



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L8-840D-A-F-EM10WRM-DIM-UNV\_(EMER MODE).IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20659.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 08-21-2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 4' DIRECT/INDIRECT SUSPENDED LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS TOP/BTM  
 [LUMCAT] MX4UD-4-00-L8-840U-L8-840D-AF-EM10WRM-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 4000K CCT  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Direct-Indirect  
 [\_SEARCH\_MOUNTING] Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1220
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	122
Total Luminaire Watts	10
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	1577	1543	1504
55	1437	1389	1341
65	1218	1182	1131
75	923	900	900
85	492	527	457

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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	225.080	225.080	225.080	225.080	225.080
5	227.617	224.355	223.268	222.543	222.181
10	222.906	219.281	218.556	217.106	217.106
15	216.019	212.395	210.945	209.857	209.132
20	205.870	202.608	201.159	200.071	198.984
25	193.910	190.648	189.560	187.748	187.023
30	179.412	177.237	176.150	173.613	171.438
35	163.826	163.464	161.652	158.752	156.940
40	148.604	146.067	145.704	142.805	141.355
45	131.931	130.119	129.031	125.407	125.769
50	114.534	113.446	112.359	109.459	108.372
55	97.499	96.411	94.236	92.062	90.974
60	78.651	78.289	75.752	74.664	73.577
65	60.891	60.529	59.079	57.992	56.542
70	44.944	43.856	42.044	42.769	42.044
75	28.271	27.546	27.546	28.271	27.546
80	14.135	15.585	15.585	15.585	14.498
85	5.074	5.437	5.437	5.437	4.712
90	0.362	0.362	0.362	0.362	0.362
95	8.336	8.699	8.336	7.249	7.249
100	19.572	19.210	19.210	17.760	16.310
105	33.708	33.708	31.895	30.083	27.546
110	52.917	51.830	48.568	47.118	44.581
115	71.765	69.952	67.778	64.153	61.254
120	94.961	94.961	89.162	85.175	83.001
125	118.158	119.970	111.996	109.459	105.835
130	143.167	144.617	137.730	133.743	130.844
135	166.001	163.826	161.652	159.840	159.115
140	187.386	187.023	185.936	183.399	184.124
145	205.870	206.233	205.146	203.333	206.233
150	222.906	223.630	223.268	220.731	224.355
155	235.954	237.041	237.041	235.229	238.853
160	246.102	248.277	247.190	246.102	248.277
165	254.439	256.613	254.439	254.439	255.526
170	259.150	261.687	259.513	259.150	258.425
175	262.775	264.949	262.775	262.412	260.600
180	263.500	263.500	263.500	263.500	263.500

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L8-840D-A-F-EM10WRM-DIM-UNV\_(EMER MODE).IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	80.75	N.A.	6.60
0-30	168.00	N.A.	13.80
0-40	268.62	N.A.	22.00
0-60	451.88	N.A.	37.00
0-80	540.68	N.A.	44.30
0-90	547.82	N.A.	44.90
10-90	526.62	N.A.	43.20
20-40	187.87	N.A.	15.40
20-50	286.96	N.A.	23.50
40-70	242.01	N.A.	19.80
60-80	88.80	N.A.	7.30
70-80	30.05	N.A.	2.50
80-90	7.14	N.A.	0.60
90-110	44.00	N.A.	3.60
90-120	111.50	N.A.	9.10
90-130	213.11	N.A.	17.50
90-150	466.34	N.A.	38.20
90-180	672.17	N.A.	55.10
110-180	628.18	N.A.	51.50
0-180	1219.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	21.20
10-20	59.56
20-30	87.24
30-40	100.62
40-50	99.09
50-60	84.17
60-70	58.75
70-80	30.05
80-90	7.14
90-100	9.51
100-110	34.49
110-120	67.50
120-130	101.62
130-140	125.01
140-150	128.22
150-160	108.90
160-170	71.94
170-180	24.99

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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	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44	38
2	88	81	75	70	81	75	69	65	62	59	55	51	48	46	40	39	37	32
3	81	71	64	58	74	66	59	54	55	50	47	45	42	39	36	34	32	27
4	74	63	55	50	67	58	51	46	49	44	40	40	37	34	32	30	27	24
5	68	56	48	42	62	52	45	40	44	38	34	36	32	29	29	26	24	21
6	62	51	43	37	57	47	40	35	39	34	30	33	29	26	26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	24	21	19	16
8	54	41	34	29	49	38	32	27	33	27	23	27	23	20	22	19	17	14
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	20	17	15	13
10	47	35	28	23	43	32	26	21	28	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	8.9	9.7	9.9	10.7	12.1	8.5	9.4	9.5	10.4	11.7
	3H	10.4	11.1	11.4	12.1	13.5	10.0	10.8	11.0	11.8	13.1
	4H	10.8	11.5	11.9	12.5	13.9	10.5	11.2	11.5	12.2	13.6
	6H	11.1	11.7	12.1	12.8	14.1	10.8	11.4	11.8	12.5	13.9
	8H	11.1	11.7	12.2	12.8	14.2	10.9	11.5	11.9	12.5	13.9
	12H	11.2	11.7	12.2	12.8	14.2	10.9	11.5	11.9	12.5	13.9

### UGR Viewed Endwise

4H	2H	9.3	10.0	10.4	11.0	12.4	9.0	9.7	10.1	10.7	12.1
	3H	11.0	11.6	12.0	12.6	14.0	10.7	11.3	11.7	12.3	13.7
	4H	11.5	12.1	12.6	13.1	14.5	11.3	11.8	12.4	12.9	14.3
	6H	11.9	12.4	13.0	13.4	14.8	11.7	12.2	12.8	13.2	14.6
	8H	12.0	12.4	13.0	13.5	14.9	11.8	12.2	12.9	13.3	14.7
	12H	12.0	12.4	13.1	13.5	14.9	11.8	12.2	12.9	13.3	14.7

8H	4H	11.7	12.1	12.8	13.2	14.6	11.5	11.9	12.5	13.0	14.4
	6H	12.2	12.5	13.2	13.6	15.0	12.0	12.3	13.1	13.4	14.9
	8H	12.3	12.6	13.4	13.7	15.1	12.2	12.5	13.2	13.6	15.0
	12H	12.4	12.7	13.5	13.7	15.2	12.3	12.5	13.3	13.6	15.1

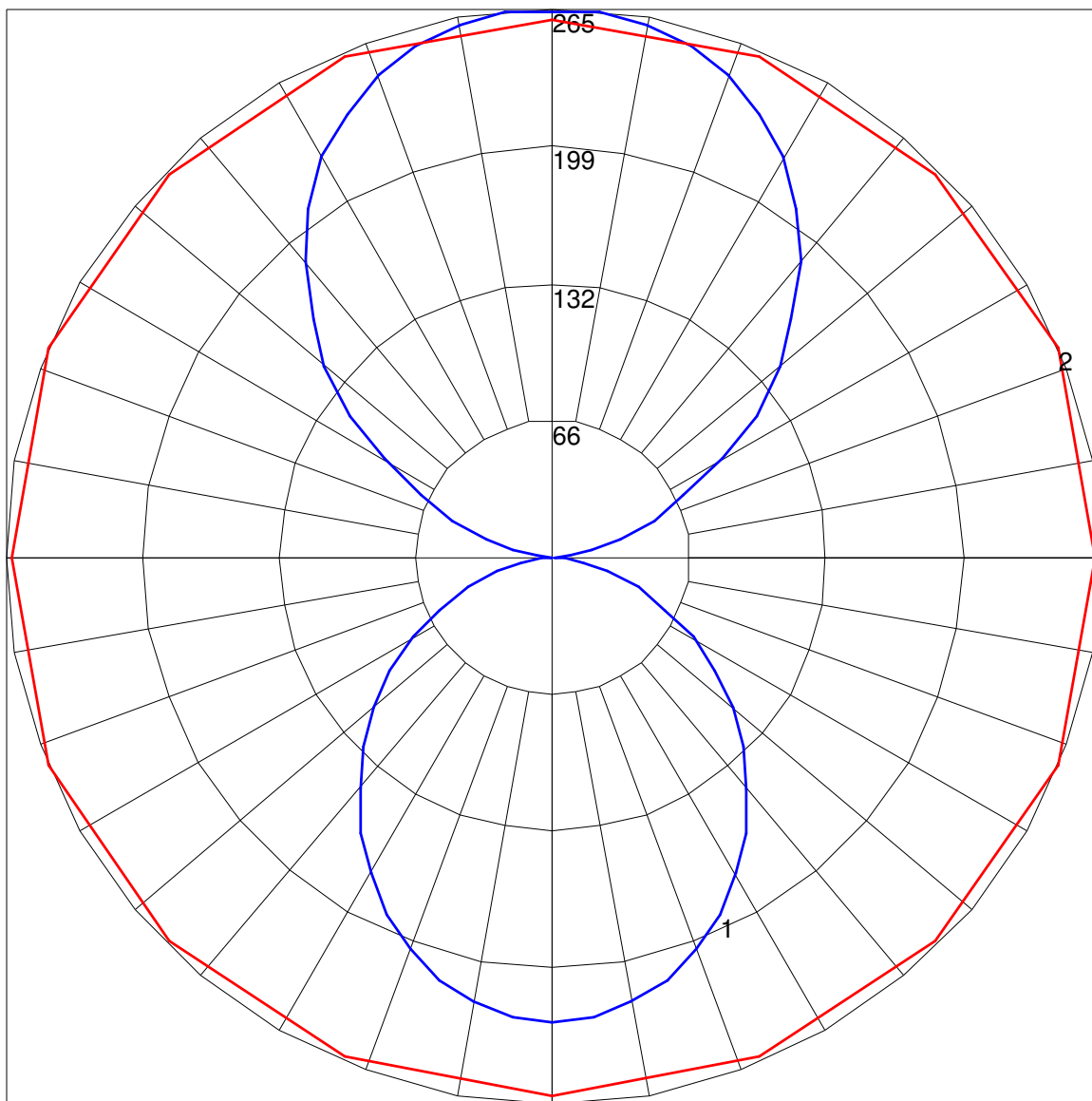
12H	4H	11.7	12.1	12.7	13.1	14.6	11.5	11.9	12.5	12.9	14.3
	6H	12.2	12.5	13.3	13.6	15.0	12.0	12.3	13.1	13.4	14.9
	8H	12.4	12.6	13.5	13.7	15.2	12.2	12.5	13.3	13.6	15.0

Maximum UGR = 15.2

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## POLAR GRAPH



Maximum Candela = 264.949 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.)