



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L8-835U-L8-835D-A-F-(L7U-L7.5D)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20649.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 23-JUL-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 8' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4UD-8-00-L8-835U-L8-835D-A-F-(L7U-L7.5)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K CCT
 [SEARCH_SOURCETYPE] LED
 [SEARCH_APPLICATION] Indoor, Architectural, Classroom, Direct
 [SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11711
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	90.5
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)	8.00 ft
Luminous Width (90-270)	0.31 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10216	8853	8030
55	8459	7071	6431
65	6374	5360	4853
75	4376	3844	3430
85	2107	1756	1405

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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	2894.198	2894.198	2894.198	2894.198	2894.198
5	2904.684	2873.225	2859.244	2841.767	2838.271
10	2848.758	2803.317	2771.859	2740.400	2726.418
15	2761.372	2719.427	2632.042	2590.097	2569.125
20	2653.015	2569.125	2474.749	2408.336	2380.373
25	2506.208	2408.336	2285.997	2226.575	2209.098
30	2334.933	2216.089	2093.749	2034.327	2006.364
35	2128.703	2002.869	1880.530	1821.108	1786.153
40	1898.007	1789.649	1642.842	1586.915	1548.466
45	1649.833	1548.466	1429.622	1335.246	1296.796
50	1377.191	1279.319	1160.475	1087.072	1076.586
55	1108.044	1031.145	926.283	887.834	842.393
60	877.347	782.971	716.559	671.118	650.146
65	615.192	562.761	517.320	485.862	468.385
70	440.421	384.495	363.522	335.559	328.568
75	258.660	244.679	227.202	213.220	202.734
80	143.312	136.321	129.330	118.844	111.853
85	41.945	41.945	34.954	34.954	27.963
90	0.000	0.000	0.000	0.000	0.000
95	100.988	98.968	103.008	100.988	107.047
100	214.094	216.114	203.995	214.094	212.074
105	361.536	359.517	359.517	353.457	347.398
110	517.058	508.979	502.919	498.880	488.781
115	684.697	674.598	662.480	642.282	642.282
120	850.317	832.139	813.962	803.863	793.764
125	1001.799	997.759	977.562	957.364	947.266
130	1159.340	1157.320	1137.123	1118.945	1112.886
135	1308.802	1312.841	1290.624	1266.387	1258.308
140	1468.363	1460.284	1446.145	1411.809	1411.809
145	1611.765	1601.667	1579.449	1571.370	1553.192
150	1730.931	1743.049	1720.832	1702.654	1694.575
155	1848.077	1858.176	1842.017	1819.800	1817.780
160	1951.084	1959.163	1943.005	1932.906	1922.808
165	2027.835	2037.934	2023.796	2013.697	2007.637
170	2082.368	2092.467	2080.349	2074.289	2074.289
175	2110.645	2122.764	2112.665	2106.606	2098.526
180	2118.724	2118.724	2118.724	2118.724	2118.724

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Zone	Lumens	%Lamp	%Fixt
0-20	1016.36	N.A.	8.70
0-30	2083.97	N.A.	17.80
0-40	3280.33	N.A.	28.00
0-60	5249.19	N.A.	44.80
0-80	6033.27	N.A.	51.50
0-90	6088.08	N.A.	52.00
10-90	5817.61	N.A.	49.70
20-40	2263.98	N.A.	19.30
20-50	3376.41	N.A.	28.80
40-70	2501.65	N.A.	21.40
60-80	784.08	N.A.	6.70
70-80	251.29	N.A.	2.10
80-90	54.81	N.A.	0.50
90-110	490.03	N.A.	4.20
90-120	1144.27	N.A.	9.80
90-130	2018.83	N.A.	17.20
90-150	4004.97	N.A.	34.20
90-180	5622.76	N.A.	48.00
110-180	5132.74	N.A.	43.80
0-180	11710.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	270.47
10-20	745.89
20-30	1067.62
30-40	1196.36
40-50	1112.44
50-60	856.42
60-70	532.79
70-80	251.29
80-90	54.81
90-100	113.06
100-110	376.96
110-120	654.25
120-130	874.56
130-140	995.25
140-150	990.89
150-160	846.86
160-170	570.36
170-180	200.57

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	108	108	108	108	100	100	100	100	84	84	84	71	71	71	58	58	58	52
1	99	95	91	88	91	88	85	82	75	73	71	63	62	60	52	51	50	45
2	90	83	78	73	84	77	72	68	66	63	59	56	53	51	47	45	43	39
3	83	74	67	61	76	69	62	57	59	54	50	50	47	44	42	39	37	33
4	76	66	58	52	70	61	54	49	53	48	43	45	41	38	38	35	33	29
5	70	59	51	45	65	55	48	43	47	42	38	41	36	33	34	31	29	25
6	65	53	45	39	60	49	42	37	43	37	33	37	33	29	31	28	25	23
7	60	48	40	35	55	45	38	33	39	33	29	34	29	26	29	25	23	20
8	56	44	36	31	52	41	34	29	36	30	26	31	27	23	26	23	21	18
9	52	40	33	28	48	37	31	26	33	27	24	28	24	21	24	21	19	17
10	49	37	30	25	45	34	28	24	30	25	21	26	22	19	23	19	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	15.3	16.1	16.2	17.0	18.3	14.0	14.9	15.0	15.8	17.1
	3H	16.5	17.2	17.4	18.2	19.4	15.1	15.9	16.1	16.9	18.1
	4H	16.8	17.5	17.8	18.5	19.8	15.5	16.2	16.5	17.2	18.4
	6H	17.0	17.7	18.0	18.7	20.0	15.7	16.3	16.7	17.3	18.6
	8H	17.1	17.7	18.1	18.7	20.0	15.7	16.4	16.7	17.3	18.6
	12H	17.1	17.7	18.1	18.7	20.0	15.7	16.3	16.7	17.3	18.6

UGR Viewed Endwise

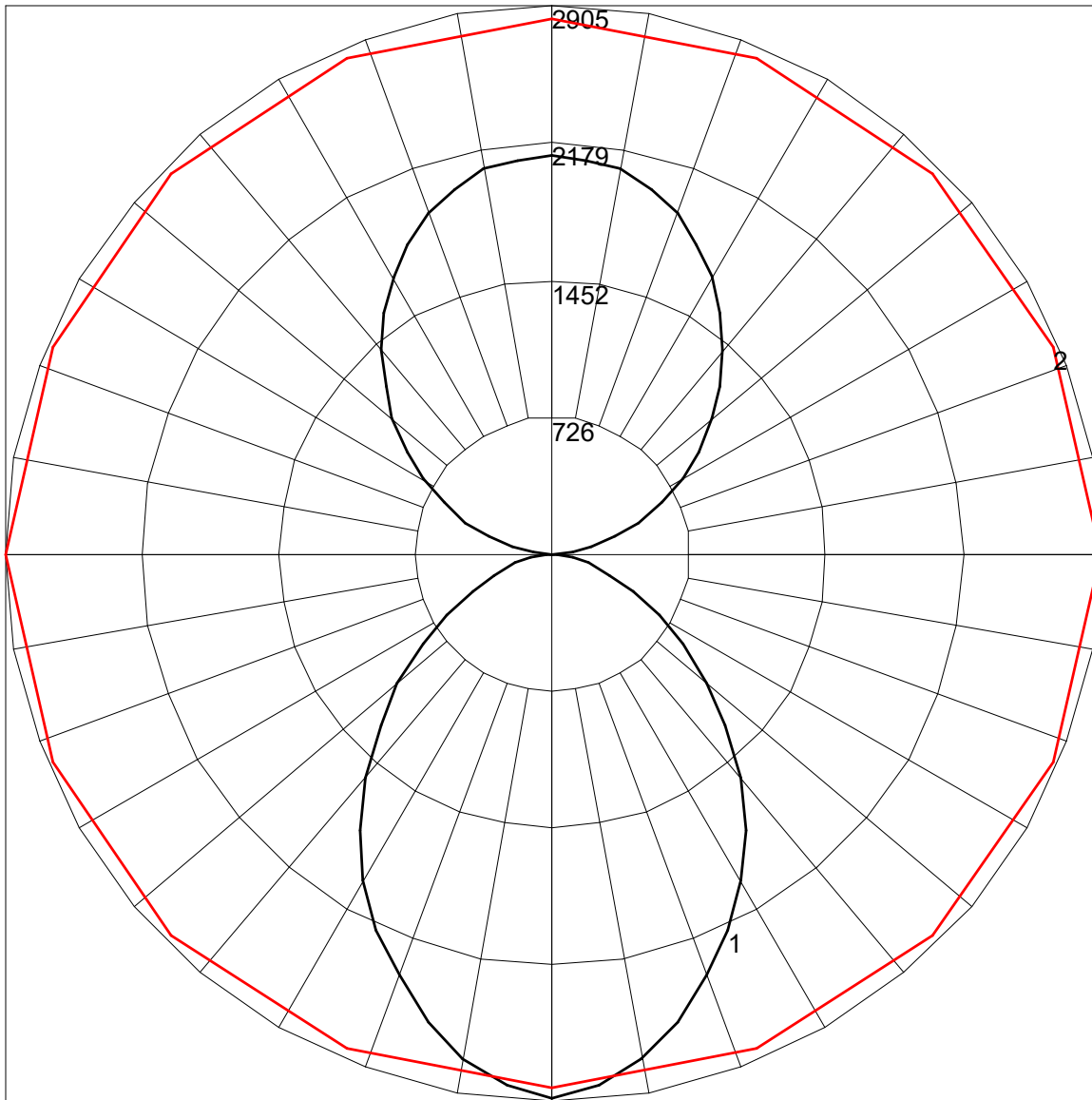
4H	2H	15.5	16.2	16.5	17.2	18.4	14.4	15.2	15.4	16.1	17.4
	3H	16.9	17.5	17.8	18.5	19.7	15.8	16.3	16.7	17.3	18.6
	4H	17.3	17.9	18.3	18.9	20.2	16.2	16.7	17.2	17.7	19.0
	6H	17.7	18.1	18.7	19.1	20.5	16.5	17.0	17.5	18.0	19.3
	8H	17.7	18.2	18.7	19.2	20.5	16.6	17.0	17.6	18.0	19.3
	12H	17.8	18.1	18.8	19.2	20.5	16.6	17.0	17.6	18.0	19.3
8H	4H	17.4	17.8	18.4	18.8	20.2	16.4	16.8	17.4	17.8	19.1
	6H	17.8	18.2	18.9	19.2	20.6	16.8	17.1	17.8	18.2	19.5
	8H	18.0	18.3	19.0	19.3	20.7	16.9	17.2	17.9	18.2	19.6
	12H	18.0	18.3	19.1	19.3	20.7	16.9	17.2	18.0	18.2	19.6
12H	4H	17.4	17.8	18.4	18.8	20.1	16.3	16.7	17.4	17.8	19.1
	6H	17.8	18.1	18.8	19.2	20.5	16.8	17.1	17.8	18.1	19.5
	8H	18.0	18.2	19.0	19.3	20.7	16.9	17.2	18.0	18.2	19.6

Maximum UGR = 20.7

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POLAR GRAPH



Maximum Candela = 2904.684 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.)