



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-6-00-L8-835U-L8-835D-A-(L7U-L735D)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 29653.0
 [TESTLABV] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 23-JUL-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 6' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4UD-6-00-L8-835U-L8-835D-A-F-(L7U-L7.5D)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K 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	8842
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	69
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	8686	8423	8292
55	7977	7653	7437
65	6790	6680	6459
75	5154	5394	5094
85	2492	3203	3025

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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	1846.573	1846.573	1846.573	1846.573	1846.573
5	1854.828	1835.565	1827.309	1821.805	1821.805
10	1821.805	1802.541	1794.285	1788.781	1783.277
15	1758.509	1744.750	1730.990	1725.486	1717.230
20	1684.206	1664.942	1653.935	1637.423	1631.919
25	1587.887	1565.871	1554.864	1535.600	1532.848
30	1491.568	1466.801	1444.785	1439.281	1425.521
35	1356.722	1340.210	1320.946	1301.682	1301.682
40	1230.131	1213.619	1188.851	1183.348	1164.084
45	1089.781	1073.269	1056.757	1040.245	1040.245
50	957.686	935.670	921.910	910.902	897.143
55	811.831	792.568	778.808	765.048	756.792
60	660.473	649.465	641.209	630.201	621.945
65	509.115	506.363	500.859	487.099	484.347
70	377.020	374.268	366.012	360.508	355.004
75	236.670	244.925	247.677	239.421	233.918
80	121.087	126.591	126.591	129.343	132.095
85	38.528	41.280	49.535	44.032	46.784
90	0.000	0.000	0.000	0.000	0.000
95	77.317	75.770	78.863	77.317	81.956
100	163.912	165.458	156.180	163.912	162.365
105	276.794	275.248	275.248	270.609	265.970
110	395.862	389.677	385.038	381.945	374.213
115	524.208	516.476	507.198	491.735	491.735
120	651.007	637.090	623.173	615.442	607.710
125	766.983	763.890	748.427	732.963	725.232
130	887.597	886.051	870.587	856.670	852.031
135	1002.026	1005.118	988.109	969.553	963.367
140	1124.186	1118.001	1107.177	1080.889	1080.889
145	1233.976	1226.244	1209.235	1203.049	1189.132
150	1325.210	1334.488	1317.478	1303.561	1297.376
155	1414.897	1422.629	1410.258	1393.249	1391.702
160	1493.761	1499.946	1487.575	1479.844	1472.112
165	1552.521	1560.253	1549.429	1541.697	1537.058
170	1594.272	1602.004	1592.726	1588.087	1588.087
175	1615.921	1625.199	1617.467	1612.828	1606.643
180	1622.106	1622.106	1622.106	1622.106	1622.106

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Zone	Lumens	%Lamp	%Fixt
0-20	662.49	N.A.	7.50
0-30	1379.41	N.A.	15.60
0-40	2208.33	N.A.	25.00
0-60	3725.37	N.A.	42.10
0-80	4478.79	N.A.	50.70
0-90	4537.59	N.A.	51.30
10-90	4363.85	N.A.	49.40
20-40	1545.84	N.A.	17.50
20-50	2363.94	N.A.	26.70
40-70	2012.64	N.A.	22.80
60-80	753.43	N.A.	8.50
70-80	257.82	N.A.	2.90
80-90	58.79	N.A.	0.70
90-110	375.17	N.A.	4.20
90-120	876.06	N.A.	9.90
90-130	1545.63	N.A.	17.50
90-150	3066.23	N.A.	34.70
90-180	4304.82	N.A.	48.70
110-180	3929.65	N.A.	44.40
0-180	8842.41	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	173.74
10-20	488.75
20-30	716.91
30-40	828.92
40-50	818.10
50-60	698.93
60-70	495.61
70-80	257.82
80-90	58.79
90-100	86.56
100-110	288.61
110-120	500.89
120-130	669.57
130-140	761.97
140-150	758.63
150-160	648.36
160-170	436.67
170-180	153.56

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	69	62	60	59	51	50	49	44
2	90	82	76	71	83	76	71	67	65	61	58	55	52	49	45	43	41	37
3	82	72	65	59	75	67	61	56	57	53	49	48	45	42	40	37	35	31
4	75	64	56	50	69	60	53	47	51	46	42	43	39	36	36	33	31	27
5	69	57	49	43	63	53	46	41	46	40	36	39	35	31	32	29	27	23
6	63	51	43	38	58	48	41	35	41	36	31	35	31	27	29	26	24	21
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	23	21	18
8	54	42	34	29	50	39	32	28	34	29	25	29	25	22	25	21	19	16
9	51	39	31	26	47	36	29	25	31	26	22	27	23	20	23	19	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	21	18	15	13

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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	15.5	16.3	16.4	17.3	18.5	UGR Viewed Endwise	15.2	16.0	16.1	17.0	18.3
	3H	17.0	17.8	17.9	18.7	20.0		16.7	17.5	17.7	18.4	19.7
	4H	17.5	18.2	18.5	19.2	20.5		17.2	17.9	18.2	18.9	20.2
	6H	17.7	18.4	18.7	19.4	20.7		17.5	18.2	18.5	19.2	20.5
	8H	17.8	18.4	18.8	19.4	20.7		17.6	18.2	18.6	19.2	20.5
	12H	17.8	18.4	18.8	19.4	20.7		17.6	18.2	18.6	19.2	20.5

4H	2H	15.9	16.6	16.9	17.6	18.9		15.7	16.4	16.7	17.4	18.7
	3H	17.6	18.2	18.6	19.3	20.6		17.4	18.0	18.4	19.0	20.3
	4H	18.2	18.8	19.2	19.8	21.1		18.0	18.6	19.0	19.6	20.9
	6H	18.6	19.1	19.6	20.1	21.4		18.4	18.9	19.5	19.9	21.3
	8H	18.7	19.1	19.7	20.2	21.5		18.6	19.0	19.6	20.0	21.4
	12H	18.7	19.1	19.7	20.1	21.5		18.6	19.0	19.6	20.0	21.4

8H	4H	18.4	18.9	19.4	19.9	21.2		18.2	18.7	19.2	19.7	21.0
	6H	18.9	19.3	19.9	20.3	21.7		18.8	19.1	19.8	20.2	21.5
	8H	19.0	19.4	20.1	20.4	21.8		18.9	19.2	20.0	20.3	21.6
	12H	19.1	19.4	20.1	20.4	21.8		19.0	19.3	20.1	20.3	21.7

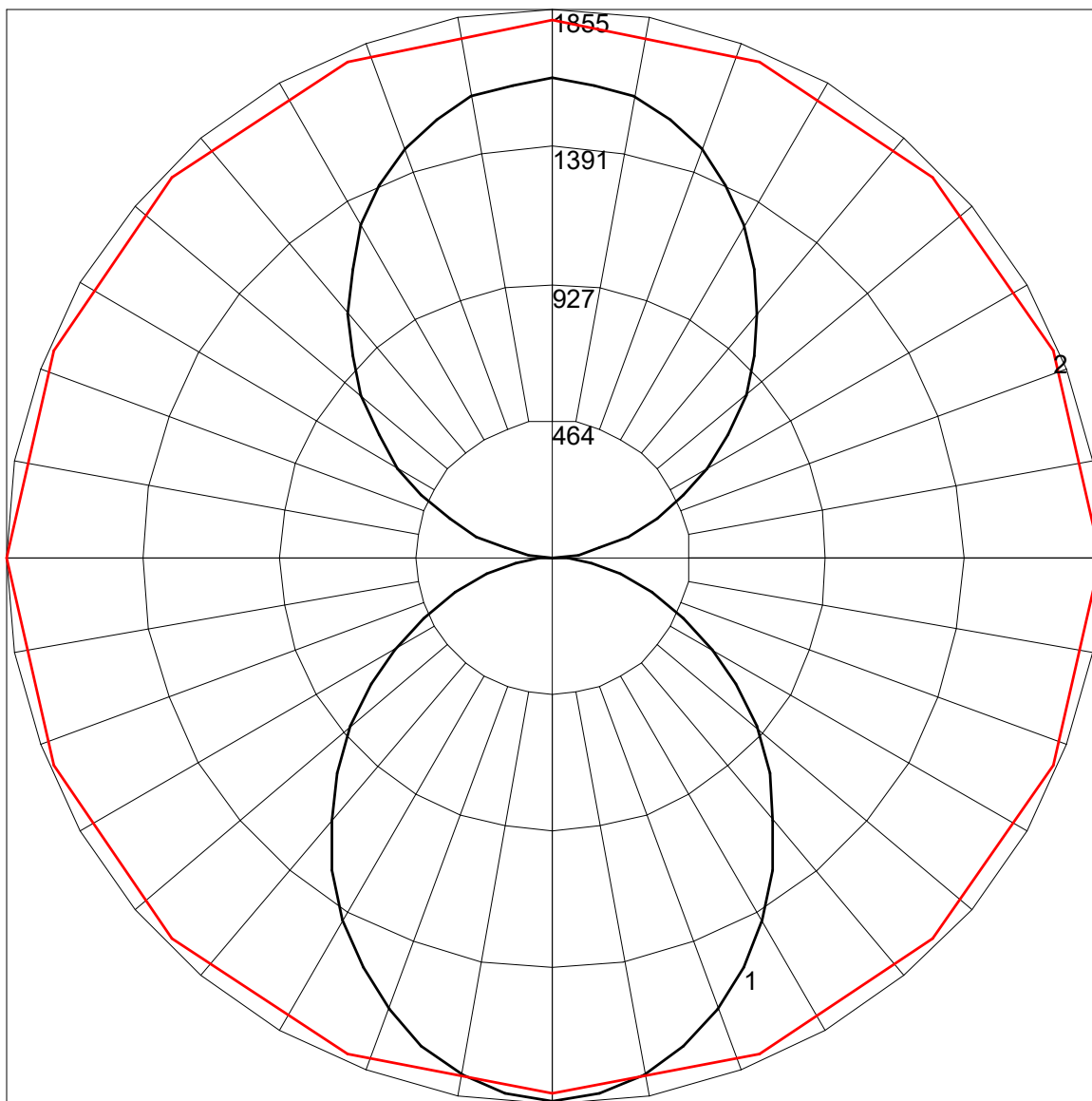
12H	4H	18.4	18.8	19.4	19.8	21.2		18.2	18.6	19.2	19.6	21.0
	6H	18.9	19.2	20.0	20.3	21.6		18.8	19.1	19.8	20.1	21.5
	8H	19.1	19.4	20.1	20.4	21.8		19.0	19.2	20.0	20.3	21.7

Maximum UGR = 21.8

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POLAR GRAPH



Maximum Candela = 1854.828 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.)