



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-835U-L8-835D-FP-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] 03-24-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 4' INDIRECT SUSPENDED LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS  
 [LUMCAT] MX4U-4-00-L8-835-F-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	6476
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	116
Total Luminaire Watts	55.8
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)	4.00 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	8574	8550	8503
55	8029	8059	8059
65	7291	7331	7450
75	6147	6794	7118
85	4035	6917	8263

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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	1190.535	1190.535	1190.535	1190.535	1190.535
5	1186.573	1186.573	1186.573	1184.592	1182.611
10	1166.764	1164.783	1168.745	1164.783	1166.764
15	1135.069	1127.145	1135.069	1127.145	1127.145
20	1085.546	1083.565	1083.565	1081.584	1079.603
25	1030.080	1026.118	1028.099	1026.118	1022.156
30	962.729	962.729	960.748	956.786	954.805
35	887.453	887.453	871.606	877.549	871.606
40	804.255	802.274	792.369	796.331	790.388
45	717.094	715.113	715.113	719.075	711.151
50	625.972	633.895	631.914	625.972	631.914
55	544.754	546.735	546.735	542.773	546.735
60	451.650	449.670	453.631	465.517	453.631
65	364.490	362.509	366.471	370.433	372.414
70	269.406	275.348	283.272	291.196	293.177
75	188.188	196.111	207.997	209.978	217.902
80	106.970	114.894	132.722	140.646	144.607
85	41.599	51.504	71.313	79.237	85.180
90	5.943	17.828	29.714	37.638	41.599
95	60.458	69.193	81.437	86.210	95.661
100	123.971	131.084	137.933	151.704	150.535
105	209.348	214.121	227.987	230.422	230.875
110	299.402	300.667	307.063	312.647	308.781
115	396.474	396.569	399.457	393.704	395.685
120	492.376	485.812	481.229	481.324	479.438
125	580.092	579.734	575.962	570.209	566.343
130	671.316	670.146	664.394	659.811	658.283
135	757.862	760.201	753.279	743.206	740.509
140	850.256	845.577	843.333	823.451	825.432
145	933.293	927.445	920.523	917.826	909.281
150	1002.296	1009.313	998.429	991.865	987.187
155	1070.129	1075.977	1066.620	1055.736	1054.567
160	1129.776	1134.454	1125.097	1121.231	1115.383
165	1174.218	1180.066	1171.879	1166.031	1162.523
170	1205.796	1211.643	1204.626	1201.118	1201.118
175	1222.169	1229.187	1223.339	1219.830	1215.152
180	1226.847	1226.847	1226.847	1226.847	1226.847

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-4-00-L8-835U-L8-835D-FP-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	431.14	N.A.	6.70
0-30	903.75	N.A.	14.00
0-40	1454.17	N.A.	22.50
0-60	2493.27	N.A.	38.50
0-80	3074.06	N.A.	47.50
0-90	3152.64	N.A.	48.70
10-90	3040.1	N.A.	46.90
20-40	1023.04	N.A.	15.80
20-50	1575.16	N.A.	24.30
40-70	1403.52	N.A.	21.70
60-80	580.79	N.A.	9.00
70-80	216.36	N.A.	3.30
80-90	78.58	N.A.	1.20
90-110	323.69	N.A.	5.00
90-120	715.52	N.A.	11.00
90-130	1229.68	N.A.	19.00
90-150	2386.39	N.A.	36.80
90-180	3323.82	N.A.	51.30
110-180	3000.14	N.A.	46.30
0-180	6476.46	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	112.54
10-20	318.60
20-30	472.62
30-40	550.42
40-50	552.12
50-60	486.98
60-70	364.43
70-80	216.36
80-90	78.58
90-100	88.31
100-110	235.38
110-120	391.83
120-130	514.16
130-140	580.39
140-150	576.32
150-160	490.97
160-170	330.33
170-180	116.14

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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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	93	89	85	89	86	82	79	72	70	67	60	58	56	48	47	46	41
2	89	81	75	70	81	75	69	65	63	59	56	52	49	47	42	40	39	34
3	81	71	64	58	74	66	59	54	56	51	47	46	43	40	38	35	33	29
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	31	28	25
5	68	56	48	42	62	52	45	39	44	39	34	37	33	29	30	27	25	21
6	62	50	42	36	57	47	39	34	40	34	30	33	29	26	27	24	22	19
7	58	45	37	32	53	42	35	30	36	30	26	30	26	23	25	22	19	17
8	54	41	33	28	49	38	31	27	33	27	23	28	23	20	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	13
10	47	34	27	22	43	32	26	21	28	22	19	24	19	16	20	16	14	12

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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	15.3	16.1	16.2	17.1	18.4	UGR Viewed Endwise	15.4	16.2	16.3	17.2	18.5
	3H	16.9	17.7	17.9	18.7	20.0		17.1	17.9	18.1	18.9	20.2
	4H	17.5	18.3	18.5	19.3	20.6		17.8	18.6	18.8	19.6	20.9
	6H	17.9	18.6	18.9	19.6	20.9		18.4	19.1	19.4	20.1	21.4
	8H	18.1	18.7	19.1	19.7	21.0		18.7	19.3	19.7	20.3	21.7
	12H	18.1	18.7	19.1	19.7	21.1		18.9	19.5	19.9	20.5	21.9

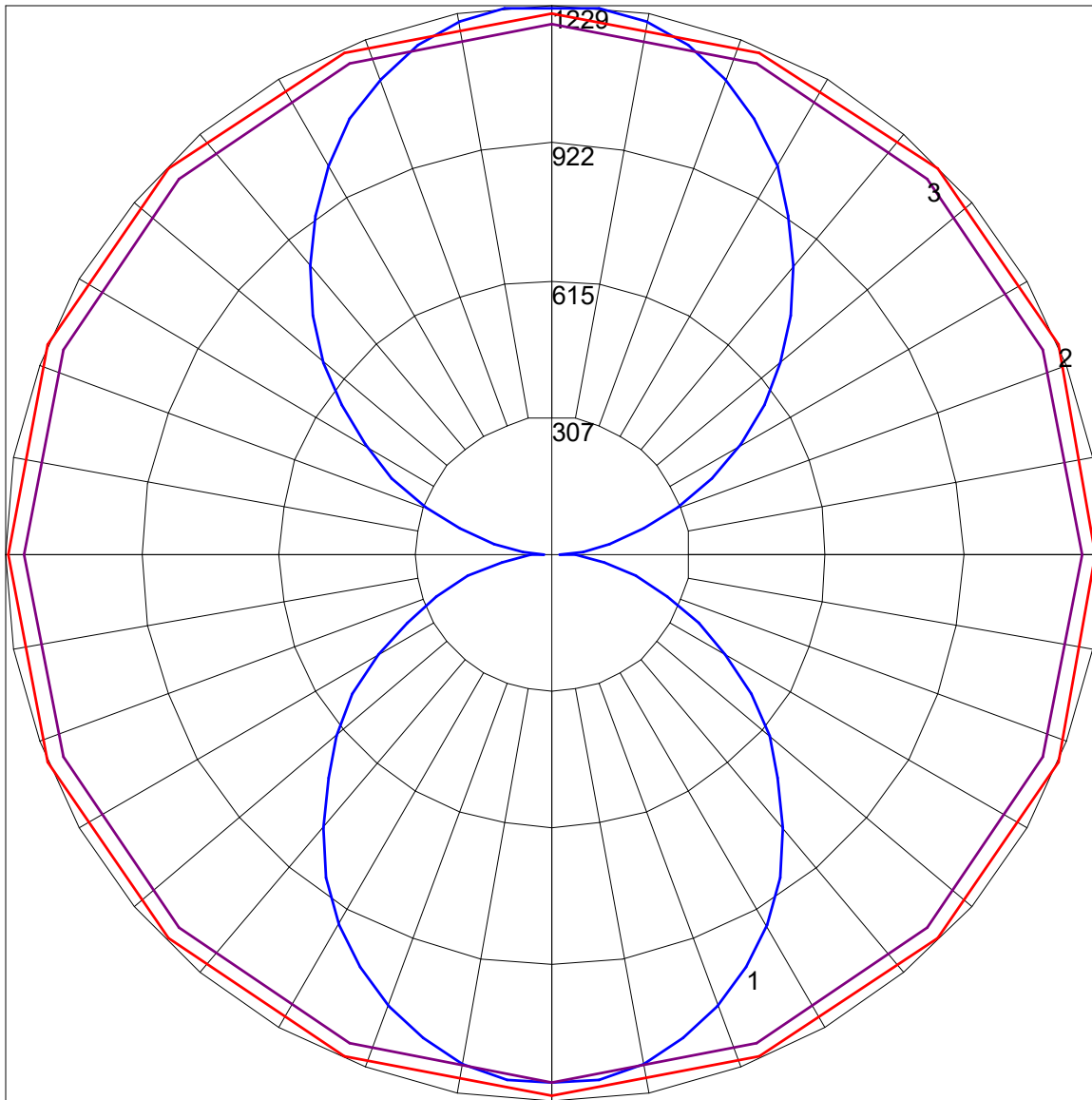
4H	2H	15.8	16.5	16.8	17.5	18.8		15.9	16.6	16.9	17.6	18.9
	3H	17.7	18.3	18.7	19.3	20.6		17.9	18.5	18.9	19.5	20.8
	4H	18.4	19.0	19.4	20.0	21.4		18.7	19.3	19.7	20.3	21.7
	6H	19.0	19.4	20.0	20.5	21.8		19.5	20.0	20.5	21.0	22.3
	8H	19.1	19.6	20.1	20.6	22.0		19.8	20.2	20.8	21.3	22.6
	12H	19.2	19.6	20.2	20.7	22.0		20.1	20.5	21.1	21.5	22.9

8H	4H	18.7	19.2	19.8	20.2	21.6		19.0	19.4	20.0	20.5	21.8
	6H	19.4	19.8	20.4	20.9	22.2		19.9	20.3	20.9	21.3	22.7
	8H	19.7	20.0	20.7	21.0	22.4		20.3	20.7	21.4	21.7	23.1
	12H	19.8	20.1	20.9	21.2	22.6		20.7	21.0	21.8	22.1	23.5

12H	4H	18.7	19.2	19.8	20.2	21.6		19.0	19.4	20.0	20.4	21.8
	6H	19.5	19.8	20.5	20.9	22.3		20.0	20.3	21.0	21.3	22.7
	8H	19.8	20.1	20.8	21.1	22.6		20.4	20.7	21.5	21.8	23.2

Maximum UGR = 23.5

POLAR GRAPH



Maximum Candela = 1229.187 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.)  
# 3 - Horizontal Cone Through Vertical Angle (0)