



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMA-2-L20-930-AF-(L15)-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  
 [ISSUE DATE] 05-26-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 2' DIRECT/INDIRECT WALL MOUNT LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS ON TOP & BOTTOM  
 [LUMCAT] WMA-2-L20-930-AF-(L15)-DIM-UNV  
 [LAMPCAT] HLM 90 CRI, 3000K CCT  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] Indoor, Corridor, Healthcare, Direct-Indirect  
 [ \_SEARCH\_MOUNTING] Wall

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1254
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
Total Luminaire Watts	12.7
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	2648	2470	2697
55	2167	1975	2202
65	1752	1566	1739
75	1387	1106	1140
85	1429	1052	397

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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>
<b>0</b>	224.614	224.614	224.614	224.614	224.614	224.614	224.614	224.614	224.614
<b>5</b>	245.175	242.459	237.416	230.433	223.257	219.183	212.782	208.127	205.993
<b>10</b>	258.753	254.097	244.593	231.015	215.886	205.024	192.804	184.851	181.942
<b>15</b>	266.511	261.468	248.278	229.270	208.515	191.834	175.735	165.260	161.381
<b>20</b>	282.223	273.494	254.679	227.718	198.041	173.601	152.846	139.075	134.613
<b>25</b>	274.852	266.511	245.175	215.498	183.299	156.726	134.226	120.648	115.217
<b>30</b>	274.464	264.184	239.550	204.636	167.006	136.359	111.337	97.178	91.941
<b>35</b>	271.555	260.886	232.955	195.131	155.174	123.363	98.148	82.824	77.975
<b>40</b>	259.529	248.084	218.019	177.868	135.777	102.997	77.975	63.621	58.772
<b>45</b>	252.934	239.938	207.351	163.127	119.290	85.734	61.682	48.298	43.837
<b>50</b>	232.179	219.571	186.791	144.700	102.415	70.216	47.522	34.914	31.423
<b>55</b>	212.782	200.174	167.394	126.079	85.346	54.699	33.944	22.888	19.397
<b>60</b>	189.118	177.286	147.609	108.622	70.216	41.897	23.664	13.578	10.668
<b>65</b>	171.467	159.441	129.958	91.747	55.863	29.871	12.996	5.237	3.491
<b>70</b>	148.191	137.329	109.592	74.871	41.703	18.427	4.461	0.970	0.970
<b>75</b>	131.122	117.932	87.091	56.445	27.931	8.729	0.970	1.746	1.746
<b>80</b>	127.825	113.859	79.333	41.703	16.487	0.970	1.746	1.746	2.328
<b>85</b>	126.273	111.725	75.841	32.781	6.401	0.970	3.297	5.625	6.401
<b>90</b>	115.217	102.415	69.440	29.677	0.000	3.297	6.013	8.147	8.923
<b>95</b>	125.497	112.113	76.423	32.781	6.789	1.164	4.655	6.789	7.565
<b>100</b>	127.049	113.859	79.721	41.897	17.069	0.970	1.746	2.522	3.103
<b>105</b>	130.346	117.932	88.255	56.832	28.319	7.371	0.970	1.746	1.746
<b>110</b>	147.997	138.105	110.949	75.065	41.703	16.681	3.491	0.970	1.552
<b>115</b>	170.303	160.023	130.734	92.716	56.057	28.513	12.414	4.267	3.103
<b>120</b>	187.567	176.898	147.997	109.204	70.604	41.315	22.694	12.996	10.280
<b>125</b>	211.037	199.593	168.558	127.049	86.897	54.699	34.526	22.888	19.397
<b>130</b>	229.076	218.407	186.791	145.282	103.773	70.216	47.522	34.914	31.423
<b>135</b>	249.636	238.774	207.351	163.709	120.260	85.734	61.682	47.910	43.837
<b>140</b>	257.395	247.503	218.601	178.644	137.717	103.579	78.557	64.203	59.548
<b>145</b>	269.227	259.529	232.955	195.519	157.890	123.945	98.729	83.600	78.557
<b>150</b>	271.555	263.214	239.550	205.218	169.140	137.135	112.501	97.954	92.716
<b>155</b>	272.718	265.542	244.787	215.886	185.627	156.726	134.807	120.842	115.799
<b>160</b>	278.925	272.330	253.903	227.718	200.368	174.183	153.040	140.432	135.583
<b>165</b>	265.735	261.468	248.472	229.851	211.619	192.028	176.122	165.842	162.157
<b>170</b>	256.619	253.322	244.011	231.015	219.183	205.024	193.192	185.627	182.717
<b>175</b>	244.787	243.041	237.804	231.791	226.942	220.153	213.946	209.291	207.351
<b>180</b>	225.196	225.196	225.196	225.196	225.196	225.196	225.196	225.196	225.196

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : WMA-2-L20-930-AF-(L15)-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	80.99	N.A.	6.50
0-30	168.42	N.A.	13.40
0-40	270.89	N.A.	21.60
0-60	464.40	N.A.	37.00
0-80	585.40	N.A.	46.70
0-90	626.58	N.A.	50.00
10-90	605.34	N.A.	48.30
20-40	189.90	N.A.	15.10
20-50	292.96	N.A.	23.40
40-70	264.40	N.A.	21.10
60-80	121.00	N.A.	9.60
70-80	50.11	N.A.	4.00
80-90	41.18	N.A.	3.30
90-110	91.72	N.A.	7.30
90-120	162.47	N.A.	13.00
90-130	252.99	N.A.	20.20
90-150	458.76	N.A.	36.60
90-180	627.49	N.A.	50.00
110-180	535.77	N.A.	42.70
0-180	1254.07	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	21.24
10-20	59.75
20-30	87.43
30-40	102.47
40-50	103.06
50-60	90.45
60-70	70.89
70-80	50.11
80-90	41.18
90-100	41.54
100-110	50.18
110-120	70.75
120-130	90.52
130-140	103.05
140-150	102.72
150-160	87.54
160-170	59.87
170-180	21.31

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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	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

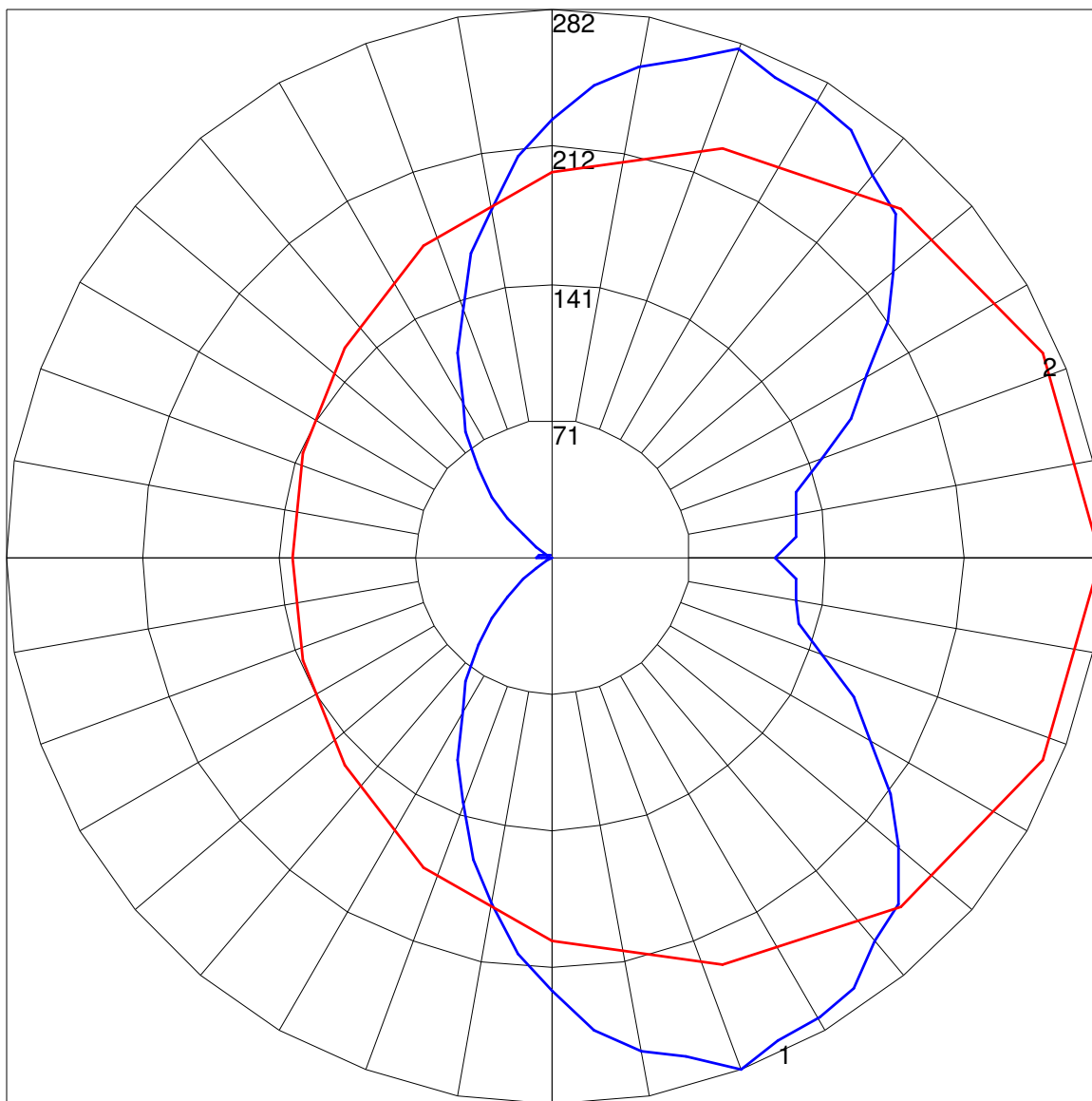
### Reflectances

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	14.6	15.4	15.5	16.4	17.7	7.3	8.2	8.3	9.2	10.4
	3H	16.9	17.7	17.9	18.7	20.0	8.4	9.2	9.4	10.2	11.5
	4H	18.0	18.8	19.0	19.8	21.1	8.7	9.5	9.7	10.5	11.8
	6H	19.3	20.0	20.3	21.0	22.3	8.8	9.5	9.8	10.5	11.9
	8H	20.0	20.7	21.0	21.7	23.0	8.9	9.5	9.9	10.5	11.8
	12H	20.8	21.5	21.8	22.5	23.8	8.8	9.5	9.8	10.5	11.8
4H	2H	14.7	15.5	15.7	16.4	17.7	8.5	9.2	9.5	10.2	11.5
	3H	17.2	17.9	18.2	18.9	20.2	9.8	10.4	10.8	11.4	12.8
	4H	18.5	19.1	19.5	20.1	21.4	10.2	10.8	11.2	11.8	13.1
	6H	20.0	20.5	21.0	21.5	22.9	10.4	10.9	11.4	12.0	13.3
	8H	20.8	21.3	21.8	22.3	23.7	10.4	10.9	11.5	12.0	13.3
	12H	21.8	22.2	22.8	23.2	24.6	10.4	10.9	11.5	11.9	13.3
8H	4H	18.5	19.0	19.5	20.0	21.4	11.0	11.5	12.0	12.5	13.9
	6H	20.2	20.6	21.2	21.6	23.0	11.4	11.8	12.5	12.9	14.2
	8H	21.2	21.5	22.2	22.6	23.9	11.6	11.9	12.6	13.0	14.3
	12H	22.3	22.6	23.3	23.6	25.0	11.6	11.9	12.7	13.0	14.4
12H	4H	18.5	18.9	19.5	20.0	21.3	11.3	11.7	12.3	12.8	14.1
	6H	20.2	20.5	21.2	21.6	23.0	11.9	12.2	12.9	13.3	14.7
	8H	21.2	21.5	22.2	22.6	24.0	12.1	12.4	13.1	13.5	14.9

Maximum UGR = 25.0

POLAR GRAPH



Maximum Candela = 282.223 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.)