



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-6-00-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] 6' DIRECT/INDIRECT SUSPENDED LED LUMINAIRE
 [MORE] WHITE REFLS w/FROSTED ACRYLIC LENS TOP/BTM
 [LUMCAT] MX4UD-6-00-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	10398
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	122
Total Luminaire Watts	85.2
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)	6.00 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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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	2184.909	2184.909	2184.909	2184.909	2184.909
5	2213.730	2163.847	2160.521	2151.653	2138.351
10	2164.955	2119.506	2125.048	2107.312	2090.684
15	2097.335	2059.645	2061.862	2038.583	2021.955
20	2015.304	1985.374	1966.529	1939.924	1929.947
25	1894.474	1875.629	1851.242	1820.203	1809.118
30	1768.102	1751.474	1727.087	1683.854	1672.769
35	1635.079	1614.017	1574.110	1535.311	1526.443
40	1496.513	1464.366	1417.807	1388.986	1387.877
45	1321.365	1293.652	1259.288	1234.900	1237.117
50	1144.001	1121.830	1099.660	1069.730	1080.815
55	969.962	953.334	928.946	918.970	914.536
60	789.272	778.187	762.667	760.450	753.799
65	607.473	606.365	605.256	597.497	580.869
70	440.086	442.303	448.954	444.520	430.109
75	287.109	288.217	295.977	299.303	291.543
80	143.000	157.411	155.194	164.062	160.737
85	41.016	58.752	59.861	57.643	55.426
90	7.760	15.519	18.845	15.519	15.519
95	19.954	33.256	36.581	35.473	36.581
100	82.031	113.070	114.178	100.876	106.419
105	193.992	210.620	216.163	187.341	186.233
110	342.535	338.101	350.295	305.954	304.845
115	509.923	495.512	503.272	430.109	432.326
120	682.853	679.528	661.791	593.062	594.171
125	872.412	858.001	823.636	773.753	747.148
130	1069.730	1034.257	1029.823	978.830	927.838
135	1254.854	1214.947	1213.838	1169.497	1131.807
140	1430.001	1391.203	1392.311	1352.404	1323.582
145	1608.474	1553.048	1561.916	1510.924	1497.621
150	1757.017	1706.025	1718.218	1666.118	1650.598
155	1875.629	1826.854	1845.699	1799.141	1785.839
160	1977.614	1926.622	1934.381	1903.343	1890.040
165	2061.862	2010.870	2003.110	1985.374	1969.854
170	2108.420	2058.537	2054.102	2041.909	2027.498
175	2142.785	2095.118	2092.901	2084.033	2075.164
180	2113.963	2113.963	2113.963	2113.963	2113.963

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Zone	Lumens	%Lamp	%Fixt
0-20	784.23	N.A.	7.50
0-30	1636.28	N.A.	15.70
0-40	2623.01	N.A.	25.20
0-60	4437.22	N.A.	42.70
0-80	5347.12	N.A.	51.40
0-90	5424.64	N.A.	52.20
10-90	5219.45	N.A.	50.20
20-40	1838.78	N.A.	17.70
20-50	2816.23	N.A.	27.10
40-70	2411.25	N.A.	23.20
60-80	909.90	N.A.	8.80
70-80	312.86	N.A.	3.00
80-90	77.52	N.A.	0.70
90-110	271.85	N.A.	2.60
90-120	747.40	N.A.	7.20
90-130	1481.96	N.A.	14.30
90-150	3370.42	N.A.	32.40
90-180	4973.09	N.A.	47.80
110-180	4701.24	N.A.	45.20
0-180	10397.74	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	205.19
10-20	579.04
20-30	852.05
30-40	986.73
40-50	977.45
50-60	836.76
60-70	597.05
70-80	312.86
80-90	77.52
90-100	51.12
100-110	220.73
110-120	475.55
120-130	734.55
130-140	923.21
140-150	965.26
150-160	839.31
160-170	564.55
170-180	198.81

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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	20.0	20.8	21.1	22.5

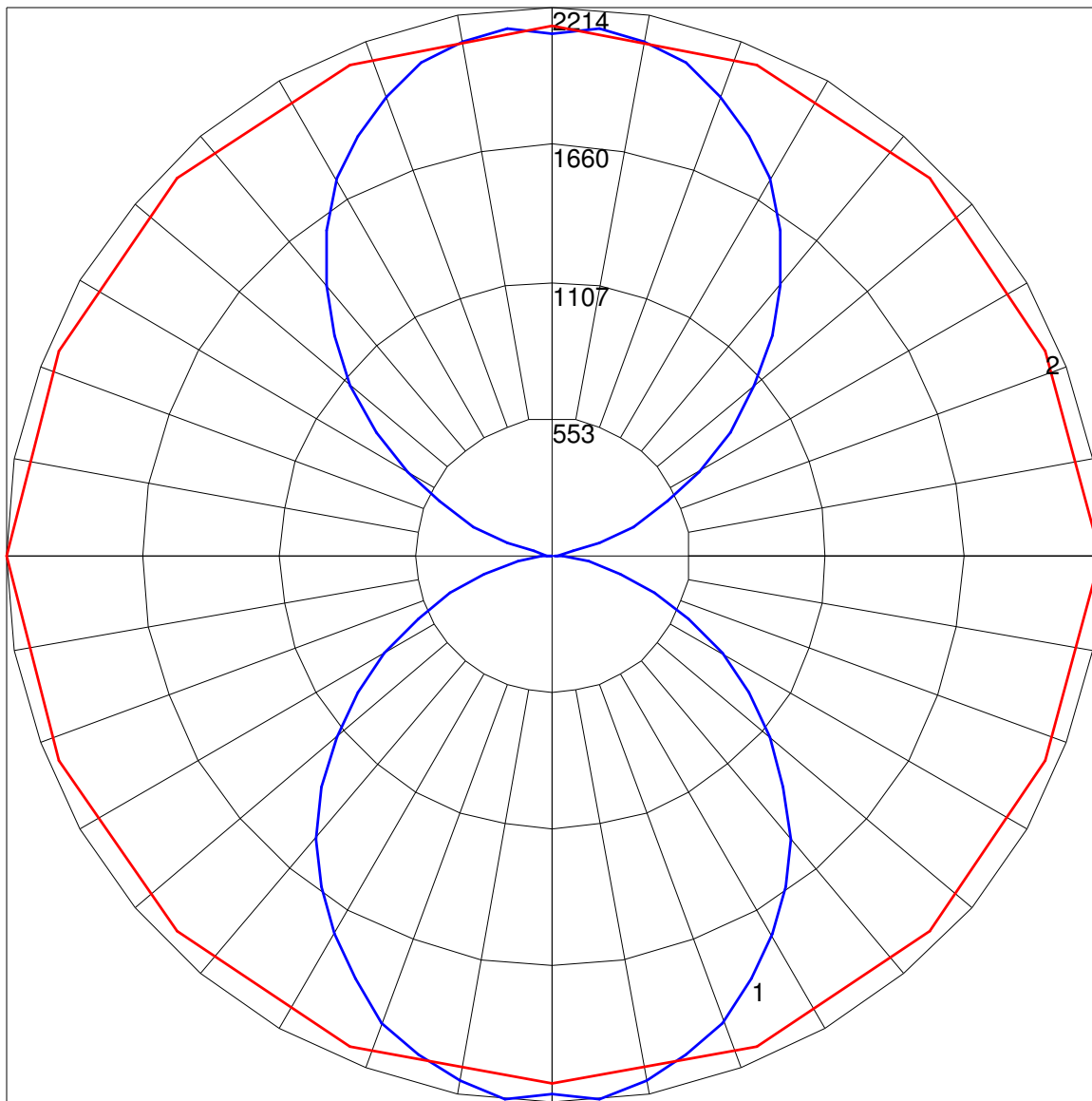
12H	4H	19.0	19.4	20.0	20.4	21.8	18.9	19.3	19.9	20.3	21.7
	6H	19.5	19.8	20.5	20.9	22.2	19.5	19.8	20.5	20.9	22.2
	8H	19.7	20.0	20.7	21.0	22.4	19.7	20.0	20.8	21.0	22.4

Maximum UGR = 22.5

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POLAR GRAPH



Maximum Candela = 2213.73 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.)