



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMAUD-4-L40-835U-L40-835D-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

[ISSUE DATE] 13-NOV-2019

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4' DIRECT/INDIRECT WALL MOUNT LUMINAIRE

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

[LUMCAT] WMAUD-4-L40-835U-L40-835D-AF-DIMU-DIMD-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8040
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	64.8
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)	3.98 ft
Luminous Height	0.46 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8444	8165	9498
55	6911	6563	8023
65	5588	5231	6656
75	4422	3717	4739
85	4555	3561	1991

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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	1440.111	1440.111	1440.111	1440.111	1440.111	1440.111	1440.111	1440.111	1440.111
5	1571.934	1554.524	1522.190	1477.419	1431.405	1405.289	1364.250	1334.403	1320.723
10	1658.988	1629.141	1568.204	1481.150	1384.148	1314.505	1236.157	1185.169	1166.515
15	1708.732	1676.398	1591.832	1469.958	1336.890	1229.939	1126.719	1059.563	1034.691
20	1809.466	1753.503	1632.872	1460.009	1269.735	1113.039	979.972	891.675	863.072
25	1762.208	1708.732	1571.934	1381.661	1175.220	1004.844	860.584	773.531	738.710
30	1759.721	1693.809	1535.869	1312.018	1070.756	874.264	713.837	623.053	589.475
35	1741.067	1672.668	1493.586	1251.081	994.895	790.942	629.271	531.025	499.935
40	1663.962	1590.589	1397.828	1140.399	870.533	660.362	499.935	407.907	376.817
45	1621.679	1538.357	1329.429	1045.884	764.826	549.680	395.471	309.661	281.058
50	1488.612	1407.777	1197.605	927.740	656.631	450.190	304.687	223.851	201.466
55	1364.250	1283.415	1073.243	808.352	547.192	350.701	217.633	146.747	124.362
60	1212.528	1136.668	946.394	696.427	450.190	268.622	151.722	87.053	68.399
65	1099.359	1022.255	833.225	588.232	358.162	191.517	83.322	33.578	22.385
70	950.125	880.482	702.645	480.037	267.378	118.144	28.603	6.218	6.218
75	840.686	756.120	558.385	361.893	179.081	55.963	6.218	11.193	11.193
80	819.545	730.004	508.640	267.378	105.708	6.218	11.193	11.193	14.923
85	809.596	716.325	486.255	210.172	41.039	6.218	21.142	36.065	41.039
90	738.710	656.631	445.216	190.274	0.000	21.142	38.552	52.232	57.206
95	804.621	718.812	489.986	210.172	43.527	7.462	29.847	43.527	48.501
100	814.570	730.004	511.127	268.622	109.438	6.218	11.193	16.167	19.898
105	835.712	756.120	565.847	364.380	181.568	47.258	6.218	11.193	11.193
110	948.881	885.457	711.350	481.281	267.378	106.951	22.385	6.218	9.949
115	1091.897	1025.986	838.199	594.450	359.406	182.812	79.592	27.360	19.898
120	1202.580	1134.180	948.881	700.157	452.677	264.891	145.503	83.322	65.912
125	1353.057	1279.684	1080.705	814.570	557.141	350.701	221.364	146.747	124.362
130	1468.714	1400.315	1197.605	931.471	665.336	450.190	304.687	223.851	201.466
135	1600.538	1530.895	1329.429	1049.614	771.044	549.680	395.471	307.174	281.058
140	1650.282	1586.858	1401.559	1145.373	882.969	664.093	503.666	411.638	381.791
145	1726.143	1663.962	1493.586	1253.568	1012.306	794.673	633.002	536.000	503.666
150	1741.067	1687.591	1535.869	1315.749	1084.436	879.239	721.299	628.028	594.450
155	1748.528	1702.514	1569.447	1384.148	1190.143	1004.844	864.315	774.775	742.441
160	1788.324	1746.041	1627.897	1460.009	1284.658	1116.770	981.215	900.380	869.290
165	1703.758	1676.398	1593.076	1473.688	1356.788	1231.183	1129.206	1063.294	1039.665
170	1645.308	1624.166	1564.473	1481.150	1405.289	1314.505	1238.644	1190.143	1171.489
175	1569.447	1558.255	1524.677	1486.125	1455.034	1411.508	1371.712	1341.865	1329.429
180	1443.842	1443.842	1443.842	1443.842	1443.842	1443.842	1443.842	1443.842	1443.842

IES INDOOR REPORT**PHOTOMETRIC FILENAME : WMAUD-4-L40-835U-L40-835D-AF-DIMU-DIMD-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	519.28	N.A.	6.50
0-30	1079.84	N.A.	13.40
0-40	1736.82	N.A.	21.60
0-60	2977.48	N.A.	37.00
0-80	3753.28	N.A.	46.70
0-90	4017.31	N.A.	50.00
10-90	3881.14	N.A.	48.30
20-40	1217.55	N.A.	15.10
20-50	1878.3	N.A.	23.40
40-70	1695.17	N.A.	21.10
60-80	775.80	N.A.	9.60
70-80	321.28	N.A.	4.00
80-90	264.03	N.A.	3.30
90-110	588.05	N.A.	7.30
90-120	1041.65	N.A.	13.00
90-130	1622.04	N.A.	20.20
90-150	2941.31	N.A.	36.60
90-180	4023.13	N.A.	50.00
110-180	3435.08	N.A.	42.70
0-180	8040.44	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	136.17
10-20	383.11
20-30	560.57
30-40	656.98
40-50	660.75
50-60	579.91
60-70	454.52
70-80	321.28
80-90	264.03
90-100	266.31
100-110	321.74
110-120	453.60
120-130	580.39
130-140	660.67
140-150	658.60
150-160	561.28
160-170	383.88
170-180	136.66

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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	133	133	133	133	123	123	123	123	104	104	104	86	86	86	70	70	70	62
1	120	114	109	104	111	106	101	97	89	86	82	74	71	69	60	58	56	50
2	109	99	91	85	100	92	85	79	77	72	68	64	60	57	52	49	47	41
3	100	87	78	70	91	81	72	66	68	62	57	57	52	48	46	43	40	34
4	91	77	67	59	83	71	62	55	61	54	48	50	45	41	41	37	34	29
5	84	69	58	51	77	64	54	48	54	47	41	45	40	35	37	33	30	26
6	77	62	51	44	71	57	48	41	49	42	36	41	35	31	34	29	26	22
7	71	56	46	38	65	52	43	36	44	37	32	37	32	27	31	26	23	20
8	66	50	41	34	61	47	38	32	40	33	28	34	29	24	28	24	21	18
9	61	46	37	30	57	43	34	29	37	30	25	31	26	22	26	22	19	16
10	57	42	33	27	53	39	31	26	34	27	23	29	24	20	24	20	17	15

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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	16.1	17.0	17.1	18.0	19.3	10.6	11.5	11.6	12.5	13.8
	3H	18.0	18.8	19.0	19.8	21.1	11.7	12.5	12.7	13.5	14.8
	4H	18.8	19.6	19.8	20.6	21.9	12.0	12.8	13.0	13.8	15.1
	6H	19.7	20.4	20.7	21.4	22.7	12.2	12.9	13.2	13.9	15.2
	8H	20.1	20.8	21.1	21.8	23.1	12.2	12.8	13.2	13.9	15.2
	12H	20.6	21.3	21.6	22.3	23.6	12.2	12.8	13.2	13.8	15.1

UGR Viewed Endwise

4H	2H	16.5	17.3	17.5	18.3	19.6	11.8	12.6	12.8	13.6	14.9
	3H	18.6	19.3	19.6	20.3	21.6	13.1	13.8	14.1	14.8	16.1
	4H	19.6	20.2	20.6	21.2	22.6	13.5	14.1	14.5	15.1	16.5
	6H	20.7	21.2	21.7	22.2	23.6	13.8	14.3	14.8	15.3	16.6
	8H	21.3	21.8	22.3	22.8	24.1	13.8	14.3	14.8	15.3	16.7
	12H	21.9	22.3	22.9	23.3	24.7	13.8	14.2	14.8	15.3	16.6

8H	4H	19.8	20.3	20.8	21.3	22.7	14.4	14.9	15.4	15.9	17.2
	6H	21.1	21.5	22.2	22.6	23.9	14.8	15.2	15.9	16.3	17.6
	8H	21.9	22.2	22.9	23.3	24.6	15.0	15.3	16.0	16.4	17.7
	12H	22.7	23.0	23.7	24.0	25.4	15.0	15.3	16.1	16.4	17.8

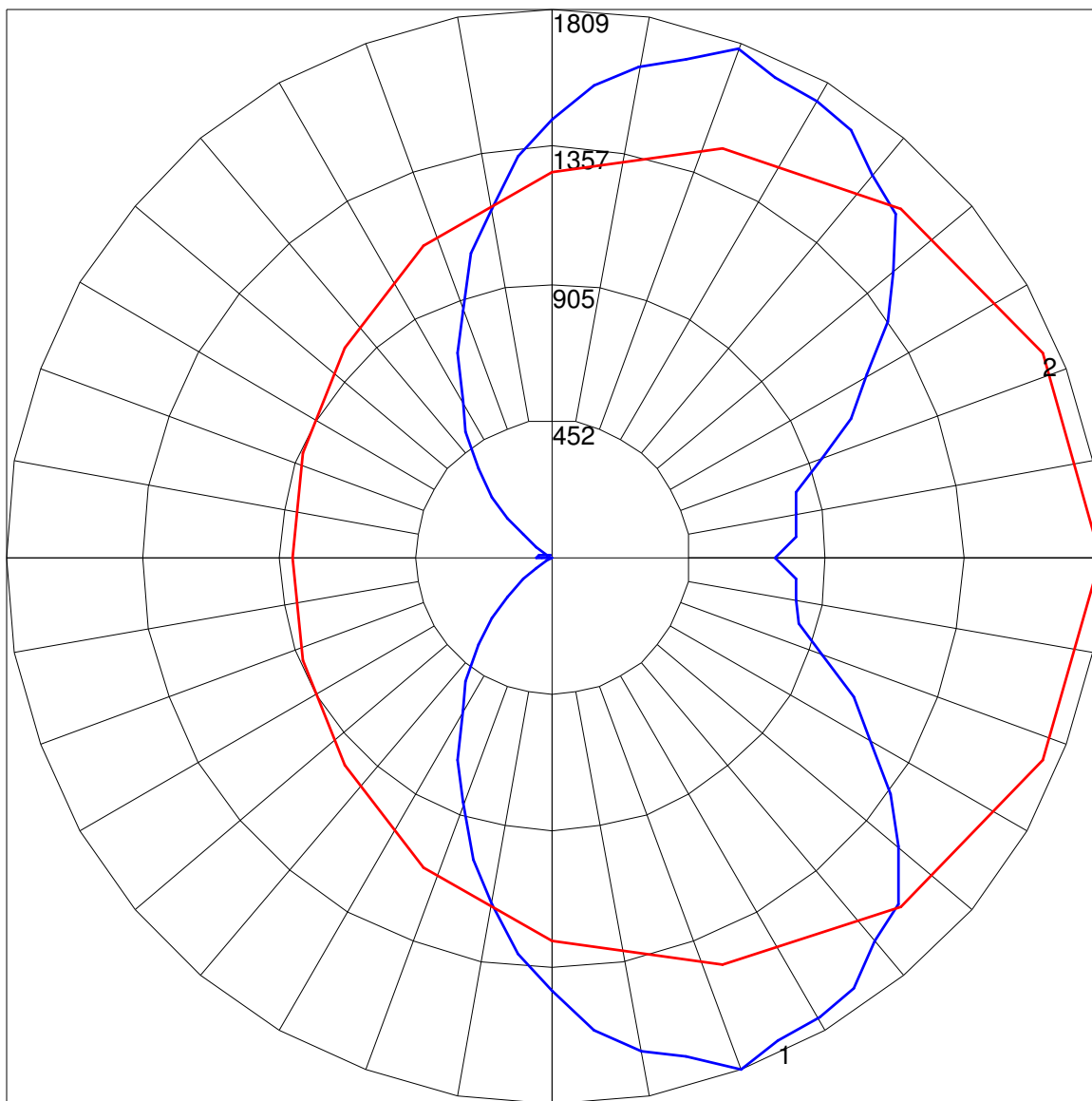
12H	4H	19.8	20.2	20.8	21.3	22.6	14.7	15.1	15.7	16.2	17.5
	6H	21.2	21.5	22.2	22.6	24.0	15.3	15.6	16.3	16.7	18.1
	8H	22.0	22.3	23.0	23.3	24.8	15.5	15.8	16.5	16.9	18.3

Maximum UGR = 25.4

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POLAR GRAPH



Maximum Candela = 1809.466 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.)