



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-7-00-L8-835U-L8-835D-AF-(L5U-L5D)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20659.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 07-02-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 7' DIRECT/INDIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS TOP/BTM
 [LUMCAT] MX4UD-7-00-L8-835U-L8-835D-AF-(L5U-L5D)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Direct-Indirect
 [_SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7166
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	57
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)	7.00 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	5294	5178	5047
55	4823	4662	4501
65	4088	3967	3796
75	3099	3020	3020
85	1652	1770	1534

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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	1322.047	1322.047	1322.047	1322.047	1322.047
5	1336.949	1317.789	1311.402	1307.145	1305.016
10	1309.274	1287.985	1283.727	1275.211	1275.211
15	1268.824	1247.535	1239.020	1232.633	1228.375
20	1209.215	1190.055	1181.540	1175.153	1168.766
25	1138.962	1119.801	1113.415	1102.770	1098.512
30	1053.806	1041.032	1034.645	1019.743	1006.970
35	962.263	960.134	949.489	932.458	921.814
40	872.849	857.947	855.818	838.787	830.271
45	774.920	764.275	757.888	736.599	738.728
50	672.732	666.346	659.959	642.928	636.541
55	572.674	566.287	553.514	540.741	534.354
60	461.971	459.842	444.940	438.553	432.167
65	357.655	355.526	347.011	340.624	332.108
70	263.984	257.597	246.952	251.210	246.952
75	166.054	161.796	161.796	166.054	161.796
80	83.027	91.543	91.543	91.543	85.156
85	29.805	31.934	31.934	31.934	27.676
90	2.129	2.129	2.129	2.129	2.129
95	48.965	51.094	48.965	42.578	42.578
100	114.961	112.832	112.832	104.316	95.801
105	197.988	197.988	187.343	176.699	161.796
110	310.819	304.433	285.273	276.757	261.855
115	421.522	410.878	398.104	376.815	359.784
120	557.772	557.772	523.709	500.292	487.518
125	694.021	704.666	657.830	642.928	621.639
130	840.916	849.431	808.982	785.564	768.533
135	975.036	962.263	949.489	938.845	934.587
140	1100.641	1098.512	1092.126	1077.223	1081.481
145	1209.215	1211.344	1204.957	1194.313	1211.344
150	1309.274	1313.531	1311.402	1296.500	1317.789
155	1385.914	1392.301	1392.301	1381.656	1402.945
160	1445.523	1458.297	1451.910	1445.523	1458.297
165	1494.488	1507.261	1494.488	1494.488	1500.875
170	1522.164	1537.066	1524.292	1522.164	1517.906
175	1543.453	1556.226	1543.453	1541.324	1530.679
180	1547.710	1547.710	1547.710	1547.710	1547.710

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Zone	Lumens	%Lamp	%Fixt
0-20	474.31	N.A.	6.60
0-30	986.75	N.A.	13.80
0-40	1577.78	N.A.	22.00
0-60	2654.21	N.A.	37.00
0-80	3175.76	N.A.	44.30
0-90	3217.7	N.A.	44.90
10-90	3093.2	N.A.	43.20
20-40	1103.47	N.A.	15.40
20-50	1685.52	N.A.	23.50
40-70	1421.48	N.A.	19.80
60-80	521.55	N.A.	7.30
70-80	176.50	N.A.	2.50
80-90	41.94	N.A.	0.60
90-110	258.42	N.A.	3.60
90-120	654.89	N.A.	9.10
90-130	1251.76	N.A.	17.50
90-150	2739.13	N.A.	38.20
90-180	3948.12	N.A.	55.10
110-180	3689.7	N.A.	51.50
0-180	7165.82	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	124.50
10-20	349.81
20-30	512.45
30-40	591.02
40-50	582.05
50-60	494.39
60-70	345.05
70-80	176.50
80-90	41.94
90-100	55.85
100-110	202.56
110-120	396.47
120-130	596.87
130-140	734.27
140-150	753.09
150-160	639.63
160-170	422.56
170-180	146.80

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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44	38
2	88	81	75	70	81	75	69	65	62	59	55	51	48	46	40	39	37	32
3	81	71	64	58	74	66	59	54	55	50	47	45	42	39	36	34	32	27
4	74	63	55	50	67	58	51	46	49	44	40	40	37	34	32	30	27	24
5	68	56	48	42	62	52	45	40	44	38	34	36	32	29	29	26	24	21
6	62	51	43	37	57	47	40	35	39	34	30	33	29	26	26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	24	21	19	16
8	54	41	34	29	49	38	32	27	33	27	23	27	23	20	22	19	17	14
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	20	17	15	13
10	47	35	28	23	43	32	26	21	28	22	19	23	19	16	19	16	14	12

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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	13.1	13.9	14.1	14.9	16.2	12.7	13.5	13.7	14.5	15.9
	3H	14.5	15.3	15.5	16.3	17.6	14.2	14.9	15.2	15.9	17.3
	4H	15.0	15.7	16.0	16.7	18.1	14.7	15.4	15.7	16.4	17.8
	6H	15.2	15.9	16.3	16.9	18.3	15.0	15.6	16.0	16.6	18.0
	8H	15.3	15.9	16.3	16.9	18.3	15.0	15.6	16.1	16.7	18.1
	12H	15.3	15.9	16.4	16.9	18.3	15.0	15.6	16.1	16.6	18.1

UGR Viewed Endwise

4H	2H	13.5	14.2	14.5	15.2	16.6	13.2	13.9	14.2	14.9	16.3
	3H	15.1	15.7	16.2	16.8	18.1	14.9	15.4	15.9	16.5	17.9
	4H	15.7	16.2	16.8	17.3	18.7	15.5	16.0	16.5	17.0	18.4
	6H	16.1	16.5	17.1	17.6	19.0	15.9	16.3	16.9	17.4	18.8
	8H	16.2	16.6	17.2	17.6	19.0	16.0	16.4	17.0	17.4	18.9
	12H	16.2	16.6	17.3	17.6	19.1	16.0	16.4	17.1	17.4	18.9

8H	4H	15.9	16.3	16.9	17.3	18.8	15.6	16.1	16.7	17.1	18.5
	6H	16.3	16.7	17.4	17.8	19.2	16.2	16.5	17.2	17.6	19.0
	8H	16.5	16.8	17.6	17.9	19.3	16.3	16.6	17.4	17.7	19.1
	12H	16.6	16.8	17.7	17.9	19.4	16.4	16.7	17.5	17.7	19.2

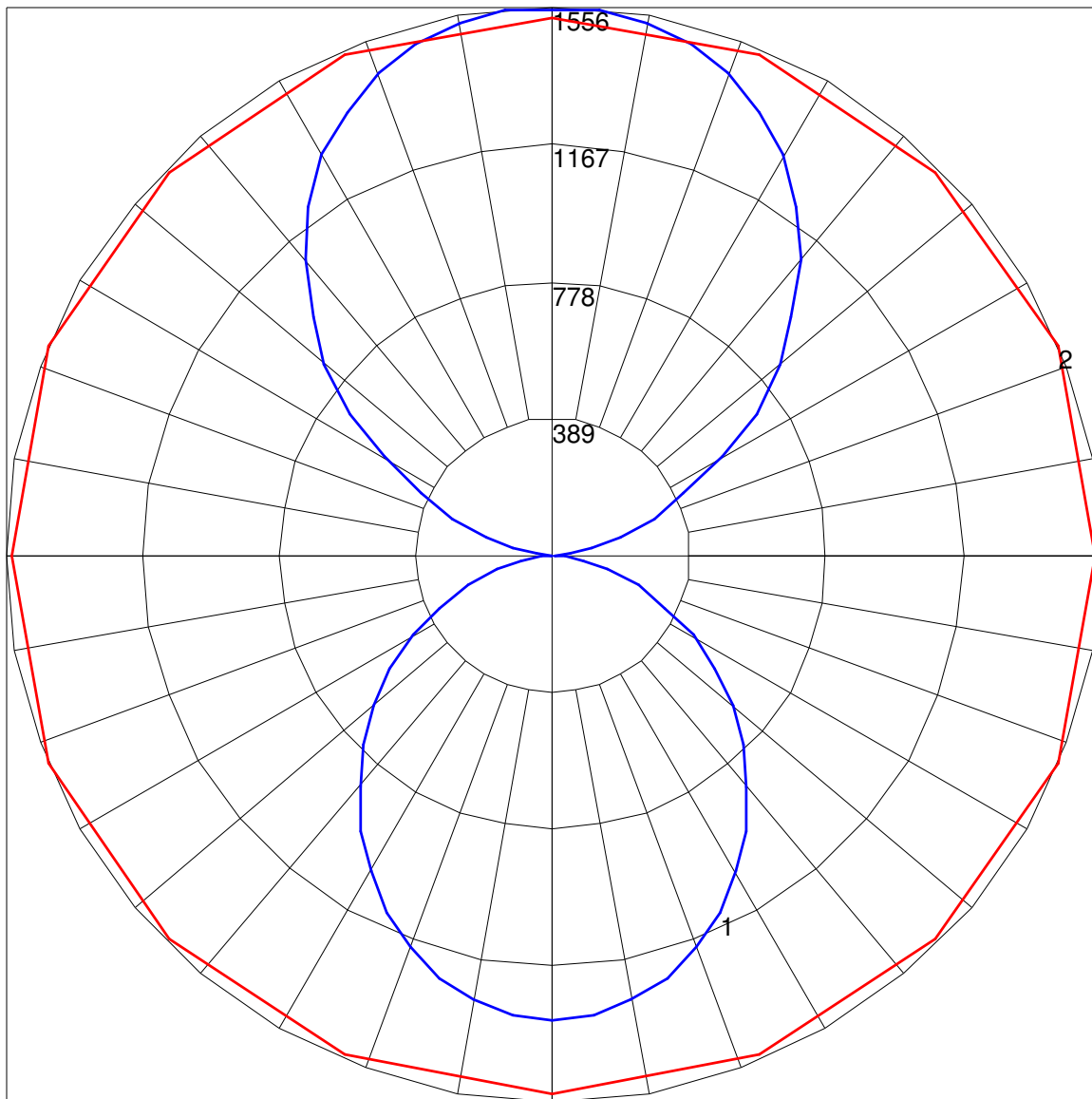
12H	4H	15.8	16.2	16.9	17.3	18.7	15.6	16.0	16.7	17.1	18.5
	6H	16.3	16.6	17.4	17.7	19.2	16.2	16.5	17.3	17.6	19.0
	8H	16.5	16.8	17.6	17.9	19.3	16.4	16.6	17.5	17.7	19.2

Maximum UGR = 19.4

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POLAR GRAPH



Maximum Candela = 1556.226 Located At Horizontal Angle = 22.5, Vertical Angle = 175

1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (175) (Through Max. Cd.)