



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4WUD-4-00-L8-835U-L8-835D-AP-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] 22-JUN-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 4' INDIRECT/INDIRECT WALL MOUNTED LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS  
 [LUMCAT] MX4WUD-4-00-L8-835U-L8-835D-AP-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	6723
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
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	372.413
70	269.406	275.348	283.272	291.196	293.177
75	188.188	196.111	207.997	209.978	217.901
80	106.970	114.894	132.722	140.645	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	64.894	73.540	85.962	90.646	100.364
100	133.376	140.577	146.894	161.109	159.850
105	225.229	229.913	243.780	245.948	246.135
110	322.115	323.024	329.154	334.562	330.251
115	426.550	426.202	428.557	421.917	423.898
120	529.728	522.365	516.984	516.635	514.306
125	624.097	623.562	618.903	612.263	607.953
130	722.242	720.984	714.344	708.962	707.168
135	815.353	817.870	809.972	798.834	795.782
140	914.756	909.723	906.858	885.467	887.448
145	1004.092	997.801	989.903	986.851	977.507
150	1078.330	1085.879	1074.019	1066.657	1061.624
155	1151.309	1157.600	1147.534	1135.674	1134.416
160	1215.480	1220.513	1210.447	1206.137	1199.845
165	1263.294	1269.585	1260.777	1254.486	1250.711
170	1297.267	1303.558	1296.009	1292.234	1292.234
175	1314.883	1322.432	1316.141	1312.366	1307.333
180	1319.916	1319.916	1319.916	1319.916	1319.916

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	431.14	N.A.	6.40
0-30	903.75	N.A.	13.40
0-40	1454.17	N.A.	21.60
0-60	2493.27	N.A.	37.10
0-80	3074.06	N.A.	45.70
0-90	3152.64	N.A.	46.90
10-90	3040.1	N.A.	45.20
20-40	1023.04	N.A.	15.20
20-50	1575.16	N.A.	23.40
40-70	1403.52	N.A.	20.90
60-80	580.79	N.A.	8.60
70-80	216.36	N.A.	3.20
80-90	78.58	N.A.	1.20
90-110	345.21	N.A.	5.10
90-120	765.78	N.A.	11.40
90-130	1318.36	N.A.	19.60
90-150	2562.31	N.A.	38.10
90-180	3570.81	N.A.	53.10
110-180	3225.6	N.A.	48.00
0-180	6723.45	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	93.28
100-110	251.94
110-120	420.57
120-130	552.57
130-140	624.11
140-150	619.84
150-160	528.17
160-170	355.38
170-180	124.95

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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	97	93	89	85	89	85	82	79	71	69	67	59	57	55	47	46	45	39
2	88	81	75	69	81	74	69	64	62	58	55	51	49	46	41	39	37	33
3	80	71	64	58	74	65	59	54	55	50	46	45	42	39	36	34	32	28
4	74	63	55	49	67	58	51	46	49	44	39	40	36	33	32	30	27	24
5	67	56	48	42	62	52	44	39	44	38	34	36	32	29	29	26	24	21
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	27	23	21	18
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19	16
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17	14
9	50	37	30	25	46	35	28	23	30	24	21	25	21	18	21	17	15	13
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	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	15.1	15.9	16.0	16.9	18.2	15.1	16.0	16.1	17.0	18.3
	3H	16.7	17.5	17.7	18.5	19.8	16.9	17.7	17.9	18.7	20.0
	4H	17.3	18.0	18.3	19.0	20.4	17.6	18.4	18.6	19.4	20.7
	6H	17.7	18.4	18.7	19.4	20.8	18.2	18.9	19.2	19.9	21.3
	8H	17.8	18.5	18.9	19.5	20.9	18.5	19.1	19.5	20.1	21.5
	12H	17.9	18.5	18.9	19.5	20.9	18.7	19.3	19.7	20.3	21.7

### UGR Viewed Endwise

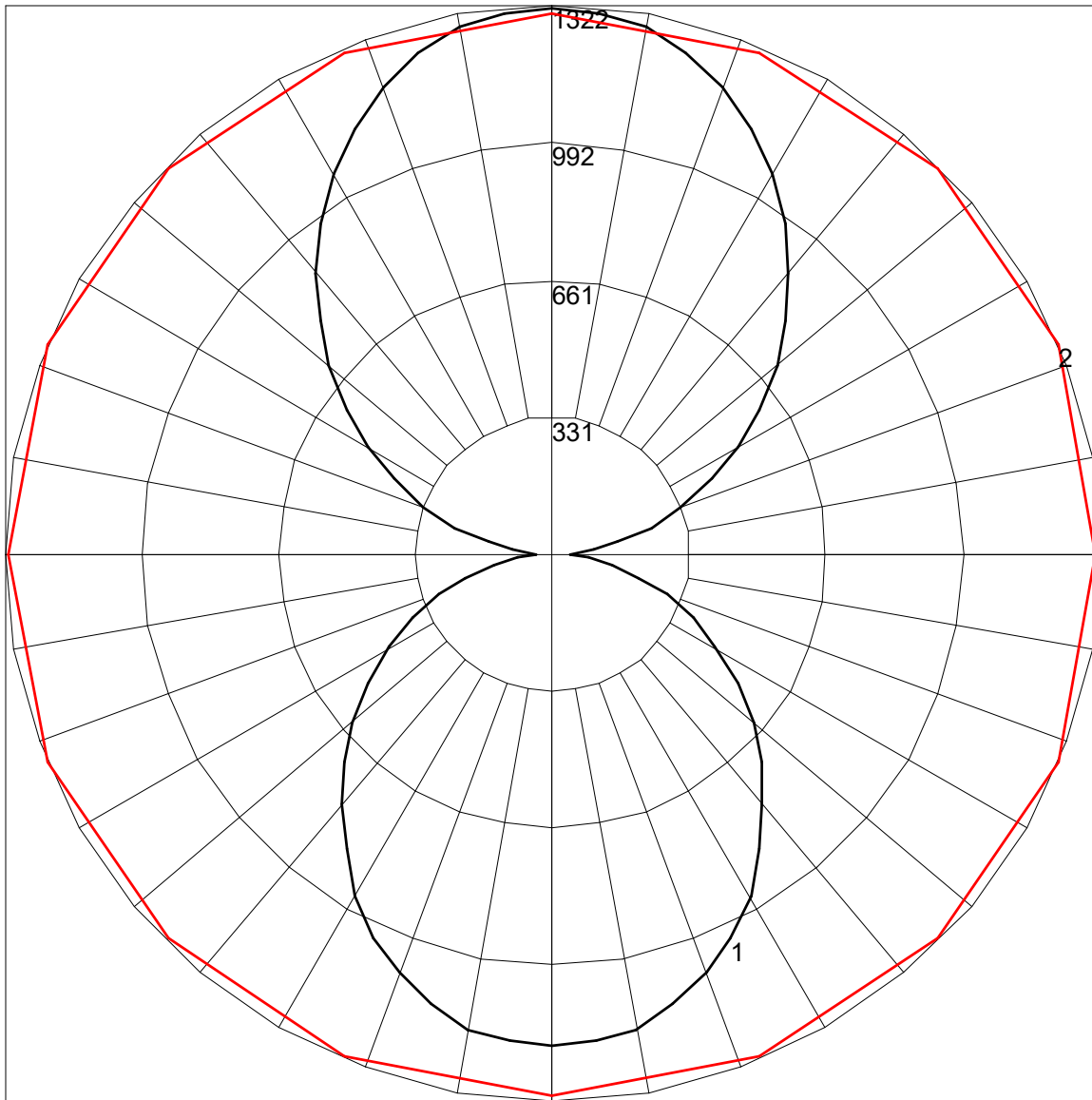
4H	2H	15.6	16.3	16.6	17.3	18.7	15.7	16.4	16.7	17.4	18.7
	3H	17.5	18.1	18.5	19.1	20.5	17.7	18.3	18.7	19.3	20.7
	4H	18.2	18.8	19.3	19.8	21.2	18.5	19.1	19.5	20.1	21.5
	6H	18.8	19.2	19.8	20.3	21.7	19.3	19.7	20.3	20.8	22.2
	8H	18.9	19.4	20.0	20.4	21.8	19.6	20.0	20.6	21.1	22.4
	12H	19.0	19.4	20.1	20.5	21.9	19.8	20.2	20.9	21.3	22.7

8H	4H	18.5	19.0	19.6	20.0	21.4	18.8	19.2	19.8	20.3	21.7
	6H	19.2	19.6	20.3	20.7	22.0	19.7	20.0	20.7	21.1	22.5
	8H	19.4	19.8	20.5	20.8	22.2	20.1	20.4	21.2	21.5	22.9
	12H	19.6	19.9	20.7	21.0	22.4	20.5	20.8	21.6	21.9	23.3

12H	4H	18.5	18.9	19.6	20.0	21.4	18.8	19.2	19.8	20.2	21.6
	6H	19.3	19.6	20.3	20.7	22.1	19.7	20.1	20.8	21.1	22.6
	8H	19.6	19.9	20.7	20.9	22.4	20.2	20.5	21.3	21.6	23.0

Maximum UGR = 23.3

POLAR GRAPH



Maximum Candela = 1322.432 Located At Horizontal Angle = 22.5, Vertical Angle = 175  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (175) (Through Max. Cd.)