



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-3-00-L8-835U-L8-835D-A-F-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] 05-22-2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4' INDIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4UD-3-00-L8-835U-L8-835D-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	5025
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	43.8
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)	3.00 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	976.643	976.643	976.643	976.643	976.643
5	996.733	975.098	968.917	963.766	958.615
10	983.340	960.160	952.948	945.222	939.556
15	963.251	937.495	924.102	911.740	908.134
20	921.012	895.256	888.045	866.926	863.320
25	861.774	841.685	834.474	818.505	814.900
30	802.537	784.508	775.236	763.904	758.238
35	746.906	725.786	710.848	704.152	697.970
40	685.093	668.609	646.975	636.673	628.431
45	605.766	594.434	578.466	568.678	556.831
50	532.621	513.562	510.471	492.443	482.656
55	452.779	441.447	431.660	416.207	404.874
60	379.119	362.635	356.969	343.062	333.274
65	295.156	286.400	277.643	268.886	265.795
70	216.860	209.134	203.467	195.226	198.831
75	139.079	139.594	133.413	133.413	132.383
80	68.509	72.630	70.570	74.691	69.540
85	21.634	25.755	26.786	31.422	24.725
90	0.000	0.000	0.000	0.000	0.000
95	45.851	44.934	46.768	45.851	48.602
100	97.205	98.122	92.620	97.205	96.288
105	164.148	163.231	163.231	160.480	157.728
110	234.759	231.090	228.339	226.505	221.920
115	310.872	306.287	300.784	291.614	291.614
120	386.068	377.815	369.561	364.976	360.391
125	454.845	453.011	443.841	434.670	430.085
130	526.373	525.456	516.286	508.032	505.281
135	594.233	596.067	585.980	574.975	571.307
140	666.678	663.010	656.591	641.001	641.001
145	731.787	727.202	717.114	713.446	705.193
150	785.891	791.393	781.306	773.053	769.385
155	839.079	843.664	836.328	826.240	825.323
160	885.847	889.515	882.179	877.594	873.009
165	920.694	925.279	918.860	914.275	911.524
170	945.454	950.039	944.537	941.786	941.786
175	958.292	963.794	959.209	956.458	952.790
180	961.960	961.960	961.960	961.960	961.960

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-3-00-L8-835U-L8-835D-A-F-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	353.25	N.A.	7.00
0-30	737.18	N.A.	14.70
0-40	1185.11	N.A.	23.60
0-60	2017.7	N.A.	40.20
0-80	2437.9	N.A.	48.50
0-90	2472.00	N.A.	49.20
10-90	2379.81	N.A.	47.40
20-40	831.86	N.A.	16.60
20-50	1279.75	N.A.	25.50
40-70	1108.6	N.A.	22.10
60-80	420.20	N.A.	8.40
70-80	144.19	N.A.	2.90
80-90	34.10	N.A.	0.70
90-110	222.49	N.A.	4.40
90-120	519.53	N.A.	10.30
90-130	916.60	N.A.	18.20
90-150	1818.37	N.A.	36.20
90-180	2552.89	N.A.	50.80
110-180	2330.41	N.A.	46.40
0-180	5024.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	92.20
10-20	261.06
20-30	383.93
30-40	447.93
40-50	447.89
50-60	384.70
60-70	276.01
70-80	144.19
80-90	34.10
90-100	51.33
100-110	171.15
110-120	297.05
120-130	397.07
130-140	451.87
140-150	449.89
150-160	384.50
160-170	258.96
170-180	91.06

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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	83	83	83	69	69	69	55	55	55	49
1	98	93	90	86	90	86	83	80	73	71	68	61	59	57	49	48	47	42
2	89	82	76	71	82	76	70	66	64	60	57	53	50	48	43	41	40	35
3	81	72	65	59	75	67	60	55	56	52	48	47	44	41	38	36	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	32	29	26
5	68	57	49	43	63	53	46	40	45	39	35	38	34	30	31	28	26	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22	20
7	58	46	38	32	53	43	36	31	37	31	27	31	27	23	26	22	20	17
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18	16
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	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	15.7	16.5	16.7	17.5	18.8	15.2	16.1	16.2	17.0	18.3
	3H	17.3	18.0	18.2	19.0	20.3	16.8	17.5	17.7	18.5	19.8
	4H	17.8	18.5	18.8	19.5	20.8	17.3	18.0	18.3	19.0	20.3
	6H	18.1	18.7	19.1	19.7	21.1	17.6	18.3	18.6	19.3	20.6
	8H	18.1	18.7	19.1	19.8	21.1	17.7	18.3	18.7	19.3	20.7
	12H	18.1	18.7	19.1	19.7	21.1	17.7	18.3	18.7	19.3	20.7

UGR Viewed Endwise

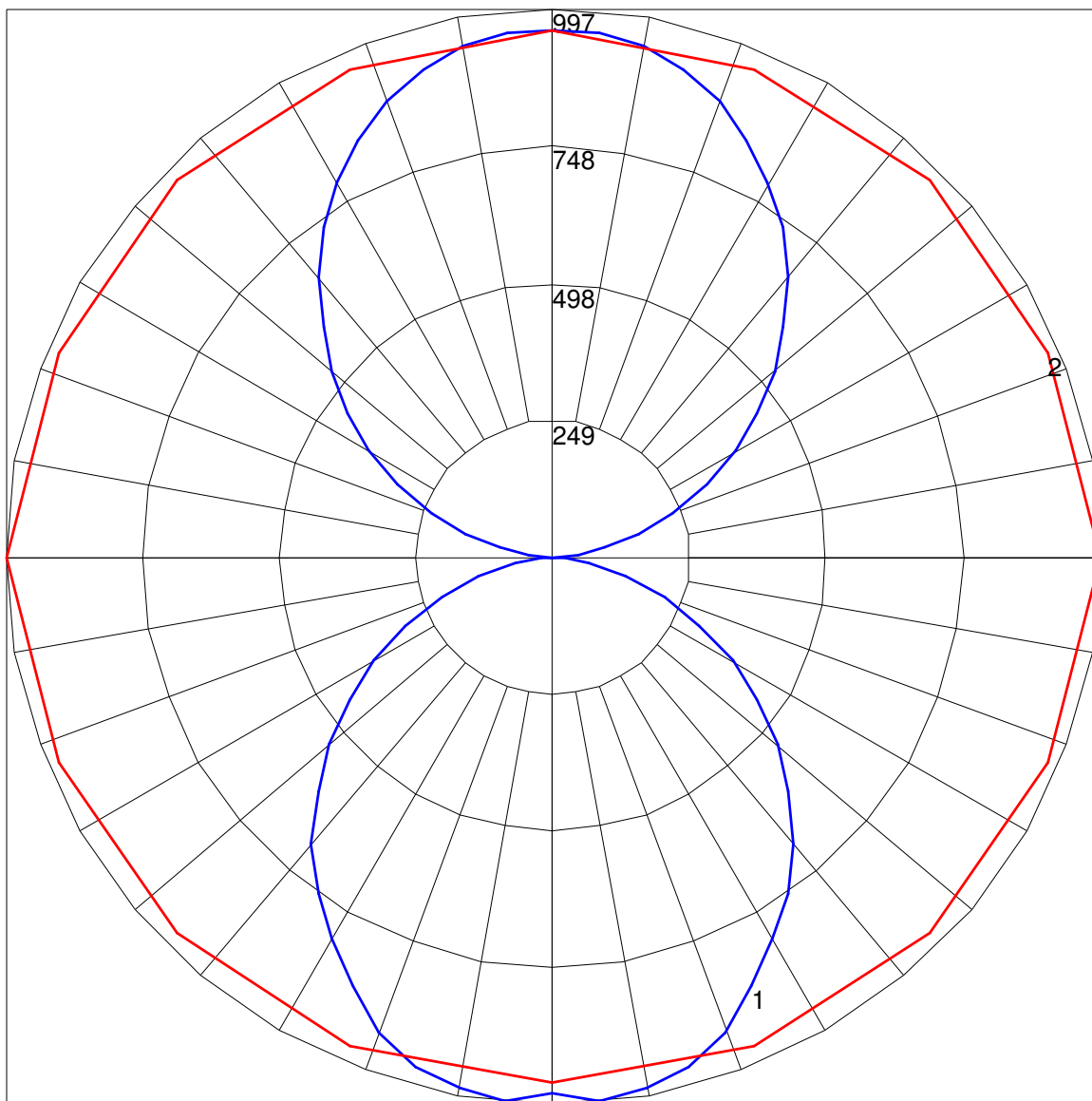
4H	2H	16.1	16.9	17.1	17.9	19.2	15.8	16.5	16.8	17.5	18.8
	3H	17.9	18.5	18.9	19.5	20.9	17.5	18.1	18.5	19.1	20.4
	4H	18.5	19.1	19.6	20.1	21.5	18.1	18.7	19.1	19.7	21.0
	6H	18.9	19.4	19.9	20.4	21.8	18.6	19.0	19.6	20.1	21.4
	8H	19.0	19.5	20.0	20.5	21.8	18.7	19.1	19.7	20.2	21.5
	12H	19.0	19.4	20.1	20.5	21.8	18.7	19.1	19.8	20.2	21.5

8H	4H	18.7	19.1	19.7	20.2	21.5	18.3	18.8	19.4	19.8	21.2
	6H	19.2	19.6	20.2	20.6	22.0	18.9	19.2	19.9	20.3	21.7
	8H	19.3	19.7	20.4	20.7	22.1	19.1	19.4	20.1	20.5	21.8
	12H	19.4	19.7	20.5	20.7	22.2	19.2	19.5	20.2	20.5	21.9

12H	4H	18.7	19.1	19.7	20.1	21.5	18.3	18.7	19.4	19.8	21.1
	6H	19.2	19.5	20.3	20.6	22.0	18.9	19.2	20.0	20.3	21.7
	8H	19.4	19.7	20.4	20.7	22.1	19.1	19.4	20.2	20.5	21.9

Maximum UGR = 22.2

POLAR GRAPH



Maximum Candela = 996.733 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.)