



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L8-940U-L8-940D-A-F-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] 20-MAY-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 8' DIRECT/INDIRECT LED LUMINAIRE
 [MORE] WHITE REFLS w/FROSTED ACRYLIC LENS TOP/BTM
 [LUMCAT] MX4UD-8-00-L8-940U-L8-940D-F-A-DIM-UNV
 [LAMPCAT] HLM MX REV 2 90 CRI 4000K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] INDOOR, ARCHITECTURAL, COMMERCIAL, OFFICE
 [_SEARCH_MOUNTING] SUSPENDED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11579
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
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)	0.33 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8400	8006	7865
55	7602	7280	7167
65	6461	6438	6178
75	4987	5141	5064
85	2115	3087	2859

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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	2433.071	2433.071	2433.071	2433.071	2433.071
5	2465.167	2409.617	2405.914	2396.038	2381.225
10	2410.851	2360.240	2366.412	2346.661	2328.144
15	2335.551	2293.580	2296.049	2270.126	2251.609
20	2244.203	2210.873	2189.888	2160.261	2149.151
25	2109.649	2088.664	2061.506	2026.942	2014.598
30	1968.924	1950.407	1923.250	1875.107	1862.762
35	1820.792	1797.337	1752.898	1709.692	1699.817
40	1666.487	1630.689	1578.842	1546.747	1545.513
45	1471.446	1440.586	1402.318	1375.161	1377.629
50	1273.937	1249.248	1224.559	1191.230	1203.574
55	1080.131	1061.614	1034.456	1023.347	1018.409
60	878.918	866.573	849.291	846.822	839.416
65	676.470	675.236	674.001	665.360	646.844
70	490.071	492.540	499.946	495.008	478.961
75	319.719	320.953	329.594	333.297	324.656
80	159.242	175.290	172.821	182.696	178.993
85	45.674	65.425	66.659	64.191	61.722
90	8.641	17.282	20.985	17.282	17.282
95	22.220	37.033	40.736	39.502	40.736
100	91.348	125.912	127.147	112.334	118.506
105	216.026	234.543	240.715	208.620	207.385
110	381.440	376.503	390.081	340.704	339.470
115	567.840	551.792	560.433	478.961	481.430
120	760.412	756.709	736.958	660.423	661.657
125	971.500	955.453	917.185	861.636	832.009
130	1191.230	1151.728	1146.790	1090.006	1033.222
135	1397.380	1352.941	1351.706	1302.329	1260.358
140	1592.421	1549.216	1550.450	1506.011	1473.915
145	1791.165	1729.443	1739.319	1682.535	1667.722
150	1956.579	1899.795	1913.374	1855.356	1838.074
155	2088.664	2034.349	2055.334	2003.488	1988.675
160	2202.232	2145.448	2154.089	2119.525	2104.712
165	2296.049	2239.265	2230.624	2210.873	2193.591
170	2347.895	2292.346	2287.408	2273.829	2257.782
175	2386.163	2333.082	2330.613	2320.738	2310.862
180	2354.067	2354.067	2354.067	2354.067	2354.067

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-8-00-L8-940U-L8-940D-A-F-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	873.31	N.A.	7.50
0-30	1822.13	N.A.	15.70
0-40	2920.94	N.A.	25.20
0-60	4941.2	N.A.	42.70
0-80	5954.45	N.A.	51.40
0-90	6040.78	N.A.	52.20
10-90	5812.28	N.A.	50.20
20-40	2047.63	N.A.	17.70
20-50	3136.09	N.A.	27.10
40-70	2685.12	N.A.	23.20
60-80	1013.25	N.A.	8.80
70-80	348.39	N.A.	3.00
80-90	86.33	N.A.	0.70
90-110	302.73	N.A.	2.60
90-120	832.29	N.A.	7.20
90-130	1650.28	N.A.	14.30
90-150	3753.24	N.A.	32.40
90-180	5537.94	N.A.	47.80
110-180	5235.21	N.A.	45.20
0-180	11578.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	228.50
10-20	644.81
20-30	948.83
30-40	1098.8
40-50	1088.46
50-60	931.80
60-70	664.86
70-80	348.39
80-90	86.33
90-100	56.93
100-110	245.80
110-120	529.56
120-130	817.98
130-140	1028.07
140-150	1074.9
150-160	934.63
160-170	628.68
170-180	221.39

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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	15.3	16.2	16.3	17.2	18.4	15.1	16.0	16.0	16.9	18.2
	3H	16.8	17.6	17.8	18.6	19.9	16.6	17.4	17.6	18.4	19.7
	4H	17.3	18.1	18.3	19.0	20.3	17.2	17.9	18.2	18.9	20.2
	6H	17.6	18.3	18.6	19.3	20.5	17.5	18.2	18.5	19.2	20.5
	8H	17.6	18.3	18.6	19.3	20.6	17.6	18.2	18.6	19.2	20.5
	12H	17.6	18.3	18.6	19.3	20.6	17.6	18.2	18.6	19.2	20.5

UGR Viewed Endwise

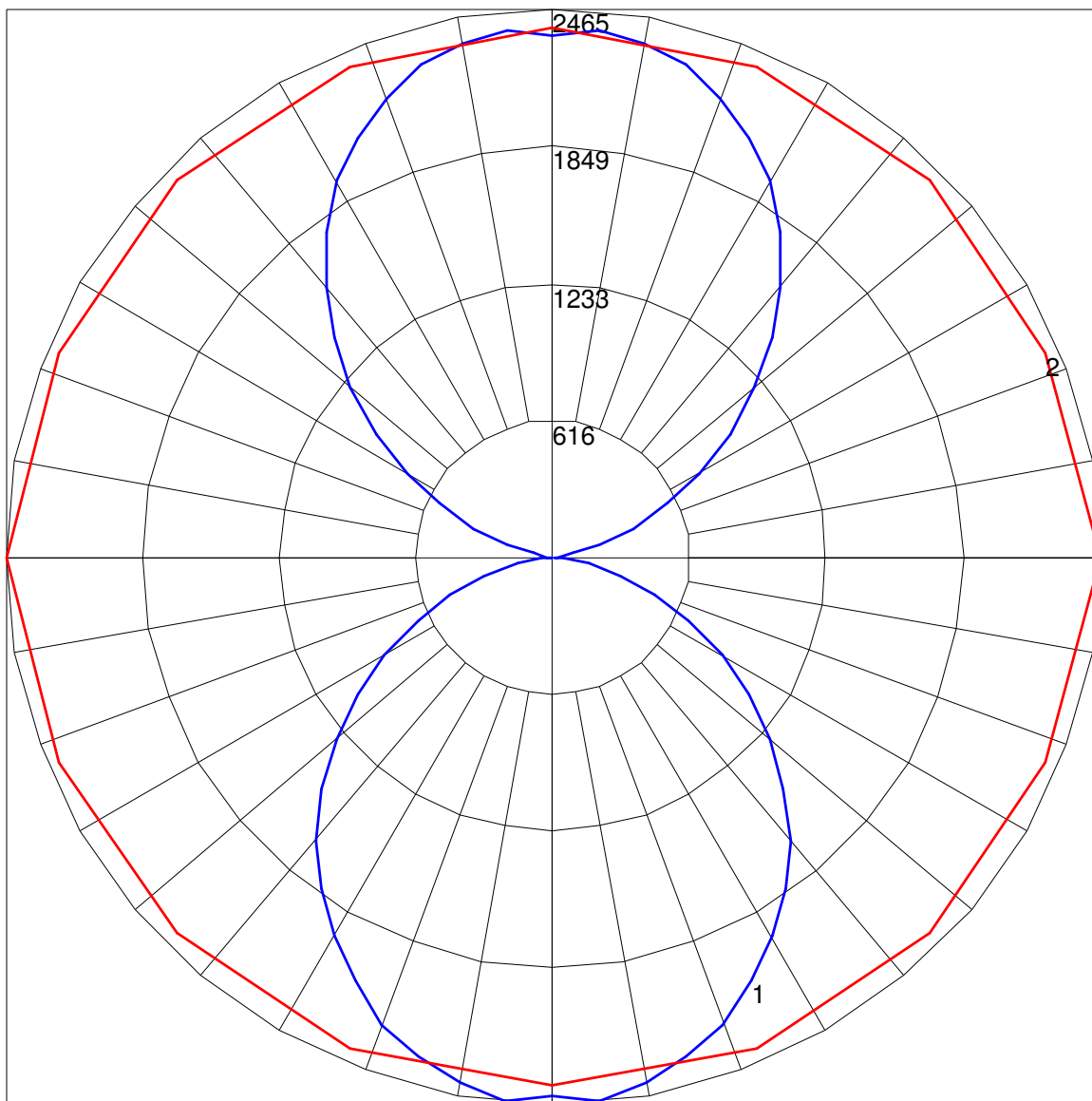
4H	2H	15.8	16.6	16.8	17.5	18.8	15.6	16.4	16.6	17.3	18.6
	3H	17.5	18.1	18.5	19.1	20.4	17.4	18.0	18.4	19.0	20.3
	4H	18.1	18.7	19.1	19.7	21.0	18.0	18.6	19.0	19.6	20.9
	6H	18.5	19.0	19.5	20.0	21.3	18.5	19.0	19.5	20.0	21.3
	8H	18.6	19.0	19.6	20.0	21.4	18.6	19.0	19.6	20.1	21.4
	12H	18.6	19.0	19.6	20.0	21.4	18.6	19.0	19.7	20.1	21.4

8H	4H	18.3	18.8	19.3	19.8	21.1	18.2	18.7	19.2	19.7	21.0
	6H	18.8	19.2	19.8	20.2	21.5	18.8	19.1	19.8	20.2	21.5
	8H	18.9	19.3	20.0	20.3	21.6	19.0	19.3	20.0	20.3	21.7
	12H	19.0	19.3	20.0	20.3	21.7	19.1	19.3	20.1	20.4	21.8

12H	4H	18.3	18.7	19.3	19.7	21.0	18.2	18.6	19.2	19.6	21.0
	6H	18.8	19.1	19.8	20.2	21.5	18.8	19.1	19.8	20.1	21.5
	8H	19.0	19.3	20.0	20.3	21.7	19.0	19.3	20.1	20.3	21.7

Maximum UGR = 21.8

POLAR GRAPH



Maximum Candela = 2465.167 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.)