



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-835U-L12-835D-A-F-(L5U-L9D)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20195.0 & 20657.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 16-APR-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 4' DIRECT/INDIRECT WALL MOUNT LUMINAIRE

[MORE] WITH FROSTED ACRYLIC LENS

[LUMCAT] MX4WUD-4-L8-835U-L12-835D-S-A-F-(L5U-L9D)-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Direct

[_SEARCH_MOUNTING] Wall Mount

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5886
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	45.6
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.30
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	10624	10145	9765
55	9789	9333	8754
65	8661	8147	7799
75	6664	6392	6343
85	3078	3811	3518

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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	1455.088	1455.088	1455.088	1455.088	1455.088
5	1485.019	1452.786	1443.576	1435.902	1428.227
10	1465.065	1430.530	1419.785	1408.274	1399.832
15	1435.134	1396.762	1376.808	1358.389	1353.017
20	1372.203	1333.831	1323.086	1291.621	1286.249
25	1283.946	1254.016	1243.271	1219.480	1214.108
30	1195.689	1168.829	1155.015	1138.131	1129.689
35	1112.805	1081.339	1059.083	1049.106	1039.897
40	1020.710	996.152	963.919	948.570	936.291
45	902.523	885.639	861.848	847.266	829.615
50	793.545	765.149	760.544	733.684	719.102
55	674.590	657.706	643.124	620.101	603.217
60	564.844	540.286	531.844	511.123	496.541
65	439.750	426.703	413.656	400.610	396.005
70	323.097	311.585	303.143	290.864	296.236
75	207.212	207.979	198.770	198.770	197.235
80	102.071	108.211	105.141	111.280	103.606
85	32.233	38.373	39.907	46.815	36.838
90	0.000	0.000	0.000	0.000	0.000
95	39.565	38.774	40.357	39.565	41.939
100	83.879	84.670	79.922	83.879	83.087
105	141.644	140.853	140.853	138.479	136.105
110	202.575	199.409	197.036	195.453	191.496
115	268.253	264.297	259.549	251.636	251.636
120	333.140	326.019	318.897	314.940	310.984
125	392.488	390.906	382.993	375.080	371.123
130	454.210	453.419	445.506	438.384	436.010
135	512.767	514.350	505.645	496.150	492.985
140	575.280	572.115	566.576	553.124	553.124
145	631.463	627.507	618.802	615.637	608.515
150	678.150	682.898	674.194	667.072	663.907
155	724.046	728.003	721.672	712.968	712.177
160	764.403	767.568	761.238	757.281	753.325
165	794.473	798.429	792.890	788.933	786.560
170	815.838	819.794	815.047	812.673	812.673
175	826.916	831.664	827.708	825.334	822.168
180	830.081	830.081	830.081	830.081	830.081

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-4-00-L8-835U-L12-835D-A-F-(L5U-L9D)-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	526.31	N.A.	8.90
0-30	1098.32	N.A.	18.70
0-40	1765.68	N.A.	30.00
0-60	3006.15	N.A.	51.10
0-80	3632.2	N.A.	61.70
0-90	3683.01	N.A.	62.60
10-90	3545.64	N.A.	60.20
20-40	1239.38	N.A.	21.10
20-50	1906.68	N.A.	32.40
40-70	1651.69	N.A.	28.10
60-80	626.05	N.A.	10.60
70-80	214.82	N.A.	3.60
80-90	50.81	N.A.	0.90
90-110	191.98	N.A.	3.30
90-120	448.31	N.A.	7.60
90-130	790.94	N.A.	13.40
90-150	1569.08	N.A.	26.70
90-180	2202.91	N.A.	37.40
110-180	2010.92	N.A.	34.20
0-180	5885.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	137.36
10-20	388.94
20-30	572.01
30-40	667.37
40-50	667.30
50-60	573.16
60-70	411.23
70-80	214.82
80-90	50.81
90-100	44.30
100-110	147.69
110-120	256.32
120-130	342.64
130-140	389.92
140-150	388.21
150-160	331.78
160-170	223.46
170-180	78.58

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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	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68	63
1	101	96	93	89	94	91	87	84	80	77	75	69	68	66	60	59	58	53
2	92	84	78	73	86	79	74	69	70	66	62	61	58	55	53	51	49	45
3	84	74	67	61	78	70	63	58	62	57	52	54	50	47	47	44	42	38
4	77	66	58	52	72	62	55	49	55	49	45	48	44	40	42	39	36	33
5	71	59	51	44	66	55	48	42	49	43	39	43	39	35	38	34	31	28
6	65	53	45	39	61	50	42	37	44	38	34	39	34	31	34	31	28	25
7	60	48	40	34	56	45	38	33	40	34	30	36	31	27	32	28	25	22
8	56	43	36	30	52	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	25	22	27	23	20	18
10	49	37	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18	16

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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	17.2	18.2	18.1	19.1	20.2	16.8	17.8	17.6	18.6	19.7
	3H	18.8	19.7	19.7	20.6	21.7	18.3	19.2	19.2	20.1	21.2
	4H	19.4	20.2	20.2	21.1	22.2	18.9	19.7	19.7	20.6	21.7
	6H	19.6	20.4	20.5	21.3	22.4	19.2	20.0	20.1	20.9	22.0
	8H	19.7	20.4	20.6	21.3	22.5	19.3	20.0	20.2	20.9	22.0
	12H	19.7	20.4	20.6	21.3	22.5	19.3	20.0	20.2	20.9	22.1

UGR Viewed Endwise

4H	2H	17.7	18.5	18.6	19.4	20.5	17.3	18.2	18.2	19.0	20.2
	3H	19.5	20.2	20.4	21.1	22.2	19.1	19.8	19.9	20.7	21.8
	4H	20.1	20.8	21.0	21.7	22.8	19.7	20.4	20.6	21.3	22.4
	6H	20.5	21.1	21.4	22.0	23.2	20.2	20.7	21.1	21.6	22.8
	8H	20.6	21.1	21.5	22.1	23.2	20.3	20.8	21.2	21.7	22.9
	12H	20.6	21.1	21.6	22.0	23.2	20.3	20.8	21.3	21.7	22.9

8H	4H	20.3	20.8	21.2	21.7	22.9	19.9	20.5	20.9	21.4	22.5
	6H	20.8	21.2	21.7	22.2	23.3	20.5	20.9	21.4	21.9	23.0
	8H	20.9	21.3	21.9	22.3	23.5	20.7	21.1	21.6	22.0	23.2
	12H	21.0	21.3	22.0	22.3	23.5	20.8	21.1	21.8	22.1	23.3

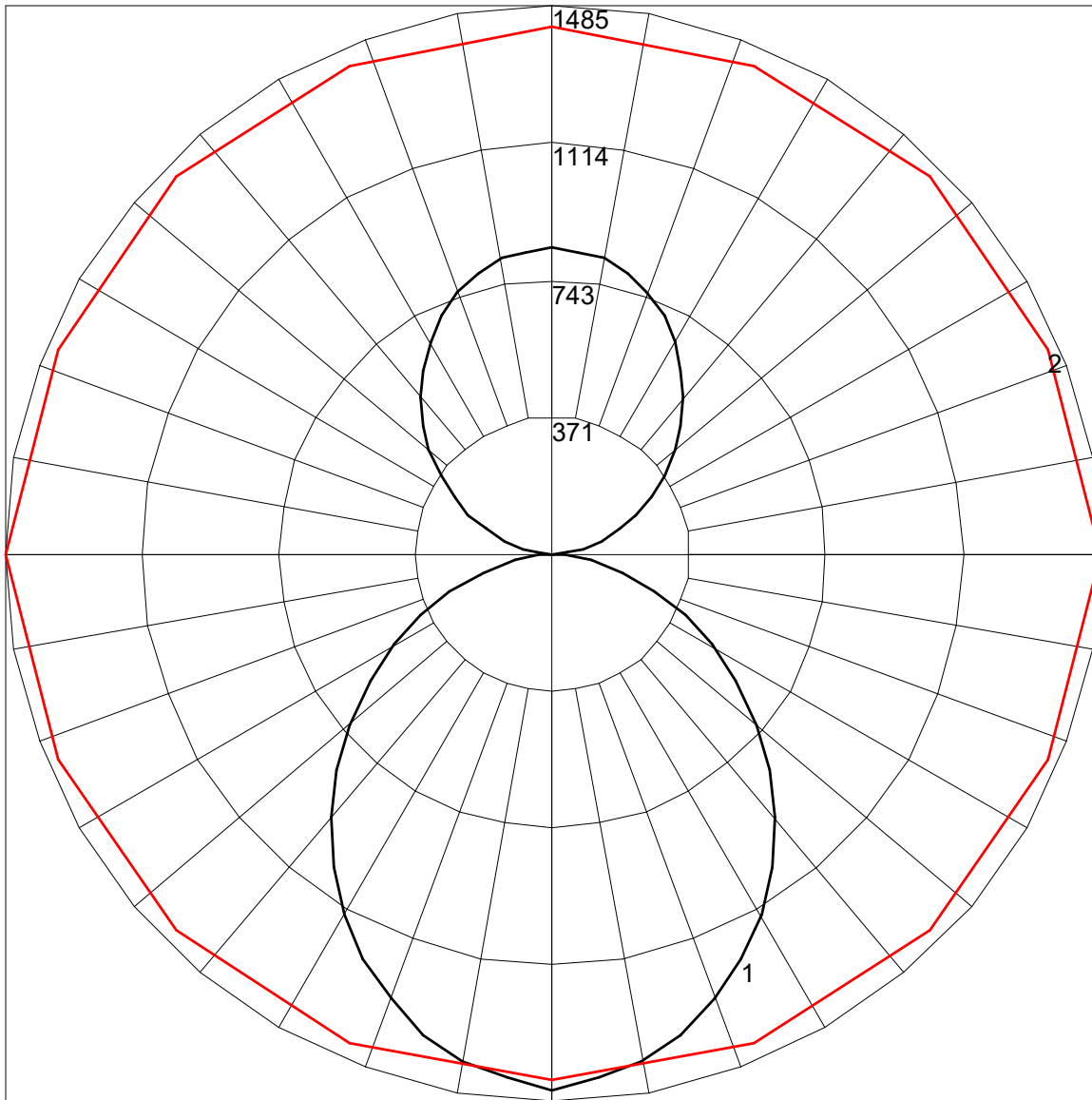
12H	4H	20.3	20.8	21.2	21.7	22.9	19.9	20.4	20.9	21.3	22.5
	6H	20.8	21.2	21.8	22.1	23.3	20.5	20.9	21.5	21.8	23.0
	8H	21.0	21.3	21.9	22.3	23.5	20.7	21.1	21.7	22.0	23.2

Maximum UGR = 23.5

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POLAR GRAPH



Maximum Candela = 1485.019 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.)