



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMA-4-L40-835-AF-(L30)-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] 04-24-2024
 [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-L40-835-AF-(L30)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K 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	3020
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	21.7
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)	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	3172	3067	3568
55	2596	2465	3014
65	2099	1965	2500
75	1661	1396	1780
85	1711	1338	748

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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	540.937	540.937	540.937	540.937	540.937	540.937	540.937	540.937	540.937
5	590.453	583.913	571.768	554.951	537.667	527.858	512.442	501.231	496.093
10	623.152	611.941	589.052	556.353	519.916	493.757	464.328	445.176	438.169
15	641.838	629.692	597.927	552.148	502.165	461.992	423.220	397.995	388.653
20	679.675	658.654	613.343	548.411	476.940	418.082	368.099	334.933	324.189
25	661.924	641.838	590.453	518.982	441.439	377.442	323.254	290.555	277.476
30	660.990	636.232	576.906	492.823	402.200	328.393	268.133	234.032	221.420
35	653.983	628.291	561.024	469.933	373.705	297.095	236.368	199.465	187.787
40	625.021	597.460	525.055	428.359	326.991	248.046	187.787	153.219	141.541
45	609.138	577.841	499.363	392.857	287.285	206.472	148.548	116.316	105.572
50	559.155	528.792	449.847	348.479	246.645	169.101	114.447	84.084	75.675
55	512.442	482.079	403.134	303.635	205.538	131.731	81.748	55.121	46.713
60	455.452	426.957	355.486	261.593	169.101	100.900	56.990	32.699	25.692
65	412.944	383.981	312.978	220.953	134.534	71.938	31.298	12.613	8.408
70	356.888	330.729	263.929	180.312	100.433	44.377	10.744	2.336	2.336
75	315.780	284.015	209.742	135.935	67.267	21.021	2.336	4.204	4.204
80	307.839	274.206	191.056	100.433	39.706	2.336	4.204	4.204	5.606
85	304.102	269.067	182.648	78.945	15.415	2.336	7.941	13.547	15.415
90	277.476	246.645	167.233	71.471	0.000	7.941	14.481	19.619	21.488
95	302.234	270.002	184.049	78.945	16.350	2.803	11.211	16.350	18.218
100	305.971	274.206	191.991	100.900	41.108	2.336	4.204	6.073	7.474
105	313.912	284.015	212.544	136.869	68.201	17.751	2.336	4.204	4.204
110	356.421	332.597	267.199	180.780	100.433	40.173	8.408	2.336	3.737
115	410.141	385.383	314.846	223.288	135.001	68.668	29.896	10.277	7.474
120	451.715	426.023	356.421	262.995	170.036	99.499	54.654	31.298	24.758
125	508.238	480.677	405.937	305.971	209.275	131.731	83.149	55.121	46.713
130	551.681	525.989	449.847	349.881	249.915	169.101	114.447	84.084	75.675
135	601.197	575.038	499.363	394.258	289.621	206.472	148.548	115.381	105.572
140	619.882	596.059	526.456	430.227	331.663	249.448	189.188	154.620	143.409
145	648.377	625.021	561.024	470.868	380.244	298.497	237.770	201.333	189.188
150	653.983	633.896	576.906	494.224	407.338	330.261	270.936	235.901	223.288
155	656.786	639.502	589.519	519.916	447.044	377.442	324.656	291.022	278.877
160	671.734	655.851	611.474	548.411	482.546	419.483	368.566	338.203	326.524
165	639.969	629.692	598.394	553.550	509.640	462.459	424.155	399.397	390.521
170	618.014	610.073	587.650	556.353	527.858	493.757	465.262	447.044	440.037
175	589.519	585.315	572.702	558.221	546.543	530.193	515.245	504.034	499.363
180	542.339	542.339	542.339	542.339	542.339	542.339	542.339	542.339	542.339

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	195.05	N.A.	6.50
0-30	405.61	N.A.	13.40
0-40	652.39	N.A.	21.60
0-60	1118.41	N.A.	37.00
0-80	1409.82	N.A.	46.70
0-90	1508.99	N.A.	50.00
10-90	1457.84	N.A.	48.30
20-40	457.34	N.A.	15.10
20-50	705.53	N.A.	23.40
40-70	636.74	N.A.	21.10
60-80	291.41	N.A.	9.60
70-80	120.68	N.A.	4.00
80-90	99.17	N.A.	3.30
90-110	220.89	N.A.	7.30
90-120	391.27	N.A.	13.00
90-130	609.28	N.A.	20.20
90-150	1104.82	N.A.	36.60
90-180	1511.18	N.A.	50.00
110-180	1290.29	N.A.	42.70
0-180	3020.17	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	51.15
10-20	143.90
20-30	210.56
30-40	246.78
40-50	248.19
50-60	217.83
60-70	170.73
70-80	120.68
80-90	99.17
90-100	100.03
100-110	120.85
110-120	170.38
120-130	218.01
130-140	248.16
140-150	247.38
150-160	210.83
160-170	144.20
170-180	51.33

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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	15.4	16.3	16.4	17.3	18.6	7.9	8.8	8.9	9.8	11.1
	3H	17.9	18.7	18.8	19.6	20.9	9.0	9.8	10.0	10.8	12.1
	4H	19.0	19.8	20.0	20.8	22.1	9.3	10.1	10.3	11.1	12.4
	6H	20.4	21.1	21.4	22.1	23.4	9.5	10.2	10.5	11.2	12.5
	8H	21.2	21.9	22.2	22.9	24.2	9.5	10.1	10.5	11.2	12.5
	12H	22.1	22.8	23.1	23.8	25.1	9.5	10.1	10.5	11.1	12.4

UGR Viewed Endwise

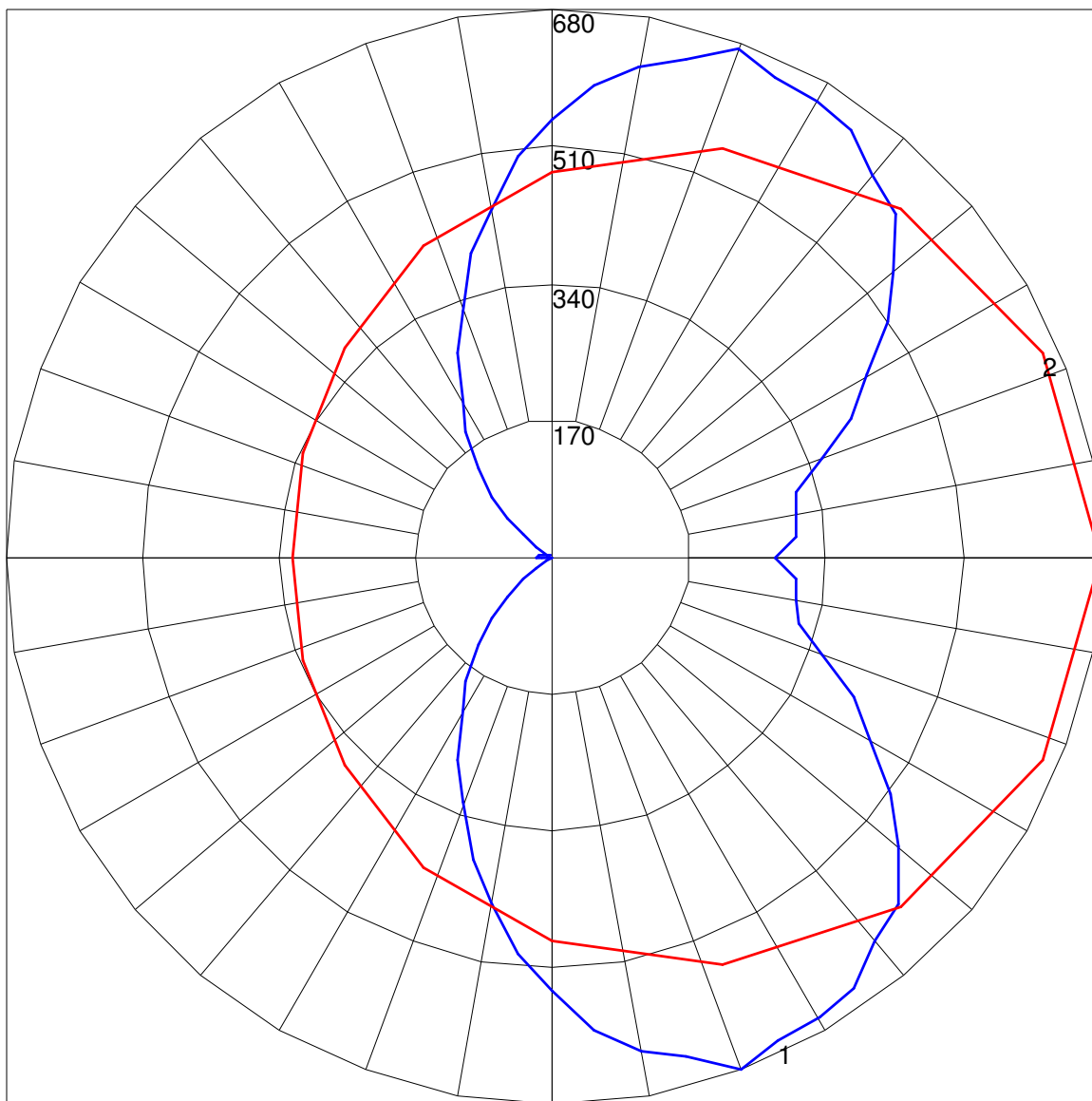
4H	2H	15.5	16.3	16.5	17.3	18.6	9.1	9.9	10.1	10.9	12.2
	3H	18.1	18.8	19.1	19.8	21.1	10.4	11.1	11.4	12.1	13.4
	4H	19.5	20.0	20.5	21.1	22.4	10.8	11.4	11.8	12.4	13.8
	6H	21.1	21.6	22.1	22.6	23.9	11.1	11.6	12.1	12.6	13.9
	8H	22.0	22.5	23.0	23.5	24.8	11.1	11.6	12.1	12.6	14.0
	12H	23.0	23.5	24.0	24.5	25.8	11.1	11.5	12.1	12.6	13.9

8H	4H	19.5	20.0	20.5	21.0	22.3	11.7	12.2	12.7	13.2	14.5
	6H	21.2	21.6	22.3	22.7	24.0	12.1	12.5	13.2	13.6	14.9
	8H	22.3	22.6	23.3	23.7	25.1	12.3	12.6	13.3	13.7	15.0
	12H	23.5	23.8	24.5	24.9	26.3	12.3	12.6	13.4	13.7	15.1

12H	4H	19.4	19.9	20.5	20.9	22.3	12.0	12.4	13.0	13.5	14.8
	6H	21.2	21.6	22.3	22.6	24.0	12.6	12.9	13.6	14.0	15.4
	8H	22.3	22.6	23.4	23.7	25.1	12.8	13.1	13.8	14.2	15.6

Maximum UGR = 26.3

POLAR GRAPH



Maximum Candela = 679.675 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.)