



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L8-840U-L8-840D-A-F-AC-DXX-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20194.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 06/21/2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 8' DIRECT/INDIRECT SUSPENDED LED LUMINAIRE
 [MORE] WHITE REFLS w/FROSTED ACRYLIC LENS TOP/BTM
 [LUMCAT] MX4UD-8-00-L8-840U-L8-840D-A-F-AC-Dxx-DIM-UNV
 [LAMPCAT] HLMX 80 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	13864
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	122
Total Luminaire Watts	113.6
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)	0.32 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10369	9882	9708
55	9384	8987	8847
65	7976	7947	7627
75	6155	6346	6251
85	2611	3811	3529

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	2913.213	2913.213	2913.213	2913.213	2913.213
5	2951.642	2885.130	2880.696	2868.872	2851.135
10	2886.608	2826.009	2833.399	2809.750	2787.580
15	2796.448	2746.195	2749.151	2718.112	2695.941
20	2687.073	2647.166	2622.039	2586.566	2573.264
25	2525.967	2500.840	2468.323	2426.938	2412.158
30	2357.471	2335.300	2302.783	2245.140	2230.359
35	2180.106	2152.023	2098.814	2047.083	2035.258
40	1995.351	1952.488	1890.411	1851.982	1850.504
45	1761.821	1724.870	1679.051	1646.534	1649.490
50	1525.335	1495.774	1466.214	1426.307	1441.087
55	1293.283	1271.113	1238.596	1225.293	1219.381
60	1052.363	1037.583	1016.890	1013.934	1005.066
65	809.965	808.487	807.009	796.662	774.492
70	586.781	589.737	598.605	592.693	573.479
75	382.812	384.290	394.636	399.070	388.724
80	190.667	209.881	206.925	218.750	214.316
85	54.687	78.336	79.814	76.858	73.902
90	10.346	20.693	25.127	20.693	20.693
95	26.605	44.341	48.775	47.297	48.775
100	109.375	150.760	152.238	134.501	141.892
105	258.657	280.827	288.217	249.788	248.310
110	456.714	450.802	467.060	407.938	406.460
115	679.897	660.683	671.029	573.479	576.435
120	910.471	906.037	882.389	790.750	792.228
125	1163.216	1144.001	1098.182	1031.670	996.198
130	1426.307	1379.009	1373.097	1305.108	1237.118
135	1673.139	1619.930	1618.452	1559.330	1509.077
140	1906.669	1854.938	1856.416	1803.206	1764.777
145	2144.633	2070.731	2082.555	2014.566	1996.829
150	2342.690	2274.700	2290.959	2221.491	2200.799
155	2500.840	2435.807	2460.933	2398.856	2381.119
160	2636.820	2568.830	2579.176	2537.791	2520.055
165	2749.151	2681.161	2670.815	2647.166	2626.473
170	2811.228	2744.716	2738.804	2722.546	2703.331
175	2857.047	2793.492	2790.536	2778.711	2766.887
180	2818.618	2818.618	2818.618	2818.618	2818.618

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Zone	Lumens	%Lamp	%Fixt
0-20	1045.64	N.A.	7.50
0-30	2181.71	N.A.	15.70
0-40	3497.35	N.A.	25.20
0-60	5916.29	N.A.	42.70
0-80	7129.5	N.A.	51.40
0-90	7232.86	N.A.	52.20
10-90	6959.27	N.A.	50.20
20-40	2451.71	N.A.	17.70
20-50	3754.97	N.A.	27.10
40-70	3215.00	N.A.	23.20
60-80	1213.2	N.A.	8.80
70-80	417.14	N.A.	3.00
80-90	103.36	N.A.	0.70
90-110	362.47	N.A.	2.60
90-120	996.54	N.A.	7.20
90-130	1975.94	N.A.	14.30
90-150	4493.9	N.A.	32.40
90-180	6630.79	N.A.	47.80
110-180	6268.32	N.A.	45.20
0-180	13863.65	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	273.59
10-20	772.05
20-30	1136.07
30-40	1315.64
40-50	1303.26
50-60	1115.68
60-70	796.06
70-80	417.14
80-90	103.36
90-100	68.16
100-110	294.31
110-120	634.07
120-130	979.40
130-140	1230.94
140-150	1287.01
150-160	1119.07
160-170	752.74
170-180	265.08

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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	50	49	44
2	90	82	76	71	83	76	71	67	65	61	58	55	52	50	46	44	42	37
3	82	72	65	59	76	67	61	56	58	53	49	49	45	42	40	38	36	32
4	75	64	56	50	69	60	53	47	51	46	42	44	39	36	36	33	31	27
5	69	57	49	43	63	53	46	41	46	40	36	39	35	31	33	29	27	24
6	63	51	43	38	59	48	41	36	41	36	32	35	31	28	30	26	24	21
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	27	24	21	19
8	55	42	34	29	50	39	33	28	34	29	25	29	25	22	25	22	19	17
9	51	39	31	26	47	36	29	25	31	26	22	27	23	20	23	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	21	18	16	14

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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	16.0	16.9	17.0	17.9	19.1	15.8	16.7	16.8	17.6	18.9
	3H	17.5	18.3	18.5	19.3	20.6	17.4	18.1	18.3	19.1	20.4
	4H	18.0	18.8	19.0	19.7	21.0	17.9	18.6	18.9	19.6	20.9
	6H	18.3	19.0	19.3	20.0	21.2	18.2	18.9	19.2	19.9	21.2
	8H	18.4	19.0	19.3	20.0	21.3	18.3	19.0	19.3	19.9	21.2
	12H	18.4	19.0	19.3	20.0	21.3	18.3	18.9	19.3	19.9	21.2

UGR Viewed Endwise

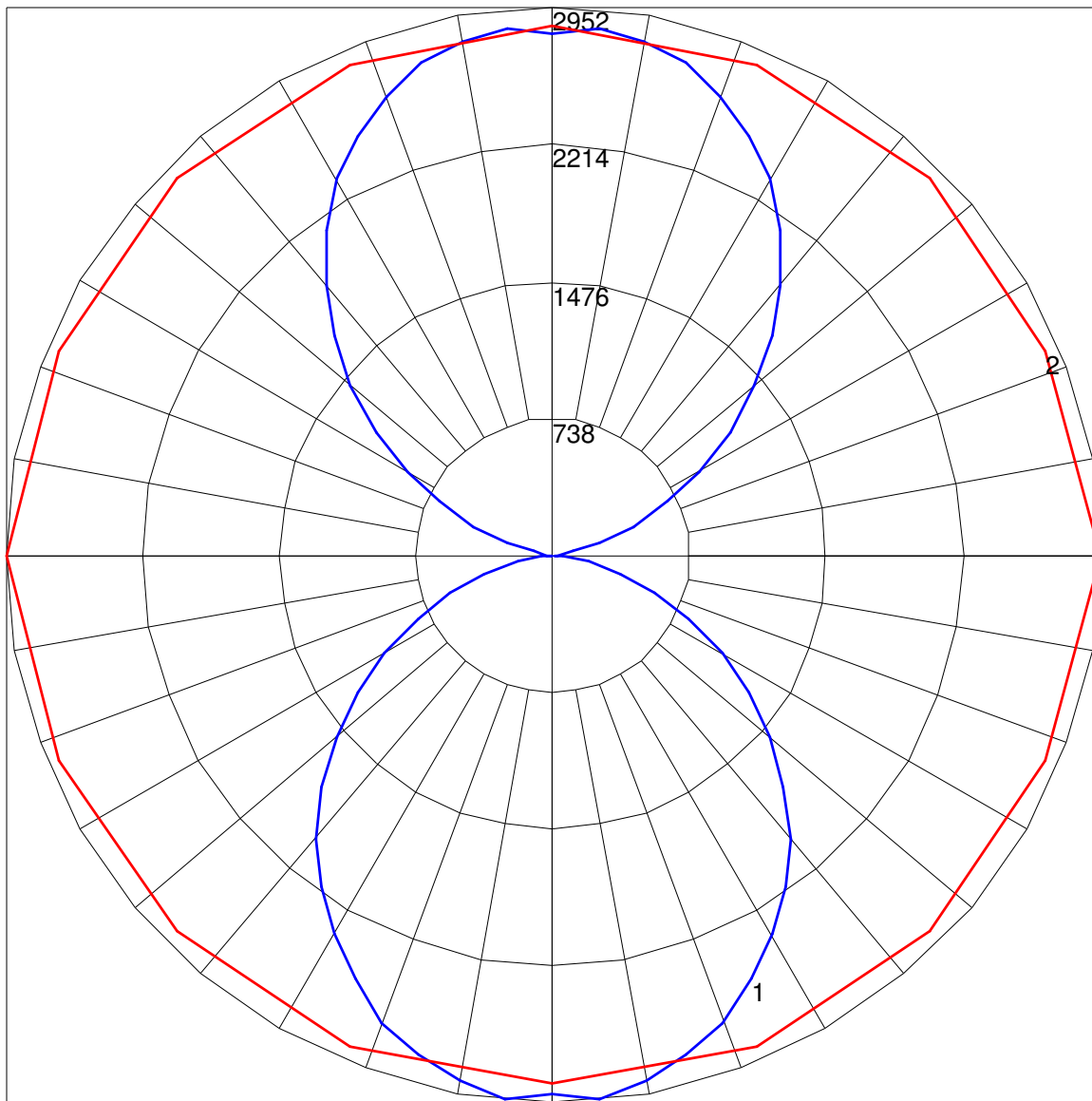
4H	2H	16.5	17.3	17.5	18.2	19.5	16.3	17.1	17.3	18.0	19.3
	3H	18.2	18.8	19.2	19.8	21.1	18.1	18.7	19.1	19.7	21.0
	4H	18.8	19.4	19.8	20.4	21.7	18.7	19.3	19.7	20.3	21.6
	6H	19.2	19.7	20.2	20.7	22.0	19.2	19.7	20.2	20.7	22.0
	8H	19.3	19.7	20.3	20.7	22.1	19.3	19.7	20.3	20.8	22.1
	12H	19.3	19.7	20.3	20.7	22.1	19.3	19.7	20.4	20.8	22.1
8H	4H	19.0	19.5	20.0	20.5	21.8	18.9	19.4	19.9	20.4	21.7
	6H	19.5	19.9	20.5	20.9	22.2	19.5	19.9	20.5	20.9	22.2
	8H	19.6	20.0	20.7	21.0	22.3	19.7	20.0	20.7	21.0	22.4
	12H	19.7	20.0	20.8	21.0	22.4	19.8	20.1	20.8	21.1	22.5
12H	4H	19.0	19.4	20.0	20.4	21.8	18.9	19.3	19.9	20.3	21.7
	6H	19.5	19.8	20.5	20.9	22.2	19.5	19.8	20.5	20.9	22.2
	8H	19.7	20.0	20.7	21.0	22.4	19.7	20.0	20.8	21.0	22.4

Maximum UGR = 22.5

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POLAR GRAPH



Maximum Candela = 2951.642 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.)