



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L15-840D-F-P-(L6U-L12.5D)-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] 03-11-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4' DIRECT-INDIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS TOP, DROP LENS BOTTOM
 [LUMCAT] MX4UD-4-00-L8-840U-L15-840D-F-P-(L6U-L12.5D)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 4000K 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	7699
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	61
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.20
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	13881	13993	13806
55	12487	12811	12580
65	10671	11173	11298
75	7892	9532	10044
85	3044	8218	10957

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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	2023.844	2023.844	2023.844	2023.844	2023.844
5	2023.844	2014.431	2005.018	2005.018	2005.018
10	1976.778	1967.365	1961.089	1961.089	1954.814
15	1917.161	1898.334	1895.197	1898.334	1892.059
20	1826.166	1813.615	1816.753	1804.202	1801.064
25	1725.759	1716.345	1713.208	1706.932	1706.932
30	1600.249	1584.560	1590.836	1581.422	1575.147
35	1468.464	1459.051	1452.775	1452.775	1446.500
40	1320.990	1317.852	1314.714	1302.163	1302.163
45	1160.965	1170.378	1170.378	1160.965	1154.689
50	1004.078	1016.629	1016.629	1019.766	1013.491
55	847.191	866.017	869.155	862.879	853.466
60	680.890	699.717	712.268	715.405	712.268
65	533.416	549.105	558.518	561.656	564.794
70	379.667	392.218	414.182	433.009	433.009
75	241.606	257.295	291.810	307.499	307.499
80	119.234	144.336	166.300	188.265	194.540
85	31.377	56.479	84.719	109.821	112.959
90	0.000	15.689	37.653	56.479	59.617
95	48.540	60.183	87.101	101.882	104.606
100	99.391	112.850	129.366	149.594	151.824
105	162.540	180.459	199.285	209.112	212.663
110	232.460	238.241	257.481	268.216	266.813
115	307.828	312.701	326.079	332.687	335.825
120	382.287	383.528	387.907	399.055	394.515
125	450.391	457.988	458.321	461.791	457.251
130	521.218	523.448	526.919	525.022	528.573
135	588.414	590.230	589.654	588.171	584.539
140	660.149	656.517	659.574	653.550	653.550
145	724.621	720.080	719.505	722.148	717.114
150	778.195	783.644	779.931	774.896	774.401
155	830.862	835.402	828.138	827.563	826.654
160	877.172	880.805	873.540	869.000	867.597
165	911.678	916.218	909.862	905.322	902.598
170	936.195	940.735	935.287	932.563	932.563
175	948.908	954.356	949.816	947.092	943.460
180	952.540	952.540	952.540	952.540	952.540

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-4-00-L8-840U-L15-840D-F-P-(L6U-L12.5D)-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	725.37	N.A.	9.40
0-30	1512.63	N.A.	19.60
0-40	2422.21	N.A.	31.50
0-60	4092.02	N.A.	53.10
0-80	4944.07	N.A.	64.20
0-90	5042.25	N.A.	65.50
10-90	4851.88	N.A.	63.00
20-40	1696.84	N.A.	22.00
20-50	2595.95	N.A.	33.70
40-70	2220.86	N.A.	28.80
60-80	852.05	N.A.	11.10
70-80	300.99	N.A.	3.90
80-90	98.18	N.A.	1.30
90-110	292.65	N.A.	3.80
90-120	612.03	N.A.	7.90
90-130	1021.72	N.A.	13.30
90-150	1927.9	N.A.	25.00
90-180	2656.82	N.A.	34.50
110-180	2364.16	N.A.	30.70
0-180	7699.07	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	190.37
10-20	535.00
20-30	787.27
30-40	909.57
40-50	899.11
50-60	770.70
60-70	551.06
70-80	300.99
80-90	98.18
90-100	89.13
100-110	203.52
110-120	319.37
120-130	409.69
130-140	455.61
140-150	450.58
150-160	382.28
160-170	256.46
170-180	90.17

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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	65
1	101	97	93	89	95	91	88	85	81	78	76	71	69	67	62	61	60	55
2	92	85	79	73	87	80	74	70	71	67	63	63	59	57	55	53	50	46
3	84	75	67	61	79	71	64	58	63	57	53	56	51	48	49	46	43	40
4	77	66	58	52	72	63	55	50	56	50	45	50	45	41	44	40	37	34
5	71	59	51	45	67	56	49	43	50	44	39	45	40	36	39	36	32	30
6	66	53	45	39	61	50	43	37	45	39	34	40	35	32	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	26	23
8	56	44	36	30	53	42	34	29	38	32	27	34	29	25	30	26	23	21
9	53	40	32	27	50	38	31	26	35	29	24	31	26	23	28	24	21	19
10	49	37	30	25	46	35	28	24	32	26	22	29	24	21	26	22	19	17

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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	18.2	19.2	19.0	20.0	21.1	18.3	19.3	19.1	20.1	21.2
	3H	19.6	20.6	20.5	21.4	22.5	19.9	20.9	20.8	21.7	22.7
	4H	20.1	21.0	21.0	21.8	22.9	20.6	21.4	21.4	22.3	23.4
	6H	20.4	21.2	21.2	22.0	23.1	21.1	21.9	21.9	22.7	23.8
	8H	20.4	21.2	21.3	22.0	23.1	21.3	22.0	22.1	22.9	24.0
	12H	20.4	21.1	21.3	22.0	23.1	21.4	22.2	22.3	23.0	24.1

UGR Viewed Endwise

4H	2H	18.7	19.6	19.6	20.4	21.5	18.8	19.7	19.6	20.5	21.6
	3H	20.4	21.1	21.2	22.0	23.1	20.7	21.4	21.5	22.3	23.3
	4H	21.0	21.6	21.8	22.5	23.6	21.4	22.1	22.3	23.0	24.1
	6H	21.3	21.9	22.2	22.8	23.9	22.1	22.6	22.9	23.5	24.6
	8H	21.4	21.9	22.3	22.8	24.0	22.3	22.9	23.2	23.7	24.9
	12H	21.4	21.9	22.3	22.8	23.9	22.5	23.0	23.5	23.9	25.1

8H	4H	21.2	21.8	22.1	22.7	23.8	21.7	22.2	22.5	23.1	24.2
	6H	21.7	22.2	22.6	23.1	24.2	22.4	22.9	23.3	23.8	24.9
	8H	21.9	22.3	22.8	23.2	24.3	22.8	23.2	23.7	24.1	25.2
	12H	21.9	22.3	22.8	23.2	24.4	23.1	23.5	24.1	24.4	25.6

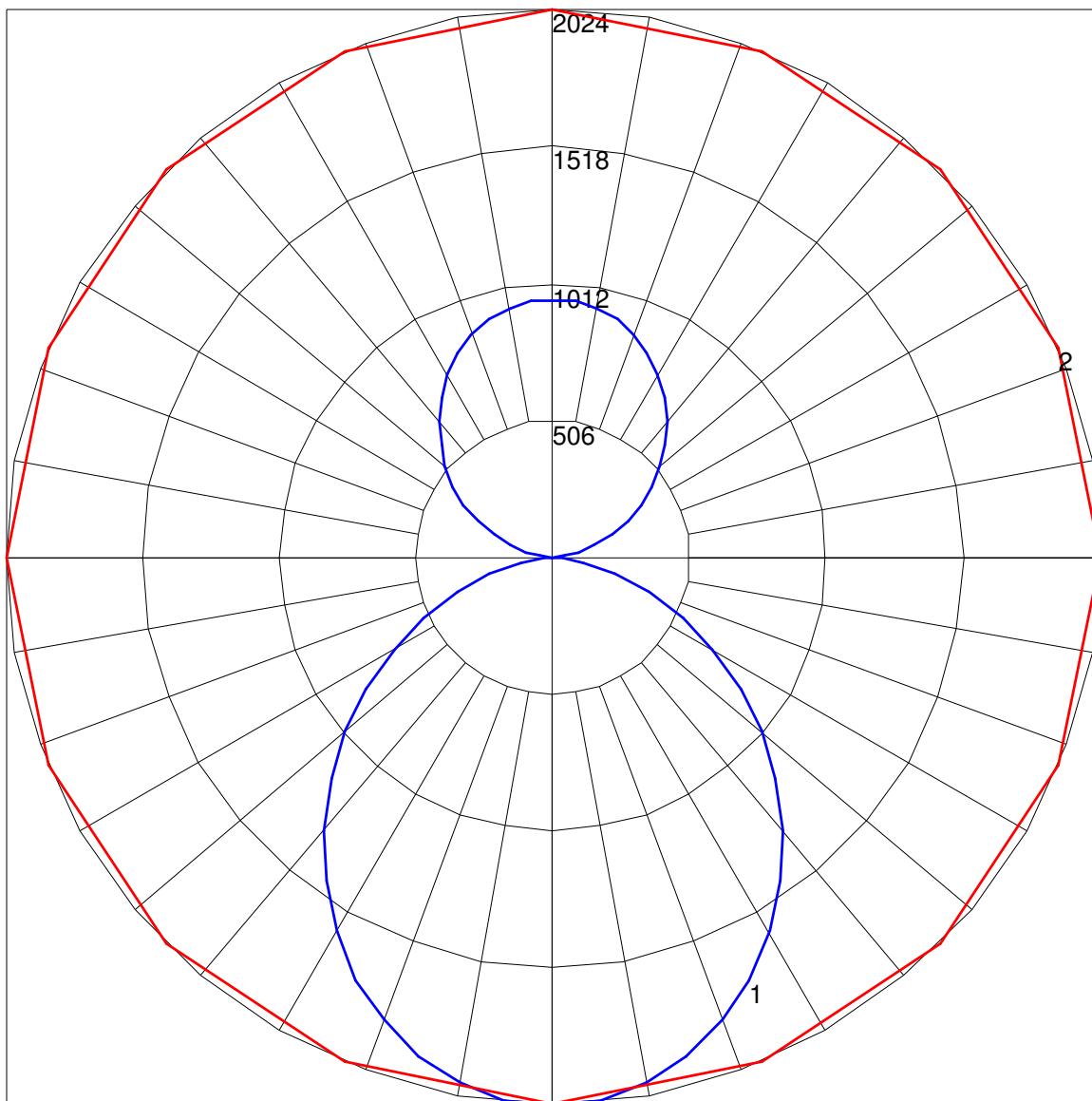
12H	4H	21.2	21.7	22.1	22.6	23.8	21.6	22.1	22.5	23.0	24.2
	6H	21.8	22.2	22.7	23.1	24.2	22.4	22.8	23.4	23.8	24.9
	8H	22.0	22.3	22.9	23.2	24.4	22.8	23.2	23.8	24.1	25.3

Maximum UGR = 25.6

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POLAR GRAPH



Maximum Candela = 2023.844 Located At Horizontal Angle = 0, Vertical Angle = 0

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)