



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L12-835U-L8-835D-F-(L8.4U)-(L3.6D)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from BALLABS TEST #20657.0 & #20195.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 22-APR-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4' DIRECT/INDIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4UD-4-00-L12-835U-L8-835D-S-A-(L8.4U)-(L3.6D)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K CCT
 [SEARCH_SOURCETYPE] LED
 [SEARCH_APPLICATION] Indoor, Architectural, Classroom, Indirect
 [SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5367
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	132
Total Luminaire Watts	40.8
Ballast Factor	1.00
CIE Type	Semi-Indirect
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)	4.00 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	4351	4155	3999
55	4009	3822	3585
65	3547	3337	3194
75	2729	2618	2598
85	1261	1561	1441

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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	586.697	586.697	586.697	586.697	586.697
5	598.765	585.769	582.056	578.961	575.867
10	590.720	576.795	572.463	567.821	564.418
15	578.652	563.180	555.134	547.708	545.542
20	553.278	537.806	533.473	520.787	518.620
25	517.692	505.624	501.292	491.699	489.533
30	482.107	471.276	465.706	458.899	455.495
35	448.687	436.000	427.026	423.004	419.290
40	411.554	401.652	388.656	382.467	377.516
45	363.901	357.093	347.500	341.621	334.504
50	319.960	308.511	306.654	295.824	289.945
55	271.997	265.190	259.310	250.027	243.219
60	227.747	217.845	214.441	206.087	200.207
65	177.309	172.048	166.788	161.527	159.671
70	130.274	125.632	122.229	117.278	119.444
75	83.549	83.858	80.145	80.145	79.526
80	41.155	43.631	42.393	44.869	41.774
85	12.996	15.472	16.091	18.876	14.853
90	0.000	0.000	0.000	0.000	0.000
95	69.720	68.326	71.114	69.720	73.903
100	147.806	149.201	140.834	147.806	146.412
105	249.597	248.203	248.203	244.019	239.836
110	356.966	351.388	347.205	344.416	337.444
115	472.701	465.729	457.362	443.418	443.418
120	587.041	574.492	561.942	554.970	547.998
125	691.621	688.832	674.888	660.944	653.972
130	800.384	798.990	785.045	772.496	768.313
135	903.569	906.358	891.020	874.287	868.709
140	1013.727	1008.149	998.388	974.683	974.683
145	1112.729	1105.757	1090.418	1084.841	1072.291
150	1194.998	1203.365	1188.026	1175.477	1169.899
155	1275.873	1282.845	1271.690	1256.352	1254.957
160	1346.987	1352.565	1341.410	1334.438	1327.466
165	1399.975	1406.947	1397.186	1390.214	1386.031
170	1437.623	1444.595	1436.229	1432.046	1432.046
175	1457.145	1465.511	1458.539	1454.356	1448.778
180	1462.723	1462.723	1462.723	1462.723	1462.723

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-4-00-L12-835U-L8-835D-F-(L8.4U)-(L3.6D)-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	212.21	N.A.	4.00
0-30	442.85	N.A.	8.30
0-40	711.93	N.A.	13.30
0-60	1212.09	N.A.	22.60
0-80	1464.52	N.A.	27.30
0-90	1485.00	N.A.	27.70
10-90	1429.62	N.A.	26.60
20-40	499.72	N.A.	9.30
20-50	768.78	N.A.	14.30
40-70	665.97	N.A.	12.40
60-80	252.43	N.A.	4.70
70-80	86.62	N.A.	1.60
80-90	20.49	N.A.	0.40
90-110	338.30	N.A.	6.30
90-120	789.98	N.A.	14.70
90-130	1393.76	N.A.	26.00
90-150	2764.95	N.A.	51.50
90-180	3881.84	N.A.	72.30
110-180	3543.53	N.A.	66.00
0-180	5366.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	55.39
10-20	156.82
20-30	230.64
30-40	269.08
40-50	269.06
50-60	231.10
60-70	165.81
70-80	86.62
80-90	20.49
90-100	78.06
100-110	260.25
110-120	451.68
120-130	603.78
130-140	687.10
140-150	684.09
150-160	584.65
160-170	393.77
170-180	138.47

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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	93	89	85	82	83	79	76	74	62	60	58	46	45	44	32	31	30	23
2	85	77	72	67	75	69	65	60	54	51	48	41	38	37	28	27	25	20
3	77	68	61	55	69	61	55	50	48	44	40	36	33	31	25	23	22	17
4	70	60	53	47	63	54	48	43	43	38	34	32	29	26	22	20	19	14
5	65	53	46	40	58	48	41	36	38	33	30	29	25	23	20	18	16	13
6	59	48	40	34	53	43	36	32	34	29	26	26	22	20	18	16	14	11
7	55	43	35	30	49	39	32	27	31	26	22	23	20	18	16	14	13	10
8	51	39	31	26	45	35	29	24	28	23	20	21	18	16	15	13	11	9
9	47	35	28	23	42	32	26	21	26	21	18	20	16	14	14	12	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	13	13	11	9	7

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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	10.4	11.1	11.6	12.2	13.8	UGR Viewed Endwise			
	3H	12.0	12.6	13.1	13.7	15.3	10.0	10.7	11.1	11.8
	4H	12.5	13.1	13.6	14.2	15.8	11.5	12.1	12.6	13.2
	6H	12.8	13.3	13.9	14.5	16.0	12.0	12.6	13.2	13.7
	8H	12.8	13.3	14.0	14.5	16.1	12.3	12.9	13.5	14.0
	12H	12.8	13.3	14.0	14.5	16.1	12.4	12.9	13.6	14.1

4H	2H	10.9	11.4	12.0	12.6	14.2	10.0	10.7	11.1	11.8
	3H	12.6	13.1	13.8	14.3	15.8	12.3	12.9	13.5	14.0
	4H	13.2	13.7	14.4	14.8	16.4	12.4	12.9	13.6	14.1
	6H	13.6	14.0	14.8	15.2	16.8	12.8	13.3	14.0	14.4
	8H	13.7	14.1	14.9	15.2	16.8	13.3	13.6	14.4	14.8
	12H	13.7	14.0	14.9	15.2	16.8	13.4	13.7	14.5	14.9

8H	4H	13.4	13.8	14.6	14.9	16.5	13.4	13.7	14.6	14.9
	6H	13.9	14.2	15.0	15.4	17.0	13.4	13.7	14.6	14.9
	8H	14.0	14.3	15.2	15.5	17.1	13.6	13.9	14.7	15.1
	12H	14.1	14.3	15.3	15.5	17.1	13.8	14.0	14.9	15.2

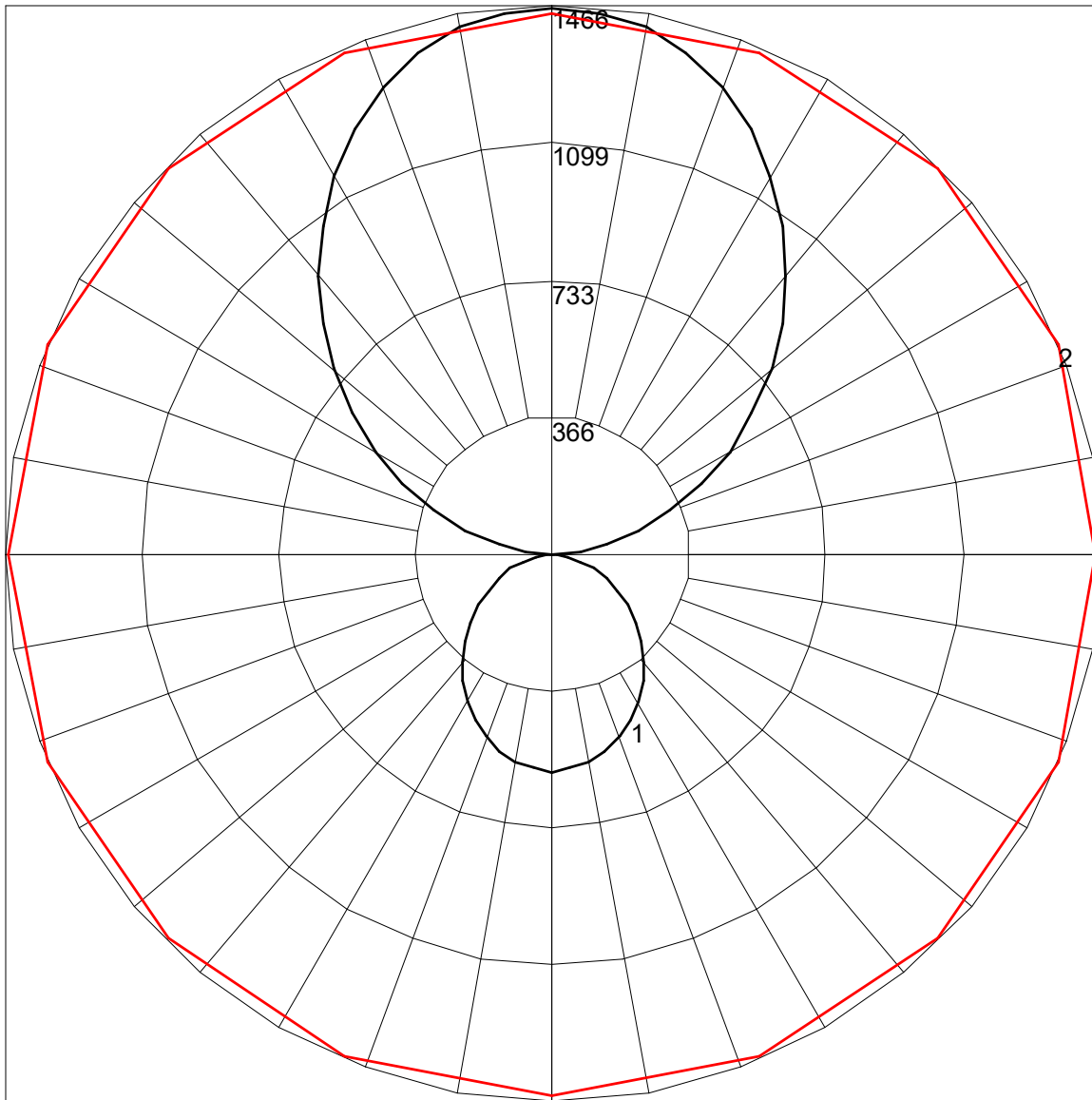
12H	4H	13.4	13.7	14.5	14.9	16.5	13.8	14.0	15.0	15.2
	6H	13.9	14.1	15.1	15.3	17.0	13.9	14.1	15.1	15.3
	8H	14.0	14.3	15.2	15.4	17.1	13.0	13.3	14.2	14.5

Maximum UGR = 17.1

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POLAR GRAPH



Maximum Candela = 1465.511 Located At Horizontal Angle = 22.5, Vertical Angle = 175

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

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