



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-835U-L8-835D-FF-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	6552
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
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	9657	9222	8877
55	8898	8483	7957
65	7873	7405	7089
75	6057	5811	5766
85	2798	3464	3198

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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	1302.191	1302.191	1302.191	1302.191	1302.191
5	1328.977	1300.131	1291.889	1285.021	1278.153
10	1311.120	1280.213	1270.598	1260.296	1252.741
15	1284.334	1249.994	1232.137	1215.653	1210.845
20	1228.016	1193.675	1184.060	1155.901	1151.093
25	1149.033	1122.247	1112.632	1091.341	1086.533
30	1070.050	1046.011	1033.649	1018.539	1010.984
35	995.874	967.715	947.797	938.869	930.627
40	913.457	891.479	862.633	848.897	837.908
45	807.688	792.578	771.287	758.238	742.441
50	710.161	684.749	680.628	656.590	643.541
55	603.706	588.596	575.547	554.942	539.832
60	505.492	483.514	475.959	457.415	444.366
65	393.542	381.866	370.190	358.515	354.394
70	289.147	278.845	271.290	260.301	265.109
75	185.439	186.125	177.884	177.884	176.510
80	91.346	96.840	94.093	99.587	92.719
85	28.846	34.340	35.714	41.895	32.967
90	0.000	0.000	0.000	0.000	0.000
95	58.477	57.307	59.647	58.477	61.986
100	123.971	125.141	118.124	123.971	122.802
105	209.348	208.178	208.178	204.669	201.161
110	299.402	294.724	291.215	288.876	283.029
115	396.474	390.626	383.609	371.914	371.914
120	492.376	481.850	471.325	465.477	459.629
125	580.092	577.753	566.057	554.362	548.514
130	671.316	670.146	658.451	647.925	644.417
135	757.862	760.201	747.336	733.302	728.623
140	850.256	845.577	837.391	817.508	817.508
145	933.293	927.445	914.580	909.902	899.376
150	1002.296	1009.313	996.448	985.922	981.244
155	1070.129	1075.977	1066.620	1053.756	1052.586
160	1129.776	1134.454	1125.097	1119.250	1113.402
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-FF-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	471.00	N.A.	7.20
0-30	982.91	N.A.	15.00
0-40	1580.15	N.A.	24.10
0-60	2690.27	N.A.	41.10
0-80	3250.54	N.A.	49.60
0-90	3296.01	N.A.	50.30
10-90	3173.08	N.A.	48.40
20-40	1109.15	N.A.	16.90
20-50	1706.33	N.A.	26.00
40-70	1478.14	N.A.	22.60
60-80	560.27	N.A.	8.60
70-80	192.25	N.A.	2.90
80-90	45.47	N.A.	0.70
90-110	283.75	N.A.	4.30
90-120	662.59	N.A.	10.10
90-130	1169.00	N.A.	17.80
90-150	2319.08	N.A.	35.40
90-180	3255.86	N.A.	49.70
110-180	2972.11	N.A.	45.40
0-180	6551.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	122.93
10-20	348.07
20-30	511.90
30-40	597.24
40-50	597.18
50-60	512.93
60-70	368.02
70-80	192.25
80-90	45.47
90-100	65.47
100-110	218.28
110-120	378.84
120-130	506.41
130-140	576.30
140-150	573.78
150-160	490.37
160-170	330.27
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	99	99	99	99	84	84	84	69	69	69	56	56	56	50
1	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43
2	89	82	76	71	82	76	71	66	64	61	57	54	51	49	44	42	40	36
3	82	72	65	59	75	67	60	55	57	52	48	48	44	41	39	37	35	30
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	28	26	23
6	63	51	43	37	58	48	40	35	41	35	31	35	30	27	29	25	23	20
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	26	47	36	29	24	31	26	22	26	22	19	22	19	16	14
10	47	35	28	23	44	33	26	22	29	23	20	24	20	17	21	17	15	13

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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

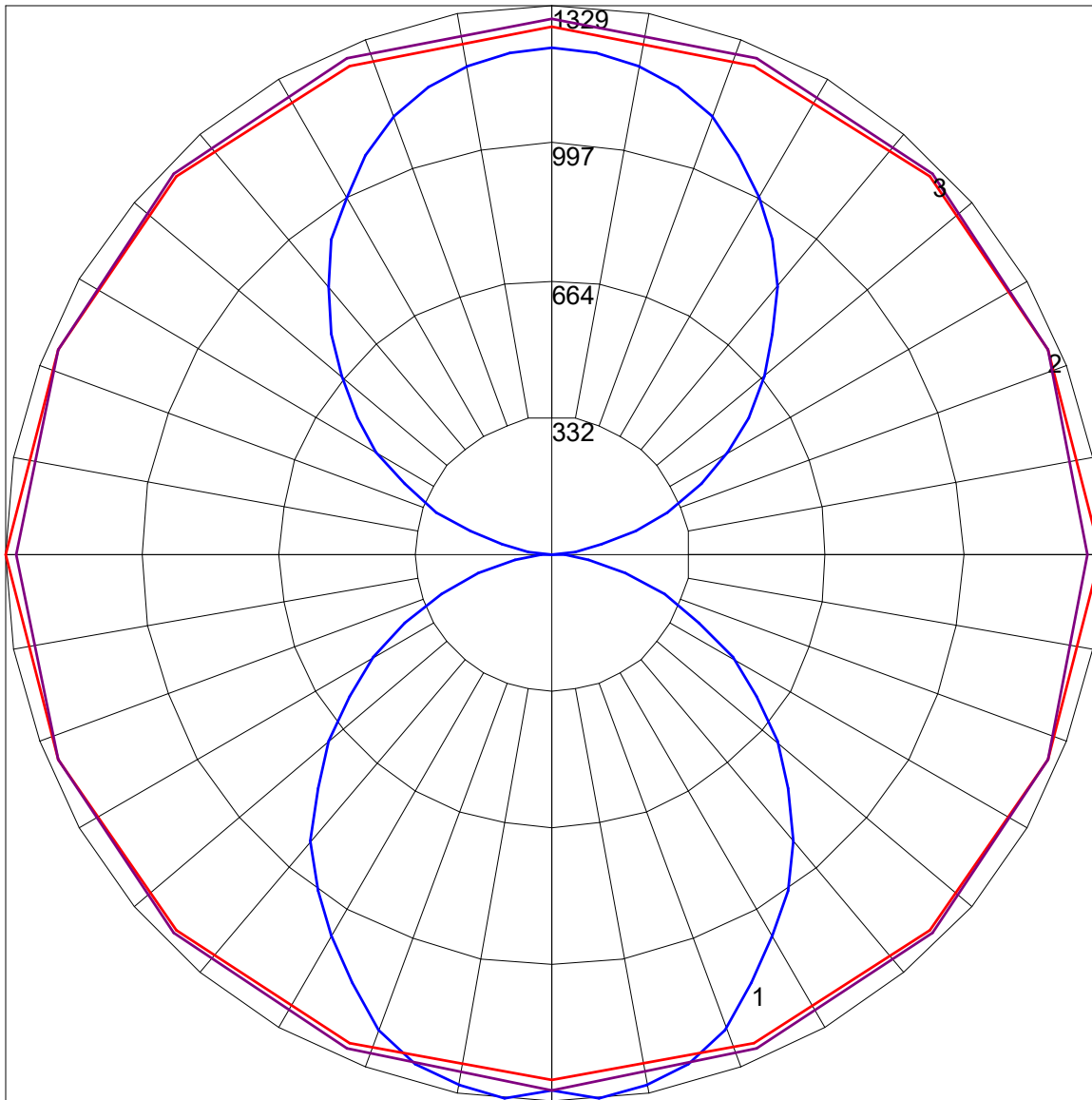
X=2H	Y=2H	15.8	16.6	16.7	17.6	18.9	15.3	16.2	16.3	17.1	18.4
	3H	17.4	18.1	18.3	19.1	20.4	16.8	17.6	17.8	18.6	19.9
	4H	17.9	18.6	18.9	19.6	20.9	17.4	18.1	18.4	19.1	20.4
	6H	18.1	18.8	19.1	19.8	21.1	17.7	18.4	18.7	19.4	20.7
	8H	18.2	18.8	19.2	19.8	21.2	17.8	18.4	18.8	19.4	20.7
	12H	18.2	18.8	19.2	19.8	21.1	17.8	18.4	18.8	19.4	20.7

UGR Viewed Endwise

4H	2H	16.2	16.9	17.2	17.9	19.2	15.8	16.6	16.8	17.5	18.9
	3H	18.0	18.6	19.0	19.6	20.9	17.6	18.2	18.6	19.2	20.5
	4H	18.6	19.2	19.6	20.2	21.5	18.2	18.8	19.2	19.8	21.1
	6H	19.0	19.5	20.0	20.5	21.9	18.6	19.1	19.7	20.2	21.5
	8H	19.1	19.5	20.1	20.6	21.9	18.8	19.2	19.8	20.2	21.6
	12H	19.1	19.5	20.2	20.6	21.9	18.8	19.2	19.9	20.3	21.6
8H	4H	18.8	19.2	19.8	20.3	21.6	18.4	18.9	19.4	19.9	21.2
	6H	19.3	19.6	20.3	20.7	22.1	19.0	19.3	20.0	20.4	21.7
	8H	19.4	19.7	20.5	20.8	22.2	19.2	19.5	20.2	20.5	21.9
	12H	19.5	19.8	20.5	20.8	22.2	19.3	19.5	20.3	20.6	22.0
12H	4H	18.8	19.2	19.8	20.2	21.6	18.4	18.8	19.4	19.8	21.2
	6H	19.3	19.6	20.3	20.7	22.0	19.0	19.3	20.0	20.4	21.7
	8H	19.5	19.7	20.5	20.8	22.2	19.2	19.5	20.3	20.5	21.9

Maximum UGR = 22.2

POLAR GRAPH



Maximum Candela = 1328.977 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)
3 - Horizontal Cone Through Vertical Angle (0)