



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMAUD-2-L20-835U-L20-835D-AF-DIMU-DIMD-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 17320.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 13-NOV-2019

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 2' DIRECT/INDIRECT WALL MOUNT LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC LENS ON TOP & BOTTOM

[LUMCAT] WMAUD-2-L20-835U-L20-835D-AF-DIMU-DIMD-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3868
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	32.6
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 w/Sides
Luminous Length (0-180)	0.28 ft
Luminous Width (90-270)	1.98 ft
Luminous Height	0.46 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8168	7620	8320
55	6685	6092	6792
65	5405	4829	5365
75	4277	3412	3517
85	4406	3246	1224

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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>
0	692.830	692.830	692.830	692.830	692.830	692.830	692.830	692.830	692.830
5	756.249	747.873	732.317	710.779	688.642	676.077	656.333	641.974	635.393
10	798.130	783.771	754.454	712.574	665.906	632.402	594.709	570.178	561.204
15	822.062	806.506	765.822	707.189	643.171	591.717	542.058	509.750	497.784
20	870.524	843.601	785.566	702.402	610.863	535.477	471.459	428.980	415.219
25	847.789	822.062	756.249	664.710	565.392	483.425	414.023	372.142	355.389
30	846.592	814.883	738.899	631.205	515.135	420.604	343.423	299.748	283.593
35	837.618	804.711	718.556	601.888	478.639	380.518	302.739	255.473	240.516
40	800.523	765.224	672.488	548.640	418.809	317.696	240.516	196.242	181.284
45	780.181	740.095	639.581	503.169	367.954	264.448	190.259	148.976	135.215
50	716.163	677.274	576.161	446.331	315.902	216.584	146.583	107.694	96.924
55	656.333	617.444	516.332	388.894	263.251	168.720	104.702	70.599	59.830
60	583.341	546.845	455.305	335.047	216.584	129.232	72.992	41.881	32.906
65	528.896	491.801	400.860	282.995	172.310	92.138	40.086	16.154	10.769
70	457.100	423.595	338.039	230.943	128.634	56.838	13.761	2.991	2.991
75	404.450	363.765	268.636	174.105	86.155	26.923	2.991	5.385	5.385
80	394.279	351.201	244.704	128.634	50.855	2.991	5.385	5.385	7.180
85	389.492	344.620	233.935	101.112	19.744	2.991	10.171	17.351	19.744
90	355.389	315.902	214.191	91.540	0.000	10.171	18.547	25.129	27.522
95	387.099	345.817	235.730	101.112	20.940	3.590	14.359	20.940	23.334
100	391.886	351.201	245.901	129.232	52.650	2.991	5.385	7.778	9.573
105	402.057	363.765	272.226	175.301	87.352	22.735	2.991	5.385	5.385
110	456.502	425.989	342.227	231.542	128.634	51.454	10.769	2.991	4.786
115	525.306	493.596	403.253	285.987	172.908	87.950	38.291	13.163	9.573
120	578.555	545.648	456.502	336.842	217.781	127.438	70.001	40.086	31.710
125	650.949	615.649	519.921	391.886	268.038	168.720	106.497	70.599	59.830
130	706.591	673.684	576.161	448.126	320.090	216.584	146.583	107.694	96.924
135	770.010	736.505	639.581	504.964	370.945	264.448	190.259	147.780	135.215
140	793.942	763.429	674.282	551.033	424.792	319.491	242.311	198.037	183.678
145	830.438	800.523	718.556	603.085	487.015	382.313	304.534	257.867	242.311
150	837.618	811.891	738.899	633.000	521.716	422.997	347.013	302.141	285.987
155	841.208	819.071	755.053	665.906	572.572	483.425	415.817	372.740	357.184
160	860.353	840.011	783.173	702.402	618.042	537.272	472.058	433.168	418.211
165	819.669	806.506	766.420	708.984	652.744	592.316	543.255	511.545	500.178
170	791.549	781.378	752.660	712.574	676.077	632.402	595.905	572.572	563.597
175	755.053	749.668	733.514	714.967	700.009	679.069	659.923	645.564	639.581
180	694.625	694.625	694.625	694.625	694.625	694.625	694.625	694.625	694.625

IES INDOOR REPORT**PHOTOMETRIC FILENAME : WMAUD-2-L20-835U-L20-835D-AF-DIMU-DIMD-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	249.82	N.A.	6.50
0-30	519.51	N.A.	13.40
0-40	835.58	N.A.	21.60
0-60	1432.45	N.A.	37.00
0-80	1805.68	N.A.	46.70
0-90	1932.71	N.A.	50.00
10-90	1867.19	N.A.	48.30
20-40	585.76	N.A.	15.10
20-50	903.64	N.A.	23.40
40-70	815.54	N.A.	21.10
60-80	373.23	N.A.	9.60
70-80	154.57	N.A.	4.00
80-90	127.02	N.A.	3.30
90-110	282.91	N.A.	7.30
90-120	501.13	N.A.	13.00
90-130	780.36	N.A.	20.20
90-150	1415.05	N.A.	36.60
90-180	1935.51	N.A.	50.00
110-180	1652.6	N.A.	42.70
0-180	3868.21	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	65.51
10-20	184.31
20-30	269.68
30-40	316.07
40-50	317.88
50-60	278.99
60-70	218.67
70-80	154.57
80-90	127.02
90-100	128.12
100-110	154.79
110-120	218.22
120-130	279.22
130-140	317.85
140-150	316.85
150-160	270.03
160-170	184.68
170-180	65.75

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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	52	52	52	52	48	48	48	48	40	40	40	33	33	33	27	27	27	24
1	47	44	42	40	43	41	39	37	34	33	32	28	28	27	23	22	22	19
2	42	38	35	33	39	36	33	30	30	28	26	25	23	22	20	19	18	16
3	39	34	30	27	35	31	28	25	26	24	22	22	20	19	18	16	15	13
4	35	30	26	23	32	28	24	21	23	21	19	20	17	16	16	14	13	11
5	32	27	23	20	30	25	21	18	21	18	16	18	15	14	14	13	11	10
6	30	24	20	17	27	22	19	16	19	16	14	16	14	12	13	11	10	9
7	28	22	18	15	25	20	16	14	17	14	12	14	12	11	12	10	9	8
8	26	20	16	13	23	18	15	12	16	13	11	13	11	9	11	9	8	7
9	24	18	14	12	22	17	13	11	14	12	10	12	10	8	10	8	7	6
10	22	16	13	10	20	15	12	10	13	11	9	11	9	8	9	8	7	6

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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	16.8	17.7	17.8	18.7	20.0	UGR Viewed Endwise	11.3	12.2	12.3	13.2	14.5
	3H	18.7	19.5	19.7	20.5	21.8		12.4	13.2	13.4	14.2	15.5
	4H	19.5	20.3	20.5	21.3	22.6		12.7	13.5	13.7	14.5	15.8
	6H	20.4	21.1	21.4	22.1	23.4		12.9	13.6	13.9	14.6	15.9
	8H	20.8	21.5	21.8	22.5	23.8		12.9	13.5	13.9	14.6	15.9
	12H	21.3	22.0	22.3	23.0	24.3		12.9	13.5	13.9	14.5	15.8

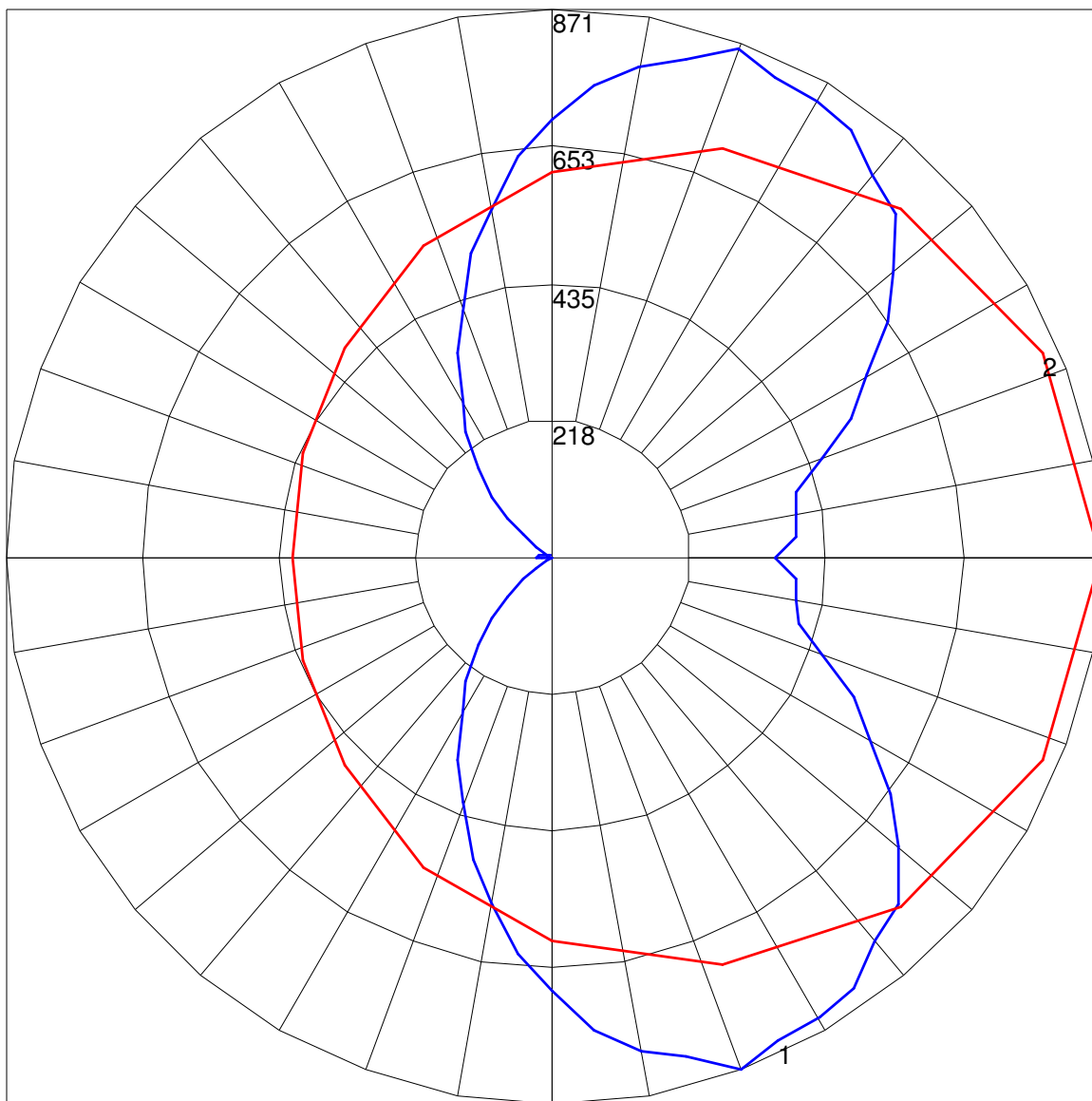
4H	2H	17.2	18.0	18.2	19.0	20.3	12.5	13.3	13.5	14.3	15.6
	3H	19.3	20.0	20.3	21.0	22.3	13.8	14.5	14.8	15.5	16.8
	4H	20.3	20.9	21.3	21.9	23.3	14.2	14.8	15.2	15.8	17.2
	6H	21.4	21.9	22.4	22.9	24.3	14.5	15.0	15.5	16.0	17.3
	8H	22.0	22.5	23.0	23.5	24.8	14.5	15.0	15.5	16.0	17.4
	12H	22.6	23.0	23.6	24.0	25.4	14.5	14.9	15.5	16.0	17.3

8H	4H	20.5	21.0	21.5	22.0	23.4	15.1	15.6	16.1	16.6	17.9
	6H	21.8	22.2	22.9	23.3	24.6	15.5	15.9	16.6	17.0	18.3
	8H	22.6	22.9	23.6	24.0	25.3	15.7	16.0	16.7	17.1	18.4
	12H	23.4	23.7	24.4	24.7	26.1	15.7	16.0	16.8	17.1	18.5

12H	4H	20.5	20.9	21.5	22.0	23.3	15.4	15.8	16.4	16.9	18.2
	6H	21.9	22.2	22.9	23.3	24.7	16.0	16.3	17.0	17.4	18.8
	8H	22.7	23.0	23.7	24.0	25.5	16.2	16.5	17.2	17.6	19.0

Maximum UGR = 26.1

POLAR GRAPH



Maximum Candela = 870.524 Located At Horizontal Angle = 0, Vertical Angle = 20
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (20) (Through Max. Cd.)