



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L8-840D-A-F-DIM-UNV_.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-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	6934
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	122
Total Luminaire Watts	56.8
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	8965	8768	8546
55	8168	7895	7621
65	6923	6717	6429
75	5249	5114	5114
85	2798	2997	2598

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L8-840D-A-F-DIM-UNV_.IES****CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	1279.26	1279.26	1279.26	1279.26	1279.26
5	1293.68	1275.14	1268.96	1264.84	1262.78
10	1266.90	1246.30	1242.18	1233.94	1233.94
15	1227.76	1207.16	1198.92	1192.74	1188.62
20	1170.08	1151.54	1143.30	1137.12	1130.94
25	1102.10	1083.56	1077.38	1067.08	1062.96
30	1019.70	1007.34	1001.16	986.74	974.38
35	931.12	929.06	918.76	902.28	891.98
40	844.60	830.18	828.12	811.64	803.40
45	749.84	739.54	733.36	712.76	714.82
50	650.96	644.78	638.60	622.12	615.94
55	554.14	547.96	535.60	523.24	517.06
60	447.02	444.96	430.54	424.36	418.18
65	346.08	344.02	335.78	329.60	321.36
70	255.44	249.26	238.96	243.08	238.96
75	160.68	156.56	156.56	160.68	156.56
80	80.34	88.58	88.58	88.58	82.40
85	28.84	30.90	30.90	30.90	26.78
90	2.06	2.06	2.06	2.06	2.06
95	47.38	49.44	47.38	41.20	41.20
100	111.24	109.18	109.18	100.94	92.70
105	191.58	191.58	181.28	170.98	156.56
110	300.76	294.58	276.04	267.80	253.38
115	407.88	397.58	385.22	364.62	348.14
120	539.72	539.72	506.76	484.10	471.74
125	671.56	681.86	636.54	622.12	601.52
130	813.70	821.94	782.80	760.14	743.66
135	943.48	931.12	918.76	908.46	904.34
140	1065.02	1062.96	1056.78	1042.36	1046.48
145	1170.08	1172.14	1165.96	1155.66	1172.14
150	1266.90	1271.02	1268.96	1254.54	1275.14
155	1341.06	1347.24	1347.24	1336.94	1357.54
160	1398.74	1411.10	1404.92	1398.74	1411.10
165	1446.12	1458.48	1446.12	1446.12	1452.30
170	1472.90	1487.32	1474.96	1472.90	1468.78
175	1493.50	1505.86	1493.50	1491.44	1481.14
180	1497.62	1497.62	1497.62	1497.62	1497.62

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L8-840D-A-F-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	458.96	N.A.	6.60
0-30	954.82	N.A.	13.80
0-40	1526.71	N.A.	22.00
0-60	2568.31	N.A.	37.00
0-80	3072.98	N.A.	44.30
0-90	3113.56	N.A.	44.90
10-90	2993.1	N.A.	43.20
20-40	1067.76	N.A.	15.40
20-50	1630.97	N.A.	23.50
40-70	1375.48	N.A.	19.80
60-80	504.67	N.A.	7.30
70-80	170.79	N.A.	2.50
80-90	40.58	N.A.	0.60
90-110	250.05	N.A.	3.60
90-120	633.69	N.A.	9.10
90-130	1211.25	N.A.	17.50
90-150	2650.48	N.A.	38.20
90-180	3820.34	N.A.	55.10
110-180	3570.29	N.A.	51.50
0-180	6933.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	120.47
10-20	338.49
20-30	495.86
30-40	571.90
40-50	563.21
50-60	478.39
60-70	333.88
70-80	170.79
80-90	40.58
90-100	54.05
100-110	196.01
110-120	383.64
120-130	577.56
130-140	710.51
140-150	728.72
150-160	618.93
160-170	408.88
170-180	142.05

IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L8-840D-A-F-DIM-UNV_.IES

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

IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L8-840D-A-F-DIM-UNV_.IES

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

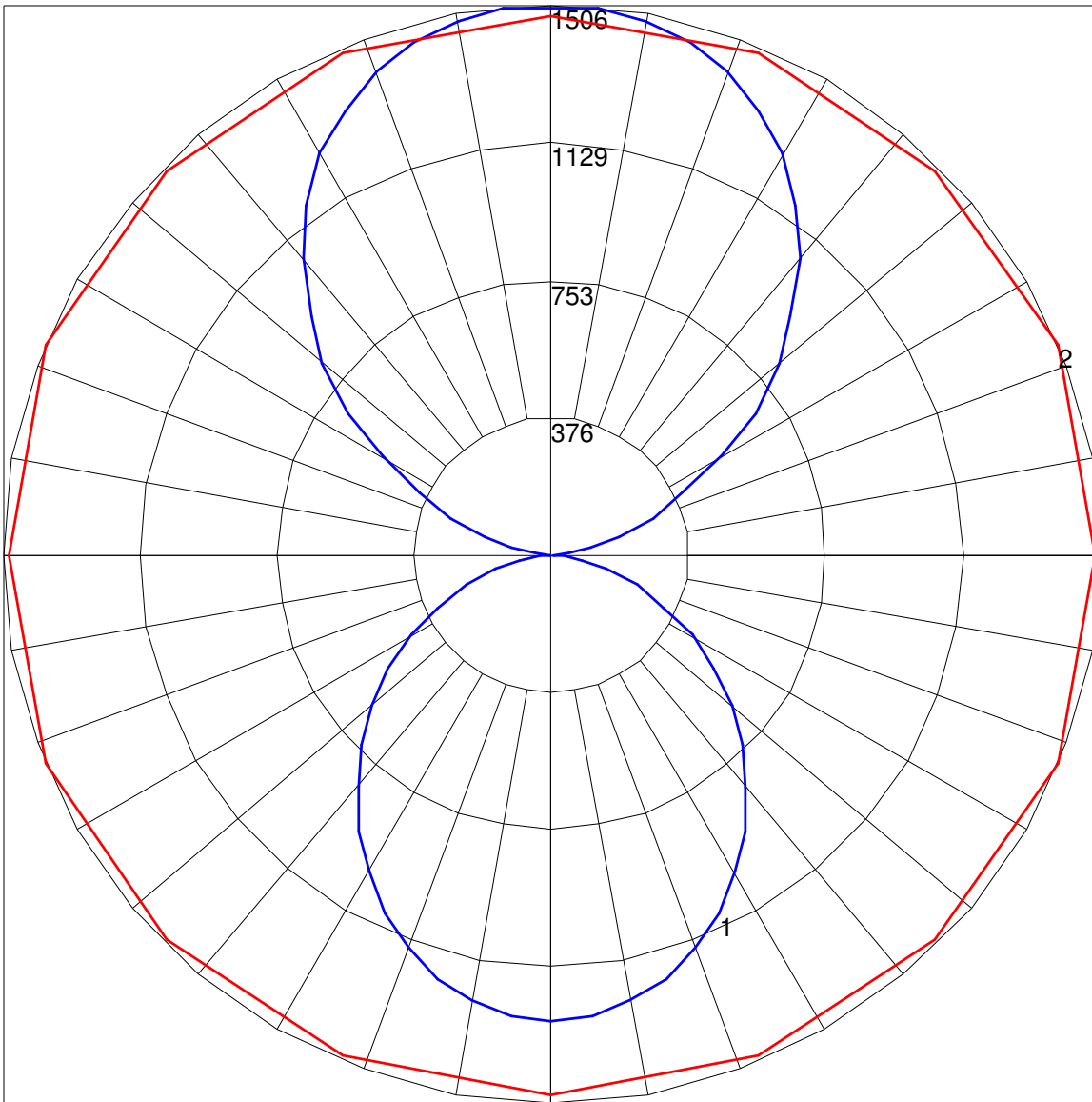
X=2H	Y=2H	14.9	15.7	15.9	16.7	18.1	14.5	15.4	15.5	16.4	17.7
	3H	16.4	17.1	17.4	18.1	19.5	16.0	16.8	17.0	17.8	19.1
	4H	16.8	17.5	17.9	18.5	19.9	16.5	17.2	17.5	18.2	19.6
	6H	17.1	17.7	18.1	18.8	20.1	16.8	17.4	17.8	18.5	19.9
	8H	17.1	17.7	18.2	18.8	20.2	16.9	17.5	17.9	18.5	19.9
	12H	17.2	17.7	18.2	18.8	20.2	16.9	17.5	17.9	18.5	19.9

UGR Viewed Endwise

4H	2H	15.3	16.0	16.4	17.0	18.4	15.0	15.7	16.1	16.7	18.1
	3H	17.0	17.6	18.0	18.6	20.0	16.7	17.3	17.7	18.3	19.7
	4H	17.6	18.1	18.6	19.1	20.5	17.3	17.8	18.4	18.9	20.3
	6H	17.9	18.4	19.0	19.4	20.8	17.7	18.2	18.8	19.2	20.6
	8H	18.0	18.4	19.1	19.5	20.9	17.8	18.2	18.9	19.3	20.7
	12H	18.0	18.4	19.1	19.5	20.9	17.8	18.2	18.9	19.3	20.7
8H	4H	17.7	18.1	18.8	19.2	20.6	17.5	17.9	18.5	19.0	20.4
	6H	18.2	18.5	19.2	19.6	21.0	18.0	18.4	19.1	19.5	20.9
	8H	18.3	18.6	19.4	19.7	21.1	18.2	18.5	19.2	19.6	21.0
	12H	18.4	18.7	19.5	19.8	21.2	18.3	18.5	19.3	19.6	21.1
12H	4H	17.7	18.1	18.7	19.1	20.6	17.5	17.9	18.5	18.9	20.3
	6H	18.2	18.5	19.3	19.6	21.0	18.0	18.3	19.1	19.4	20.9
	8H	18.4	18.6	19.5	19.7	21.2	18.2	18.5	19.3	19.6	21.0

Maximum UGR = 21.2

POLAR GRAPH



Maximum Candela = 1505.86 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.)