



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-L8-835U-L8-835D-ASYUF-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM ul #13323616.01

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 26 AUG 2020

[MANUFAC] H E Williams Inc

[LUMCAT] MX4UD-4'00-L8/835U/L8/835D-ASYUF-DIM-UNV

[LUMINAIRE] White aluminum housing, frosted lens enclosure

[OTHER] This test was performed using the calibrated photodetector met

[MORE] hod of absolute photometry.

[_CONVERT] Luminaire test position and photometric web converted from original test data

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6602
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	58.4
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)	4.00 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8477	8806	9222
55	7598	8101	8498
65	6770	7072	7518
75	5506	5549	5784
85	3054	3308	2672

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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0	1302.191	1302.191	1302.191	1302.191	1302.191	1302.191	1302.191	1302.191	1302.191	1302.191
5	1278.153	1285.021	1291.889	1300.131	1328.977	1300.131	1291.889	1285.021	1278.153	1285.021
10	1252.741	1260.296	1270.598	1280.213	1311.120	1280.213	1270.598	1260.296	1252.741	1260.296
15	1210.845	1215.653	1232.137	1249.994	1284.334	1249.994	1232.137	1215.653	1210.845	1215.653
20	1151.093	1155.901	1184.060	1193.675	1228.016	1193.675	1184.060	1155.901	1151.093	1155.901
25	1086.533	1091.341	1112.632	1122.247	1149.033	1122.247	1112.632	1091.341	1086.533	1091.341
30	1010.984	1018.539	1033.649	1046.011	1070.050	1046.011	1033.649	1018.539	1010.984	1018.539
35	930.627	938.869	947.797	967.715	995.874	967.715	947.797	938.869	930.627	938.869
40	837.908	848.897	862.633	891.479	913.457	891.479	862.633	848.897	837.908	848.897
45	742.441	758.238	771.287	792.578	807.688	792.578	771.287	758.238	742.441	758.238
50	643.541	656.590	680.628	684.749	710.161	684.749	680.628	656.590	643.541	656.590
55	539.832	554.942	575.547	588.596	603.706	588.596	575.547	554.942	539.832	554.942
60	444.366	457.415	475.959	483.514	505.492	483.514	475.959	457.415	444.366	457.415
65	354.394	358.515	370.190	381.866	393.542	381.866	370.190	358.515	354.394	358.515
70	265.108	260.301	271.290	278.845	289.147	278.845	271.290	260.301	265.108	260.301
75	176.510	177.884	177.884	186.125	185.439	186.125	177.884	177.884	176.510	177.884
80	92.719	99.587	94.093	96.840	91.346	96.840	94.093	99.587	92.719	99.587
85	32.967	41.895	35.714	34.340	28.846	34.340	35.714	41.895	32.967	41.895
90	2.392	6.814	13.054	17.527	19.608	17.527	13.054	6.814	2.392	0.364
95	51.490	72.347	88.521	99.391	102.876	99.391	88.521	72.347	51.490	38.228
100	122.900	157.123	181.360	197.691	202.164	197.691	181.360	157.123	122.900	101.108
105	209.965	253.706	284.132	304.469	309.930	304.469	284.132	253.706	209.965	176.367
110	302.647	355.750	390.389	413.845	420.243	413.845	390.389	355.750	302.647	259.947
115	396.579	455.870	497.062	525.823	533.105	525.823	497.062	455.870	396.579	345.296
120	487.856	557.030	602.799	637.126	644.928	637.126	602.799	557.030	487.856	429.084
125	578.354	654.809	706.299	745.307	753.628	745.307	706.299	654.809	578.354	512.665
130	666.771	747.907	805.119	845.687	856.609	845.687	805.119	747.907	666.771	594.477
135	749.987	837.885	896.657	939.305	951.787	939.305	896.657	837.885	749.987	674.573
140	832.684	919.541	981.953	1027.723	1039.685	1027.723	981.953	919.541	832.684	756.229
145	909.659	996.516	1056.848	1104.178	1118.220	1104.178	1056.848	996.516	909.659	835.804
150	980.393	1065.169	1123.941	1168.150	1181.673	1168.150	1123.941	1065.169	980.393	910.179
155	1043.846	1121.861	1172.311	1213.399	1225.881	1213.399	1172.311	1121.861	1043.846	976.753
160	1095.856	1163.990	1205.078	1239.924	1251.886	1239.924	1205.078	1163.990	1095.856	1037.085
165	1136.944	1192.074	1223.281	1251.886	1260.208	1251.886	1223.281	1192.074	1136.944	1090.135
170	1167.630	1206.118	1225.362	1245.125	1252.927	1245.125	1225.362	1206.118	1167.630	1133.824
175	1186.354	1207.678	1212.879	1223.801	1226.401	1223.801	1212.879	1207.678	1186.354	1169.190
180	1189.463	1189.463	1189.463	1189.463	1189.463	1189.463	1189.463	1189.463	1189.463	1189.463

Vert. Angles Horizontal Angles

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0	1302.191	1302.191	1302.191	1302.191	1302.191	1302.191	1302.191
5	1291.889	1300.131	1328.977	1300.131	1291.889	1285.021	1278.153
10	1270.598	1280.213	1311.120	1280.213	1270.598	1260.296	1252.741
15	1232.137	1249.994	1284.334	1249.994	1232.137	1215.653	1210.845
20	1184.060	1193.675	1228.016	1193.675	1184.060	1155.901	1151.093
25	1112.632	1122.247	1149.033	1122.247	1112.632	1091.341	1086.533
30	1033.649	1046.011	1070.050	1046.011	1033.649	1018.539	1010.984
35	947.797	967.715	995.874	967.715	947.797	938.869	930.627
40	862.633	891.479	913.457	891.479	862.633	848.897	837.908
45	771.287	792.578	807.688	792.578	771.287	758.238	742.441
50	680.628	684.749	710.161	684.749	680.628	656.590	643.541
55	575.547	588.596	603.706	588.596	575.547	554.942	539.832
60	475.959	483.514	505.492	483.514	475.959	457.415	444.366

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65	370.190	381.866	393.542	381.866	370.190	358.515	354.394
70	271.290	278.845	289.147	278.845	271.290	260.301	265.108
75	177.884	186.125	185.439	186.125	177.884	177.884	176.510
80	94.093	96.840	91.346	96.840	94.093	99.587	92.719
85	35.714	34.340	28.846	34.340	35.714	41.895	32.967
90	0.312	0.312	0.260	0.312	0.312	0.364	2.392
95	34.430	31.362	29.906	31.362	34.430	38.228	51.490
100	92.891	87.637	85.296	87.637	92.891	101.108	122.900
105	160.244	151.401	147.242	151.401	160.244	176.367	209.965
110	234.098	220.003	214.698	220.003	234.098	259.947	302.647
115	309.930	291.101	284.652	291.101	309.930	345.296	396.579
120	387.580	363.188	355.802	363.188	387.580	429.084	487.856
125	463.047	435.586	426.536	435.586	463.047	512.665	578.354
130	539.346	509.752	500.546	509.752	539.346	594.477	666.771
135	615.281	582.515	572.633	582.515	615.281	674.573	749.987
140	693.816	658.970	647.007	658.970	693.816	756.229	832.684
145	772.872	739.586	730.224	739.586	772.872	835.804	909.659
150	849.327	816.561	805.119	816.561	849.327	910.179	980.393
155	919.021	887.295	876.892	887.295	919.021	976.753	1043.846
160	984.554	958.029	949.187	958.029	984.554	1037.085	1095.856
165	1046.446	1024.081	1017.841	1024.081	1046.446	1090.135	1136.944
170	1100.017	1085.454	1081.293	1085.454	1100.017	1133.824	1167.630
175	1146.306	1140.585	1139.545	1140.585	1146.306	1169.190	1186.354
180	1189.463	1189.463	1189.463	1189.463	1189.463	1189.463	1189.463

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-4-00-L8-835U-L8-835D-ASYUF-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	471.00	N.A.	7.10
0-30	982.91	N.A.	14.90
0-40	1580.15	N.A.	23.90
0-60	2690.27	N.A.	40.70
0-80	3250.54	N.A.	49.20
0-90	3297.74	N.A.	49.90
10-90	3174.81	N.A.	48.10
20-40	1109.15	N.A.	16.80
20-50	1706.33	N.A.	25.80
40-70	1478.14	N.A.	22.40
60-80	560.27	N.A.	8.50
70-80	192.25	N.A.	2.90
80-90	47.21	N.A.	0.70
90-110	306.17	N.A.	4.60
90-120	706.02	N.A.	10.70
90-130	1229.77	N.A.	18.60
90-150	2388.25	N.A.	36.20
90-180	3304.52	N.A.	50.10
110-180	2998.35	N.A.	45.40
0-180	6602.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	122.93
10-20	348.07
20-30	511.91
30-40	597.24
40-50	597.18
50-60	512.93
60-70	368.02
70-80	192.25
80-90	47.21
90-100	71.45
100-110	234.72
110-120	399.85
120-130	523.76
130-140	584.73
140-150	573.75
150-160	482.85
160-170	320.98
170-180	112.44

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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	94	90	86	90	87	83	80	73	71	69	61	59	58	50	49	48	42
2	89	82	76	71	82	76	71	66	64	60	57	54	51	48	44	42	40	36
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	39	36	34	30
4	75	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	31	28	26	23
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	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	15.2	16.0	16.1	17.0	18.3	15.7	16.5	16.6	17.5	18.8
	3H	16.7	17.5	17.7	18.5	19.8	17.2	18.0	18.2	19.0	20.3
	4H	17.3	18.0	18.2	19.0	20.3	17.7	18.5	18.7	19.5	20.8
	6H	17.6	18.3	18.6	19.2	20.6	18.0	18.7	19.0	19.7	21.0
	8H	17.7	18.3	18.7	19.3	20.6	18.1	18.7	19.1	19.7	21.0
	12H	17.7	18.3	18.7	19.3	20.6	18.1	18.7	19.1	19.7	21.0

UGR Viewed Endwise

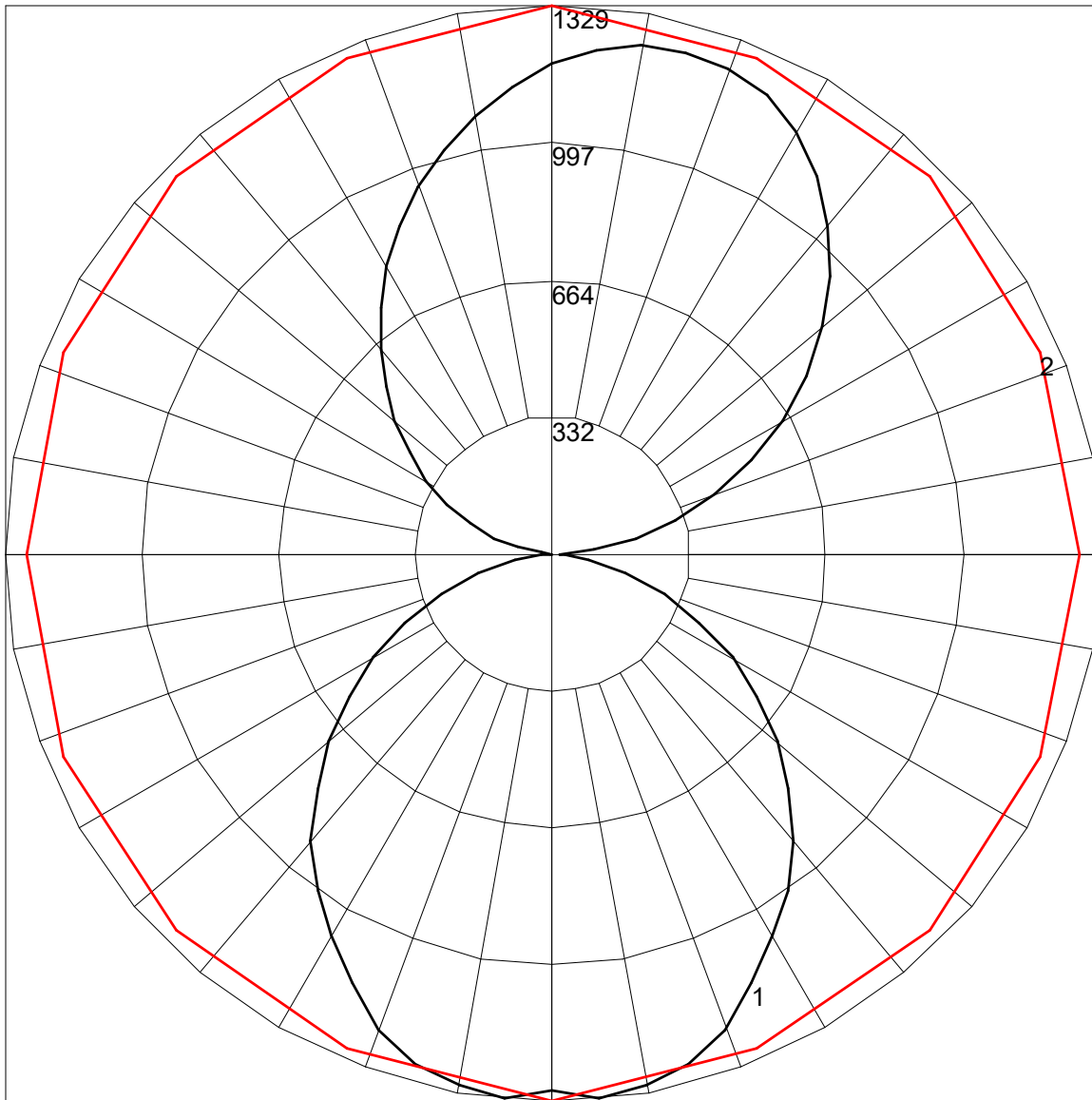
4H	2H	15.7	16.4	16.7	17.4	18.7	16.1	16.8	17.1	17.8	19.1
	3H	17.5	18.1	18.5	19.1	20.4	17.9	18.5	18.9	19.5	20.8
	4H	18.1	18.7	19.1	19.7	21.0	18.5	19.1	19.5	20.1	21.4
	6H	18.5	19.0	19.6	20.0	21.4	18.9	19.4	19.9	20.4	21.7
	8H	18.7	19.1	19.7	20.1	21.5	19.0	19.4	20.0	20.5	21.8
	12H	18.7	19.1	19.7	20.1	21.5	19.0	19.4	20.0	20.4	21.8
8H	4H	18.3	18.8	19.3	19.8	21.1	18.7	19.1	19.7	20.1	21.5
	6H	18.8	19.2	19.9	20.3	21.6	19.2	19.5	20.2	20.6	21.9
	8H	19.0	19.4	20.1	20.4	21.8	19.3	19.6	20.3	20.7	22.0
	12H	19.2	19.4	20.2	20.5	21.9	19.4	19.7	20.4	20.7	22.1
12H	4H	18.3	18.7	19.3	19.7	21.1	18.7	19.1	19.7	20.1	21.4
	6H	18.9	19.2	19.9	20.2	21.6	19.2	19.5	20.2	20.5	21.9
	8H	19.1	19.4	20.1	20.4	21.8	19.3	19.6	20.4	20.7	22.1

Maximum UGR = 22.1

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POLAR GRAPH



Maximum Candela = 1328.977 Located At Horizontal Angle = 90, Vertical Angle = 5

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

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