



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMA-3-L30-835-AF-DIM-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] 3' DIRECT/INDIRECT WALL MOUNT LUMINAIRE

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

[LUMCAT] WMA-3-L30-835-AF-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3125
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	24
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)	2.98 ft
Luminous Height	0.46 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4384	4188	4766
55	3588	3360	3977
65	2901	2673	3240
75	2296	1896	2235
85	2365	1812	868

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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	559.745	559.745	559.745	559.745	559.745	559.745	559.745	559.745	559.745
5	610.982	604.215	591.647	574.246	556.361	546.210	530.259	518.658	513.341
10	644.818	633.217	609.532	575.696	537.993	510.924	480.472	460.654	453.403
15	664.153	651.585	618.716	571.346	519.625	478.055	437.935	411.833	402.166
20	703.306	681.555	634.667	567.479	493.523	432.618	380.897	346.578	335.460
25	684.938	664.153	610.982	537.026	456.787	390.565	334.493	300.657	287.123
30	683.971	658.353	596.964	509.957	416.183	339.811	277.456	242.169	229.118
35	676.721	650.135	580.530	486.272	386.698	307.425	244.586	206.400	194.316
40	646.752	618.233	543.310	443.252	338.360	256.671	194.316	158.546	146.462
45	630.317	597.931	516.725	406.516	297.274	213.650	153.712	120.360	109.242
50	578.596	547.177	465.487	360.596	255.220	174.981	118.426	87.007	78.306
55	530.259	498.840	417.150	314.192	212.684	136.311	84.590	57.038	48.337
60	471.288	441.802	367.846	270.688	174.981	104.408	58.971	33.836	26.585
65	427.301	397.332	323.859	228.635	139.211	74.439	32.386	13.051	8.701
70	369.296	342.227	273.105	186.582	103.925	45.920	11.118	2.417	2.417
75	326.759	293.890	217.034	140.661	69.606	21.752	2.417	4.350	4.350
80	318.542	283.739	197.699	103.925	41.087	2.417	4.350	4.350	5.800
85	314.675	278.422	188.998	81.690	15.951	2.417	8.217	14.018	15.951
90	287.123	255.220	173.047	73.956	0.000	8.217	14.985	20.302	22.235
95	312.742	279.389	190.449	81.690	16.918	2.900	11.601	16.918	18.852
100	316.609	283.739	198.666	104.408	42.537	2.417	4.350	6.284	7.734
105	324.826	293.890	219.934	141.628	70.572	18.368	2.417	4.350	4.350
110	368.813	344.161	276.489	187.065	103.925	41.570	8.701	2.417	3.867
115	424.401	398.782	325.793	231.052	139.695	71.056	30.936	10.634	7.734
120	467.421	440.835	368.813	272.138	175.947	102.958	56.555	32.386	25.619
125	525.909	497.390	420.050	316.609	216.551	136.311	86.040	57.038	48.337
130	570.862	544.277	465.487	362.046	258.604	174.981	118.426	87.007	78.306
135	622.100	595.031	516.725	407.966	299.691	213.650	153.712	119.393	109.242
140	641.435	616.783	544.760	445.186	343.194	258.121	195.766	159.996	148.395
145	670.920	646.752	580.530	487.239	393.465	308.875	246.036	208.333	195.766
150	676.721	655.936	596.964	511.408	421.500	341.744	280.356	244.103	231.052
155	679.621	661.736	610.015	537.993	462.587	390.565	335.944	301.141	288.573
160	695.089	678.654	632.734	567.479	499.323	434.068	381.381	349.961	337.877
165	662.220	651.585	619.200	572.796	527.359	478.538	438.902	413.283	404.099
170	639.501	631.284	608.082	575.696	546.210	510.924	481.439	462.587	455.336
175	610.015	605.665	592.614	577.630	565.545	548.627	533.159	521.558	516.725
180	561.195	561.195	561.195	561.195	561.195	561.195	561.195	561.195	561.195

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	201.83	N.A.	6.50
0-30	419.72	N.A.	13.40
0-40	675.07	N.A.	21.60
0-60	1157.29	N.A.	37.00
0-80	1458.83	N.A.	46.70
0-90	1561.45	N.A.	50.00
10-90	1508.53	N.A.	48.30
20-40	473.24	N.A.	15.10
20-50	730.06	N.A.	23.40
40-70	658.88	N.A.	21.10
60-80	301.54	N.A.	9.60
70-80	124.88	N.A.	4.00
80-90	102.62	N.A.	3.30
90-110	228.57	N.A.	7.30
90-120	404.87	N.A.	13.00
90-130	630.46	N.A.	20.20
90-150	1143.23	N.A.	36.60
90-180	1563.72	N.A.	50.00
110-180	1335.15	N.A.	42.70
0-180	3125.17	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	52.93
10-20	148.91
20-30	217.88
30-40	255.36
40-50	256.82
50-60	225.40
60-70	176.66
70-80	124.88
80-90	102.62
90-100	103.51
100-110	125.05
110-120	176.31
120-130	225.59
130-140	256.79
140-150	255.98
150-160	218.16
160-170	149.21
170-180	53.12

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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	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	47	45	40
2	88	80	73	68	81	74	68	63	62	58	54	52	49	46	42	40	38	33
3	80	70	62	56	73	65	58	53	55	50	46	46	42	39	37	34	32	28
4	73	62	54	48	67	57	50	45	49	43	39	41	36	33	33	30	27	24
5	67	55	47	41	62	51	44	38	44	38	33	36	32	29	30	26	24	21
6	62	50	41	35	57	46	39	33	39	33	29	33	28	25	27	24	21	18
7	57	45	37	31	53	42	34	29	36	30	26	30	25	22	25	21	19	16
8	53	41	33	27	49	38	31	26	32	27	23	27	23	20	23	19	17	14
9	49	37	29	24	45	35	28	23	30	24	20	25	21	18	21	18	15	13
10	46	34	27	22	43	32	25	21	27	22	18	23	19	16	19	16	14	12

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UGR TABLE - CORRECTED

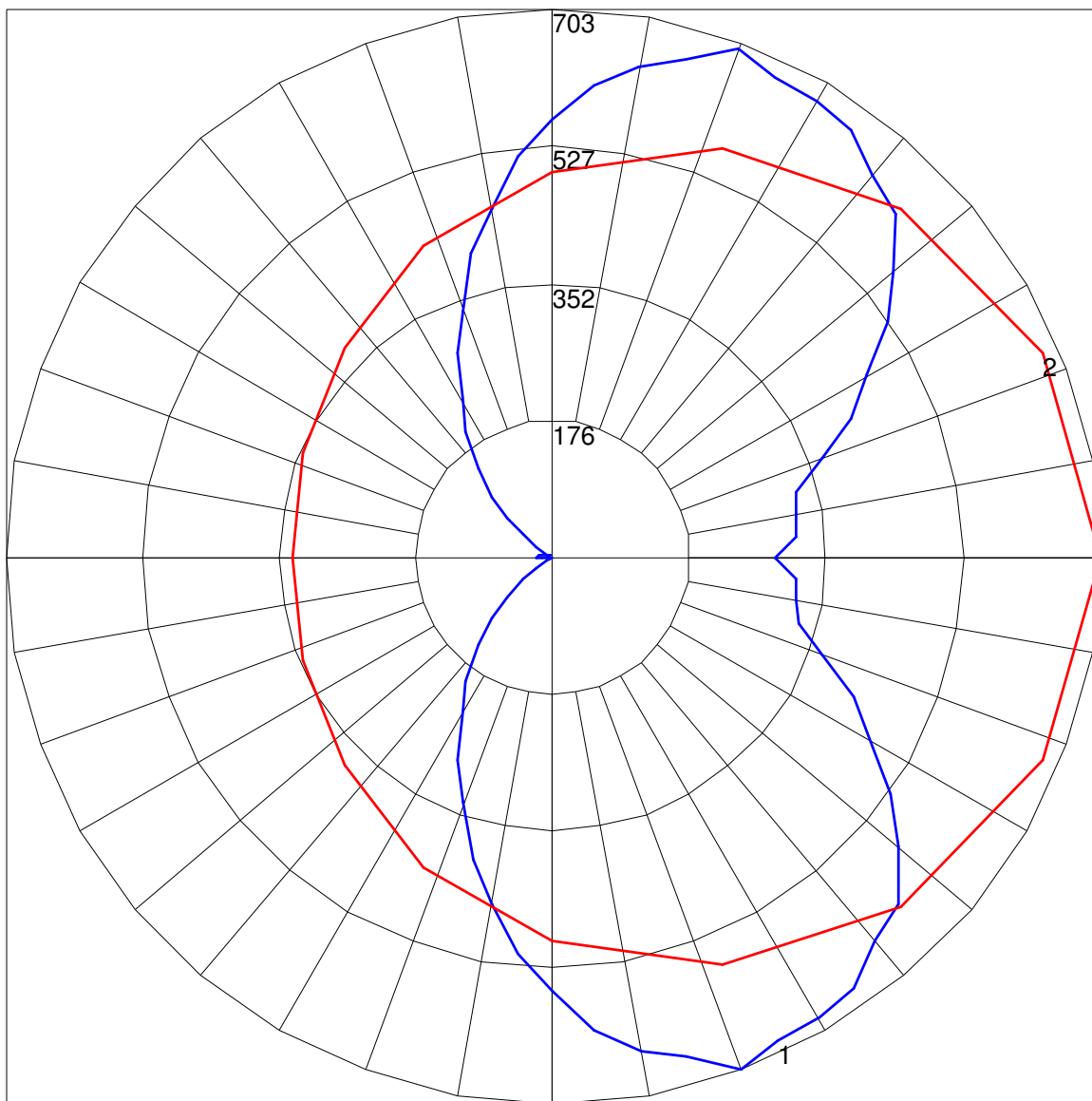
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	13.6	14.5	14.6	15.5	16.8	8.1	9.0	9.1	10.0	11.3
	3H	15.5	16.3	16.5	17.3	18.6	9.2	10.0	10.2	11.0	12.3
	4H	16.3	17.1	17.3	18.1	19.4	9.5	10.3	10.5	11.3	12.6
	6H	17.2	17.9	18.2	18.9	20.2	9.7	10.4	10.7	11.4	12.7
	8H	17.6	18.3	18.6	19.3	20.6	9.7	10.3	10.7	11.4	12.7
	12H	18.1	18.8	19.1	19.8	21.1	9.7	10.3	10.7	11.3	12.6
4H	2H	14.0	14.8	15.0	15.8	17.1	9.3	10.1	10.3	11.1	12.4
	3H	16.1	16.8	17.1	17.8	19.1	10.6	11.3	11.6	12.3	13.6
	4H	17.1	17.7	18.1	18.7	20.1	11.0	11.6	12.0	12.6	14.0
	6H	18.2	18.7	19.2	19.7	21.1	11.3	11.8	12.3	12.8	14.1
	8H	18.8	19.3	19.8	20.3	21.6	11.3	11.8	12.3	12.8	14.2
	12H	19.4	19.8	20.4	20.8	22.2	11.3	11.7	12.3	12.8	14.1
8H	4H	17.3	17.8	18.3	18.8	20.2	11.9	12.4	12.9	13.4	14.7
	6H	18.6	19.0	19.7	20.1	21.4	12.3	12.7	13.4	13.8	15.1
	8H	19.4	19.7	20.4	20.8	22.1	12.5	12.8	13.5	13.9	15.2
	12H	20.2	20.5	21.2	21.5	22.9	12.5	12.8	13.6	13.9	15.3
12H	4H	17.3	17.7	18.3	18.8	20.1	12.2	12.6	13.2	13.7	15.0
	6H	18.7	19.0	19.7	20.1	21.5	12.8	13.1	13.8	14.2	15.6
	8H	19.5	19.8	20.5	20.8	22.3	13.0	13.3	14.0	14.4	15.8

Maximum UGR = 22.9

POLAR GRAPH



Maximum Candela = 703.306 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.)