	20.4	21.2
	6H	20.9	21.5	21.9	22.4	23.6	19.8	20.6	20.8	21.5
	8H	21.0	21.5	22.0	22.5	23.7	19.9	20.6	20.8	21.6
	12H	21.1	21.5	22.0	22.5	23.7	19.9	20.6	20.9	21.5

8H	4H	20.8	21.2	21.7	22.2	23.4	19.8	20.6	20.8	21.5
	6H	21.2	21.6	22.2	22.6	23.8	19.9	20.6	20.8	21.6
	8H	21.4	21.7	22.3	22.7	24.0	19.9	20.6	20.8	21.6
	12H	21.4	21.7	22.4	22.7	24.0	19.9	20.6	20.9	21.5

12H	4H	20.7	21.2	21.7	22.1	23.4	19.8	20.6	20.8	21.5
	6H	21.2	21.6	22.2	22.6	23.8	19.9	20.6	20.8	21.6
	8H	21.4	21.7	22.4	22.7	24.0	19.9	20.6	20.9	21.5

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 2983.339 Located At Horizontal Angle = 0, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)