



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMAUD-2-L15-8TWU-L15-8TWD-AF-DIMU-DIMD-UNV 4000K.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] 14-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-L15-8TWU-L15-8TWD-AF-DIMU-DIMD-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4022
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	116
Total Luminaire Watts	34.7
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	8494	7923	8651
55	6952	6334	7062
65	5620	5021	5578
75	4448	3547	3657
85	4582	3375	1272

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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	720.414	720.414	720.414	720.414	720.414	720.414	720.414	720.414	720.414
5	786.359	777.649	761.474	739.078	716.059	702.995	682.465	667.534	660.691
10	829.907	814.976	784.492	740.944	692.419	657.580	618.386	592.880	583.548
15	854.792	838.617	796.312	735.345	668.778	615.276	563.640	530.045	517.603
20	905.183	877.188	816.842	730.368	635.184	556.797	490.230	446.059	431.751
25	881.543	854.792	786.359	691.174	587.903	502.672	430.506	386.958	369.539
30	880.299	847.326	768.317	656.336	535.645	437.350	357.096	311.682	294.884
35	870.967	836.750	747.165	625.852	497.695	395.668	314.792	265.645	250.092
40	832.395	795.690	699.262	570.483	435.483	330.345	250.092	204.055	188.502
45	811.243	769.561	665.045	523.202	382.603	274.977	197.834	154.908	140.599
50	744.677	704.239	599.101	464.101	328.479	225.207	152.419	111.981	100.783
55	682.465	642.027	536.889	404.377	273.732	175.438	108.871	73.410	62.212
60	606.566	568.617	473.433	348.387	225.207	134.378	75.899	43.548	34.217
65	549.953	511.382	416.820	294.262	179.170	95.806	41.682	16.797	11.198
70	475.299	440.460	351.497	240.138	133.756	59.101	14.309	3.111	3.111
75	420.553	378.248	279.331	181.037	89.585	27.995	3.111	5.599	5.599
80	409.977	365.184	254.447	133.756	52.880	3.111	5.599	5.599	7.465
85	405.000	358.341	243.249	105.138	20.530	3.111	10.576	18.041	20.530
90	369.539	328.479	222.719	95.184	0.000	10.576	19.286	26.129	28.617
95	402.511	359.585	245.115	105.138	21.774	3.733	14.931	21.774	24.263
100	407.488	365.184	255.691	134.378	54.746	3.111	5.599	8.088	9.954
105	418.064	378.248	283.064	182.281	90.829	23.641	3.111	5.599	5.599
110	474.677	442.949	355.852	240.760	133.756	53.502	11.198	3.111	4.977
115	546.221	513.248	419.308	297.373	179.792	91.452	39.816	13.687	9.954
120	601.589	567.373	474.677	350.253	226.451	132.511	72.788	41.682	32.972
125	676.866	640.161	540.622	407.488	278.709	175.438	110.737	73.410	62.212
130	734.723	700.506	599.101	465.967	332.834	225.207	152.419	111.981	100.783
135	800.667	765.829	665.045	525.069	385.714	274.977	197.834	153.663	140.599
140	825.552	793.824	701.128	572.972	441.705	332.212	251.958	205.921	190.991
145	863.501	832.395	747.165	627.096	506.405	397.534	316.659	268.133	251.958
150	870.967	844.216	768.317	658.202	542.488	439.838	360.829	314.170	297.373
155	874.699	851.681	785.114	692.419	595.368	502.672	432.373	387.580	371.405
160	894.607	873.455	814.354	730.368	642.649	558.663	490.852	450.414	434.861
165	852.303	838.617	796.935	737.211	678.732	615.898	564.884	531.912	520.092
170	823.064	812.488	782.626	740.944	702.995	657.580	619.631	595.368	586.036
175	785.114	779.515	762.718	743.432	727.879	706.105	686.197	671.267	665.045
180	722.280	722.280	722.280	722.280	722.280	722.280	722.280	722.280	722.280

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Zone	Lumens	%Lamp	%Fixt
0-20	259.77	N.A.	6.50
0-30	540.19	N.A.	13.40
0-40	868.84	N.A.	21.60
0-60	1489.48	N.A.	37.00
0-80	1877.58	N.A.	46.70
0-90	2009.65	N.A.	50.00
10-90	1941.53	N.A.	48.30
20-40	609.08	N.A.	15.10
20-50	939.62	N.A.	23.40
40-70	848.01	N.A.	21.10
60-80	388.09	N.A.	9.60
70-80	160.72	N.A.	4.00
80-90	132.08	N.A.	3.30
90-110	294.17	N.A.	7.30
90-120	521.09	N.A.	13.00
90-130	811.43	N.A.	20.20
90-150	1471.39	N.A.	36.60
90-180	2012.57	N.A.	50.00
110-180	1718.39	N.A.	42.70
0-180	4022.22	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	68.12
10-20	191.65
20-30	280.42
30-40	328.65
40-50	330.54
50-60	290.10
60-70	227.37
70-80	160.72
80-90	132.08
90-100	133.22
100-110	160.95
110-120	226.91
120-130	290.34
130-140	330.50
140-150	329.46
150-160	280.78
160-170	192.04
170-180	68.36

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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	66	66	66	66	61	61	61	61	51	51	51	43	43	43	35	35	35	31
1	60	57	54	52	55	52	50	48	44	42	41	37	35	34	30	29	28	25
2	54	49	45	42	50	46	42	39	38	36	34	32	30	28	26	24	23	20
3	49	43	39	35	45	40	36	33	34	31	28	28	26	24	23	21	20	17
4	45	38	33	29	41	35	31	28	30	27	24	25	22	20	20	18	17	15
5	41	34	29	25	38	32	27	24	27	23	21	22	20	18	18	16	15	13
6	38	31	25	22	35	28	24	21	24	21	18	20	18	15	17	15	13	11
7	35	28	23	19	32	26	21	18	22	18	16	18	16	14	15	13	12	10
8	33	25	20	17	30	23	19	16	20	17	14	17	14	12	14	12	10	9
9	31	23	18	15	28	21	17	14	18	15	13	16	13	11	13	11	9	8
10	29	21	16	13	26	20	15	13	17	14	11	14	12	10	12	10	8	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	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

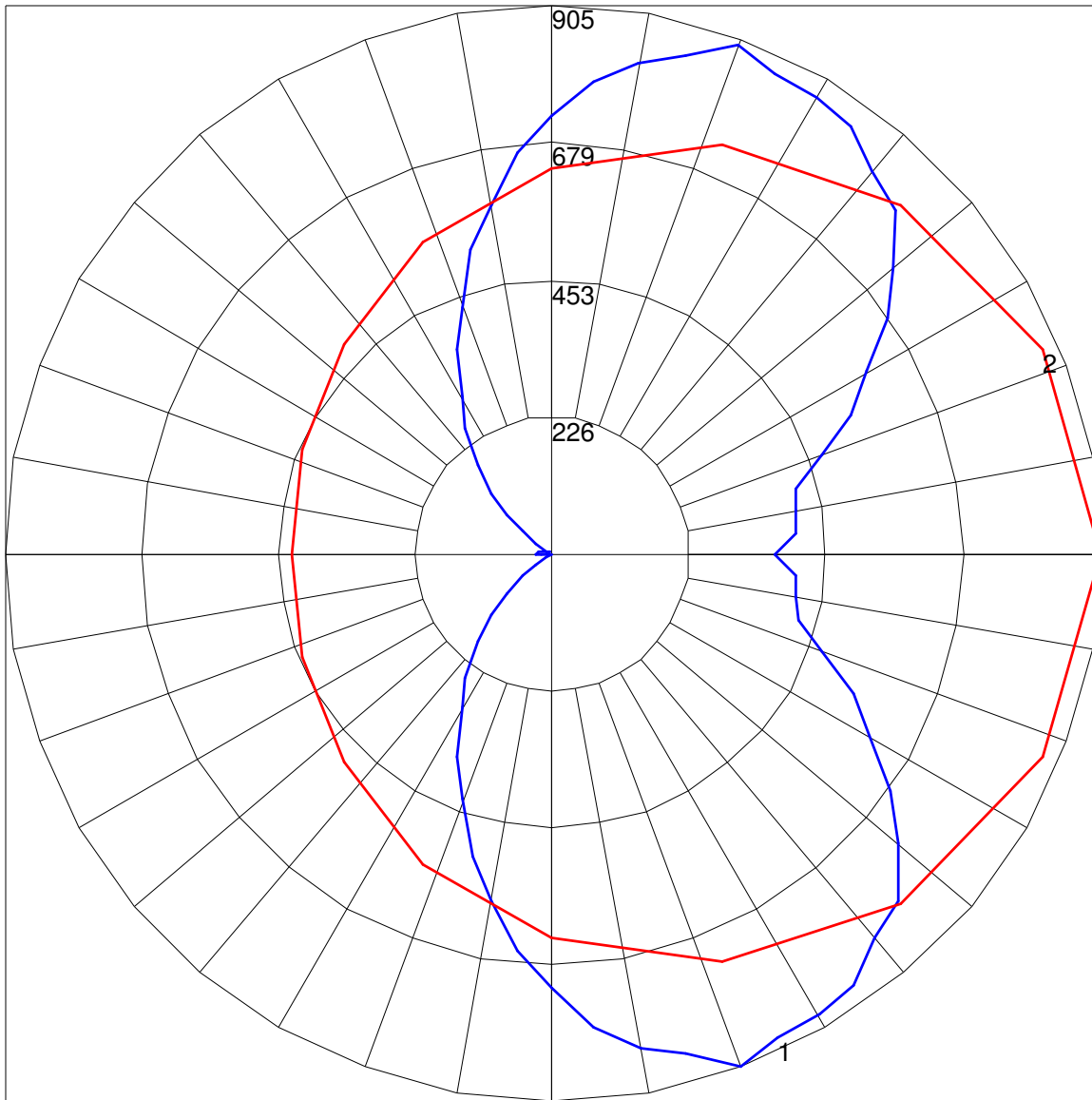
4H	2H	16.5	17.3	17.5	18.3	19.6	11.8	12.6	12.8	13.6	14.9
	3H	18.6	19.3	19.6	20.3	21.6	13.1	13.8	14.1	14.8	16.1
	4H	19.6	20.2	20.6	21.2	22.6	13.5	14.1	14.5	15.1	16.5
	6H	20.7	21.2	21.7	22.2	23.6	13.8	14.3	14.8	15.3	16.6
	8H	21.3	21.8	22.3	22.8	24.1	13.8	14.3	14.8	15.3	16.7
	12H	21.9	22.3	22.9	23.3	24.7	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 = 905.183 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.)