



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L8-840U-L8-840D-A-F-(L6U)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20195.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 16-NOV2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 8' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4UD-8-L8/840U-L8/840D-A-F-(L6U)-DIM-UNV-S-A-DIM-UNV
 [LAMPCAT] HLM 80 CRI 4000K CCT
 [SEARCH_SOURCETYPE] LED
 [SEARCH_APPLICATION] Indoor, Architectural, Classroom, Direct
 [SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11841
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	94.1
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	9745	9306	8958
55	8980	8561	8030
65	7945	7473	7154
75	6113	5864	5818
85	2824	3496	3227

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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	2669.534	2669.534	2669.534	2669.534	2669.534
5	2724.445	2665.310	2648.414	2634.335	2620.255
10	2687.838	2624.479	2604.767	2583.647	2568.159
15	2632.927	2562.528	2525.920	2492.128	2482.273
20	2517.472	2447.073	2427.361	2369.634	2359.778
25	2355.554	2300.643	2280.931	2237.284	2227.428
30	2193.636	2144.357	2119.013	2088.038	2072.550
35	2041.574	1983.847	1943.015	1924.712	1907.816
40	1872.616	1827.561	1768.426	1740.266	1717.738
45	1655.787	1624.811	1581.164	1554.412	1522.029
50	1455.854	1403.758	1395.310	1346.031	1319.279
55	1237.616	1206.641	1179.889	1137.650	1106.674
60	1036.275	991.219	975.732	937.716	910.964
65	806.774	782.838	758.902	734.967	726.519
70	592.760	571.641	556.153	533.625	543.481
75	380.155	381.563	364.667	364.667	361.851
80	187.262	198.525	192.894	204.157	190.078
85	59.135	70.399	73.215	85.887	67.583
90	0.000	0.000	0.000	0.000	0.000
95	91.309	89.483	93.135	91.309	96.788
100	193.575	195.402	184.444	193.575	191.749
105	326.887	325.061	325.061	319.582	314.103
110	467.503	460.198	454.720	451.067	441.936
115	619.076	609.945	598.988	580.726	580.726
120	768.823	752.387	735.952	726.821	717.690
125	905.787	902.134	883.873	865.611	856.480
130	1048.229	1046.403	1028.141	1011.705	1006.227
135	1183.367	1187.019	1166.931	1145.017	1137.712
140	1327.635	1320.330	1307.547	1276.502	1276.502
145	1457.294	1448.163	1428.075	1420.770	1404.335
150	1565.039	1575.996	1555.908	1539.472	1532.168
155	1670.957	1680.088	1665.479	1645.391	1643.565
160	1764.093	1771.398	1756.788	1747.657	1738.526
165	1833.488	1842.619	1829.835	1820.705	1815.226
170	1882.795	1891.926	1880.969	1875.490	1875.490
175	1908.361	1919.318	1910.187	1904.709	1897.404
180	1915.666	1915.666	1915.666	1915.666	1915.666

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Zone	Lumens	%Lamp	%Fixt
0-20	965.58	N.A.	8.20
0-30	2015.00	N.A.	17.00
0-40	3239.36	N.A.	27.40
0-60	5515.14	N.A.	46.60
0-80	6663.7	N.A.	56.30
0-90	6756.92	N.A.	57.10
10-90	6504.91	N.A.	54.90
20-40	2273.79	N.A.	19.20
20-50	3498.03	N.A.	29.50
40-70	3030.23	N.A.	25.60
60-80	1148.57	N.A.	9.70
70-80	394.12	N.A.	3.30
80-90	93.22	N.A.	0.80
90-110	443.06	N.A.	3.70
90-120	1034.6	N.A.	8.70
90-130	1825.34	N.A.	15.40
90-150	3621.14	N.A.	30.60
90-180	5083.88	N.A.	42.90
110-180	4640.82	N.A.	39.20
0-180	11840.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	252.01
10-20	713.56
20-30	1049.42
30-40	1224.36
40-50	1224.25
50-60	1051.53
60-70	754.45
70-80	394.12
80-90	93.22
90-100	102.23
100-110	340.84
110-120	591.54
120-130	790.74
130-140	899.87
140-150	895.92
150-160	765.69
160-170	515.70
170-180	181.35

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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	110	110	110	110	102	102	102	102	88	88	88	75	75	75	63	63	63	58
1	101	96	92	89	93	90	86	83	78	75	73	66	65	63	56	55	54	49
2	92	84	78	73	85	79	73	69	68	64	60	58	55	53	50	47	45	41
3	84	74	67	61	78	69	63	57	60	55	51	52	48	45	44	41	39	35
4	77	66	58	51	71	61	54	49	54	48	43	46	42	38	39	36	33	30
5	70	59	50	44	65	55	47	42	48	42	38	41	37	33	35	32	29	26
6	65	53	44	38	60	49	42	37	43	37	33	38	33	29	32	29	26	23
7	60	47	39	34	56	45	37	32	39	33	29	34	29	26	29	26	23	20
8	56	43	35	30	52	41	33	29	36	30	26	31	27	23	27	23	21	18
9	52	39	32	27	48	37	30	25	33	27	23	29	24	21	25	21	19	16
10	49	36	29	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15

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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	16.5	17.4	17.4	18.3	19.5	16.0	16.9	16.9	17.8	19.0
	3H	18.0	18.9	18.9	19.8	21.0	17.5	18.4	18.4	19.3	20.5
	4H	18.6	19.3	19.5	20.3	21.5	18.1	18.8	19.0	19.8	21.0
	6H	18.8	19.6	19.8	20.5	21.7	18.4	19.1	19.3	20.0	21.3
	8H	18.9	19.6	19.8	20.5	21.7	18.5	19.2	19.4	20.1	21.3
	12H	18.9	19.6	19.8	20.5	21.7	18.5	19.2	19.4	20.1	21.3

UGR Viewed Endwise

4H	2H	16.9	17.7	17.8	18.6	19.8	16.5	17.3	17.5	18.2	19.4
	3H	18.7	19.3	19.6	20.3	21.5	18.3	18.9	19.2	19.9	21.1
	4H	19.3	19.9	20.3	20.9	22.1	18.9	19.5	19.9	20.5	21.7
	6H	19.7	20.2	20.7	21.2	22.4	19.3	19.9	20.3	20.8	22.1
	8H	19.8	20.3	20.8	21.2	22.5	19.5	19.9	20.4	20.9	22.2
	12H	19.8	20.3	20.8	21.2	22.5	19.5	20.0	20.5	20.9	22.2

8H	4H	19.5	20.0	20.4	20.9	22.2	19.1	19.6	20.1	20.6	21.8
	6H	20.0	20.4	21.0	21.4	22.6	19.7	20.1	20.7	21.1	22.3
	8H	20.1	20.5	21.1	21.5	22.7	19.9	20.2	20.9	21.2	22.5
	12H	20.2	20.5	21.2	21.5	22.8	20.0	20.3	21.0	21.3	22.6

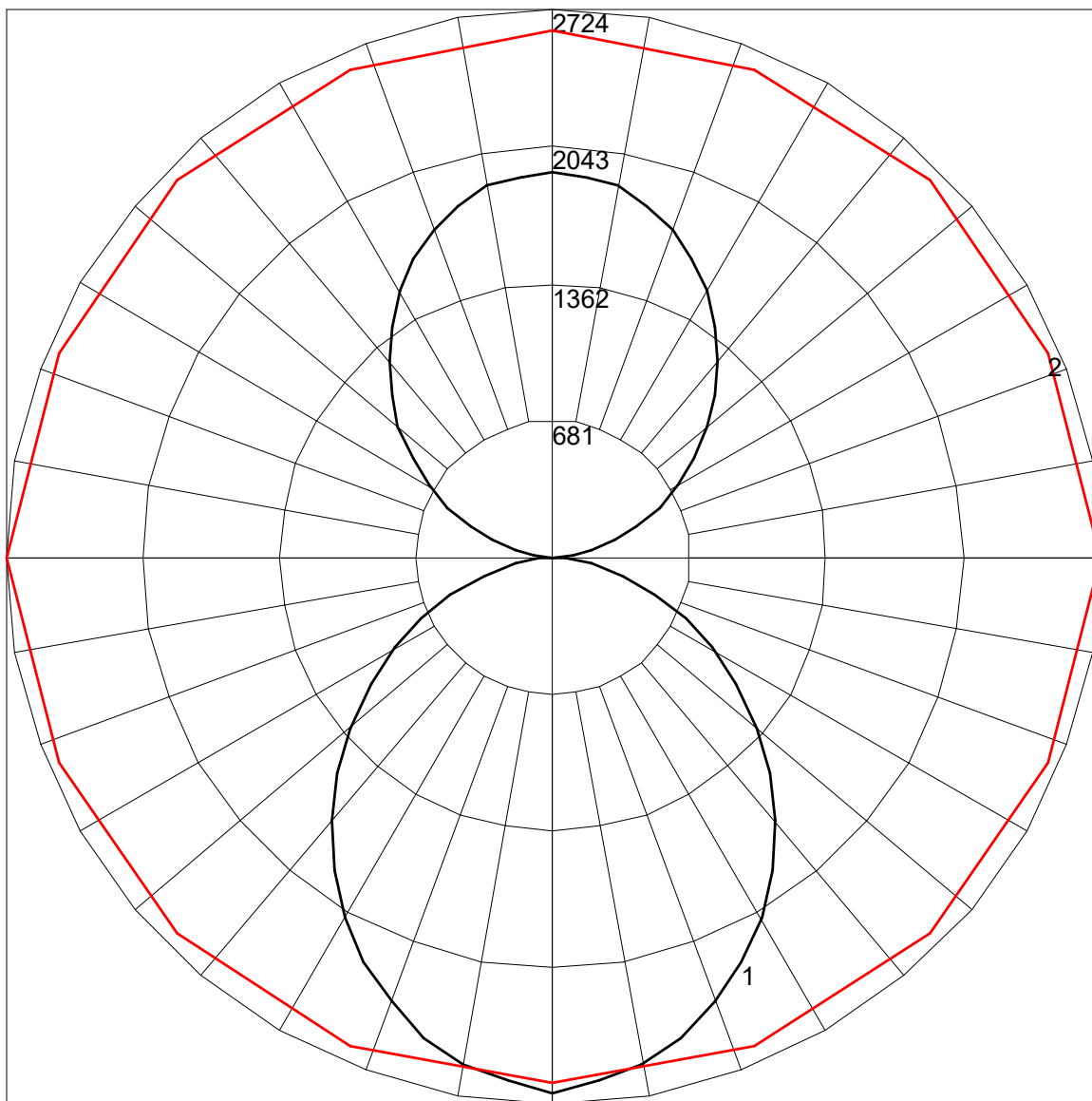
12H	4H	19.5	19.9	20.5	20.9	22.2	19.1	19.5	20.1	20.5	21.8
	6H	20.0	20.3	21.0	21.3	22.6	19.7	20.0	20.7	21.0	22.3
	8H	20.2	20.5	21.2	21.5	22.8	19.9	20.2	20.9	21.2	22.5

Maximum UGR = 22.8

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POLAR GRAPH



Maximum Candela = 2724.445 Located At Horizontal Angle = 0, Vertical Angle = 5

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)