



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMA-4-L40-840-AF-EM10W-(L32)-DIM-UNV\_(EMER MODE).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] 01-06-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 4' DIRECT/INDIRECT WALL MOUNT LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS ON TOP & BOTTOM  
 [LUMCAT] WMA-4-L40-840-AF-EM10W-(L32)-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 4000K 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	1376
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	138
Total Luminaire Watts	10
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	1445	1397	1626
55	1183	1123	1373
65	956	895	1139
75	757	636	811
85	780	609	341

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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>	246.467	246.467	246.467	246.467	246.467	246.467	246.467	246.467	246.467
<b>5</b>	269.028	266.048	260.514	252.852	244.977	240.507	233.484	228.376	226.034
<b>10</b>	283.926	278.818	268.389	253.491	236.889	224.970	211.561	202.835	199.642
<b>15</b>	292.440	286.906	272.433	251.575	228.801	210.497	192.832	181.338	177.082
<b>20</b>	309.680	300.102	279.457	249.872	217.308	190.490	167.717	152.605	147.710
<b>25</b>	301.592	292.440	269.028	236.463	201.132	171.973	147.284	132.385	126.426
<b>30</b>	301.166	289.886	262.855	224.545	183.254	149.625	122.169	106.632	100.885
<b>35</b>	297.974	286.268	255.619	214.115	170.271	135.365	107.696	90.882	85.561
<b>40</b>	284.778	272.220	239.230	195.173	148.987	113.017	85.561	69.811	64.490
<b>45</b>	277.541	263.281	227.524	178.997	130.896	94.075	67.683	52.997	48.101
<b>50</b>	254.768	240.933	204.963	158.777	112.379	77.047	52.145	38.311	34.480
<b>55</b>	233.484	219.649	183.680	138.345	93.649	60.020	37.247	25.115	21.284
<b>60</b>	207.517	194.534	161.970	119.190	77.047	45.973	25.966	14.899	11.706
<b>65</b>	188.149	174.953	142.602	100.673	61.297	32.777	14.260	5.747	3.831
<b>70</b>	162.609	150.690	120.254	82.156	45.760	20.220	4.895	1.064	1.064
<b>75</b>	143.879	129.406	95.564	61.936	30.649	9.578	1.064	1.916	1.916
<b>80</b>	140.261	124.936	87.051	45.760	18.091	1.064	1.916	1.916	2.554
<b>85</b>	138.558	122.595	83.220	35.970	7.024	1.064	3.618	6.172	7.024
<b>90</b>	126.426	112.379	76.196	32.564	0.000	3.618	6.598	8.939	9.791
<b>95</b>	137.706	123.021	83.858	35.970	7.449	1.277	5.108	7.449	8.301
<b>100</b>	139.409	124.936	87.477	45.973	18.730	1.064	1.916	2.767	3.405
<b>105</b>	143.027	129.406	96.841	62.362	31.074	8.088	1.064	1.916	1.916
<b>110</b>	162.396	151.541	121.744	82.368	45.760	18.304	3.831	1.064	1.703
<b>115</b>	186.872	175.592	143.453	101.737	61.510	31.287	13.622	4.682	3.405
<b>120</b>	205.815	194.109	162.396	119.828	77.473	45.335	24.902	14.260	11.280
<b>125</b>	231.568	219.011	184.957	139.409	95.352	60.020	37.885	25.115	21.284
<b>130</b>	251.362	239.656	204.963	159.416	113.869	77.047	52.145	38.311	34.480
<b>135</b>	273.923	262.004	227.524	179.636	131.960	94.075	67.683	52.571	48.101
<b>140</b>	282.437	271.582	239.869	196.024	151.115	113.656	86.200	70.450	65.341
<b>145</b>	295.420	284.778	255.619	214.541	173.250	136.004	108.335	91.733	86.200
<b>150</b>	297.974	288.822	262.855	225.183	185.595	150.477	123.446	107.483	101.737
<b>155</b>	299.251	291.376	268.602	236.889	203.686	171.973	147.923	132.598	127.065
<b>160</b>	306.062	298.825	278.605	249.872	219.862	191.129	167.929	154.095	148.774
<b>165</b>	291.589	286.906	272.646	252.213	232.207	210.710	193.257	181.977	177.933
<b>170</b>	281.585	277.967	267.751	253.491	240.507	224.970	211.987	203.686	200.494
<b>175</b>	268.602	266.687	260.940	254.342	249.021	241.572	234.761	229.653	227.524
<b>180</b>	247.105	247.105	247.105	247.105	247.105	247.105	247.105	247.105	247.105

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : WMA-4-L40-840-AF-EM10W-(L32)-DIM-UNV\_(EMER MODE).IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	88.87	N.A.	6.50
0-30	184.81	N.A.	13.40
0-40	297.25	N.A.	21.60
0-60	509.58	N.A.	37.00
0-80	642.35	N.A.	46.70
0-90	687.54	N.A.	50.00
10-90	664.23	N.A.	48.30
20-40	208.38	N.A.	15.10
20-50	321.46	N.A.	23.40
40-70	290.12	N.A.	21.10
60-80	132.77	N.A.	9.60
70-80	54.99	N.A.	4.00
80-90	45.19	N.A.	3.30
90-110	100.64	N.A.	7.30
90-120	178.27	N.A.	13.00
90-130	277.60	N.A.	20.20
90-150	503.39	N.A.	36.60
90-180	688.54	N.A.	50.00
110-180	587.89	N.A.	42.70
0-180	1376.08	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	23.30
10-20	65.57
20-30	95.94
30-40	112.44
40-50	113.08
50-60	99.25
60-70	77.79
70-80	54.99
80-90	45.19
90-100	45.58
100-110	55.06
110-120	77.63
120-130	99.33
130-140	113.07
140-150	112.71
150-160	96.06
160-170	65.70
170-180	23.39

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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

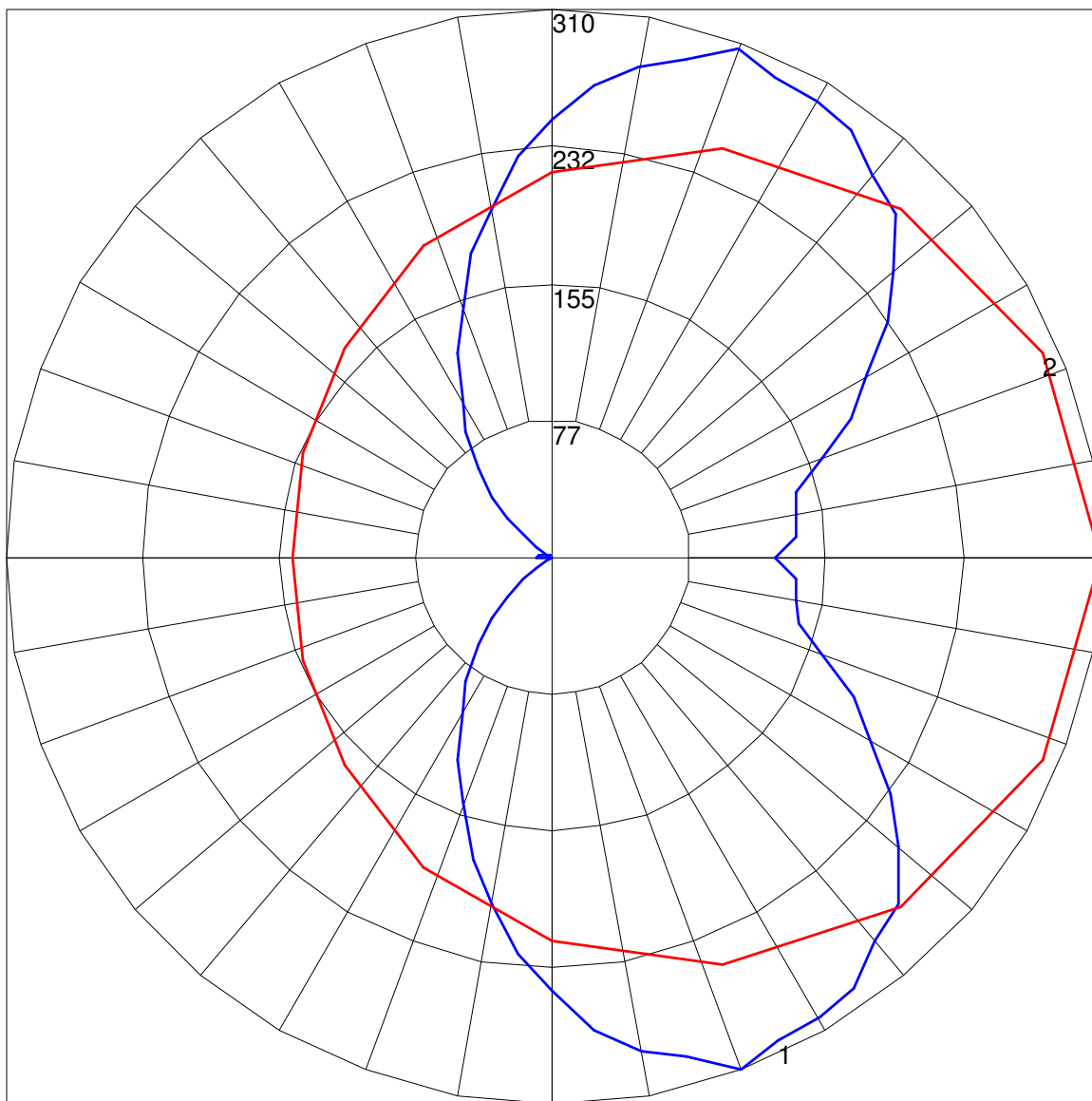
X=2H	Y=2H	12.7	13.6	13.7	14.6	15.9	UGR Viewed Endwise				
	3H	15.2	16.0	16.1	16.9	18.2	5.2	6.1	6.2	7.1	8.4
	4H	16.3	17.1	17.3	18.1	19.4	6.3	7.1	7.3	8.1	9.4
	6H	17.7	18.4	18.7	19.4	20.7	6.6	7.4	7.6	8.4	9.7
	8H	18.5	19.2	19.5	20.2	21.5	6.8	7.5	7.8	8.5	9.8
	12H	19.4	20.1	20.4	21.1	22.4	6.8	7.4	7.8	8.5	9.8
4H	2H	12.8	13.6	13.8	14.6	15.9	6.8	7.4	7.8	8.4	9.7
	3H	15.4	16.1	16.4	17.1	18.4	6.4	7.2	7.4	8.2	9.5
	4H	16.8	17.3	17.8	18.4	19.7	7.7	8.4	8.7	9.4	10.7
	6H	18.4	18.9	19.4	19.9	21.2	8.1	8.7	9.1	9.7	11.1
	8H	19.3	19.8	20.3	20.8	22.1	8.4	8.9	9.4	9.9	11.2
	12H	20.3	20.8	21.3	21.8	23.1	8.4	8.9	9.4	9.9	11.3
8H	4H	16.8	17.3	17.8	18.3	19.6	8.4	8.8	9.4	9.9	11.2
	6H	18.5	18.9	19.6	20.0	21.3	9.0	9.5	10.0	10.5	11.8
	8H	19.6	19.9	20.6	21.0	22.4	9.4	9.8	10.5	10.9	12.2
	12H	20.8	21.1	21.8	22.2	23.6	9.6	9.9	10.6	11.0	12.3
12H	4H	16.7	17.2	17.8	18.2	19.6	9.6	9.9	10.7	11.0	12.4
	6H	18.5	18.9	19.6	19.9	21.3	9.3	9.7	10.3	10.8	12.1
	8H	19.6	19.9	20.7	21.0	22.4	9.9	10.2	10.9	11.3	12.7
							10.1	10.4	11.1	11.5	12.9

Maximum UGR = 23.6

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## POLAR GRAPH



Maximum Candela = 309.68 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.)