



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMA-3-L46-8TW-AF-DIM-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] 3' DIRECT/INDIRECT WALL MOUNT LUMINAIRE

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

[LUMCAT] WMA-3-L46-8TW-AF-DIM-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4723
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	39.1
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	6626	6330	7203
55	5423	5078	6010
65	4384	4040	4897
75	3470	2865	3378
85	3574	2738	1312

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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	845.976	845.976	845.976	845.976	845.976	845.976	845.976	845.976	845.976
5	923.414	913.186	894.192	867.892	840.862	825.520	801.412	783.879	775.843
10	974.552	957.019	921.222	870.084	813.101	772.190	726.166	696.213	685.255
15	1003.774	984.780	935.103	863.509	785.340	722.513	661.877	622.428	607.817
20	1062.949	1030.074	959.211	857.665	745.891	653.841	575.673	523.804	507.001
25	1035.188	1003.774	923.414	811.640	690.369	590.284	505.540	454.402	433.946
30	1033.727	995.008	902.228	770.729	629.003	513.576	419.335	366.005	346.280
35	1022.769	982.589	877.389	734.932	584.439	464.629	369.658	311.944	293.681
40	977.475	934.372	821.137	669.914	511.384	387.922	293.681	239.620	221.356
45	952.636	903.689	780.957	614.392	449.288	322.903	232.315	181.907	165.104
50	874.467	826.982	703.519	544.990	385.730	264.459	178.985	131.499	118.349
55	801.412	753.927	630.464	474.857	321.442	206.015	127.846	86.205	73.055
60	712.285	667.722	555.948	409.107	264.459	157.799	89.127	51.138	40.180
65	645.805	600.511	489.468	345.550	210.398	112.505	48.947	19.725	13.150
70	558.140	517.229	412.760	281.992	157.068	69.402	16.803	3.653	3.653
75	493.851	444.174	328.017	212.590	105.199	32.875	3.653	6.575	6.575
80	481.432	428.832	298.795	157.068	62.097	3.653	6.575	6.575	8.767
85	475.587	420.796	285.645	123.463	24.108	3.653	12.419	21.186	24.108
90	433.946	385.730	261.537	111.774	0.000	12.419	22.647	30.683	33.605
95	472.665	422.257	287.836	123.463	25.569	4.383	17.533	25.569	28.491
100	478.510	428.832	300.256	157.799	64.288	3.653	6.575	9.497	11.689
105	490.929	444.174	332.400	214.051	106.660	27.761	3.653	6.575	6.575
110	557.409	520.151	417.874	282.723	157.068	62.827	13.150	3.653	5.844
115	641.422	602.703	492.390	349.202	211.129	107.391	46.755	16.072	11.689
120	706.441	666.261	557.409	411.299	265.920	155.607	85.474	48.947	38.719
125	794.837	751.735	634.847	478.510	327.286	206.015	130.038	86.205	73.055
130	862.778	822.598	703.519	547.181	390.844	264.459	178.985	131.499	118.349
135	940.217	899.306	780.957	616.583	452.940	322.903	232.315	180.446	165.104
140	969.439	932.181	823.329	672.836	518.690	390.113	295.872	241.812	224.279
145	1014.002	977.475	877.389	736.393	594.667	466.821	371.849	314.867	295.872
150	1022.769	991.355	902.228	772.921	637.039	516.498	423.718	368.927	349.202
155	1027.152	1000.122	921.953	813.101	699.135	590.284	507.732	455.132	436.138
160	1050.530	1025.691	956.289	857.665	754.657	656.033	576.403	528.918	510.654
165	1000.852	984.780	935.833	865.701	797.029	723.244	663.339	624.619	610.739
170	966.516	954.097	919.031	870.084	825.520	772.190	727.627	699.135	688.177
175	921.953	915.378	895.653	873.006	854.742	829.173	805.796	788.262	780.957
180	848.168	848.168	848.168	848.168	848.168	848.168	848.168	848.168	848.168

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	305.04	N.A.	6.50
0-30	634.34	N.A.	13.40
0-40	1020.28	N.A.	21.60
0-60	1749.09	N.A.	37.00
0-80	2204.82	N.A.	46.70
0-90	2359.92	N.A.	50.00
10-90	2279.93	N.A.	48.30
20-40	715.23	N.A.	15.10
20-50	1103.38	N.A.	23.40
40-70	995.81	N.A.	21.10
60-80	455.73	N.A.	9.60
70-80	188.73	N.A.	4.00
80-90	155.10	N.A.	3.30
90-110	345.45	N.A.	7.30
90-120	611.91	N.A.	13.00
90-130	952.85	N.A.	20.20
90-150	1727.84	N.A.	36.60
90-180	2363.34	N.A.	50.00
110-180	2017.89	N.A.	42.70
0-180	4723.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	79.99
10-20	225.05
20-30	329.30
30-40	385.94
40-50	388.15
50-60	340.66
60-70	267.00
70-80	188.73
80-90	155.10
90-100	156.44
100-110	189.00
110-120	266.46
120-130	340.94
130-140	388.10
140-150	386.88
150-160	329.71
160-170	225.51
170-180	80.28

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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	78	78	78	78	72	72	72	72	60	60	60	50	50	50	41	41	41	36
1	70	67	64	61	65	62	59	56	52	50	48	43	42	40	35	34	33	29
2	64	58	53	49	58	54	49	46	45	42	39	37	35	33	30	29	27	24
3	58	51	45	41	53	47	42	38	40	36	33	33	30	28	27	25	23	20
4	53	45	39	35	49	42	36	32	35	31	28	29	26	24	24	22	20	17
5	49	40	34	30	45	37	32	28	32	27	24	26	23	21	22	19	17	15
6	45	36	30	26	41	33	28	24	28	24	21	24	21	18	20	17	15	13
7	41	32	27	22	38	30	25	21	26	22	19	22	18	16	18	15	14	12
8	38	29	24	20	35	27	22	19	24	19	16	20	17	14	16	14	12	10
9	36	27	21	18	33	25	20	17	22	18	15	18	15	13	15	13	11	9
10	33	25	19	16	31	23	18	15	20	16	13	17	14	12	14	12	10	8

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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	UGR Viewed Endwise			
	3H	18.0	18.8	19.0	19.8	21.1	10.6	11.5	11.6	12.5
	4H	18.8	19.6	19.8	20.6	21.9	11.7	12.5	12.7	13.5
	6H	19.7	20.4	20.7	21.4	22.7	12.0	12.8	13.0	13.8
	8H	20.1	20.8	21.1	21.8	23.1	12.2	12.9	13.2	13.9
	12H	20.6	21.3	21.6	22.3	23.6	12.2	12.8	13.2	13.9

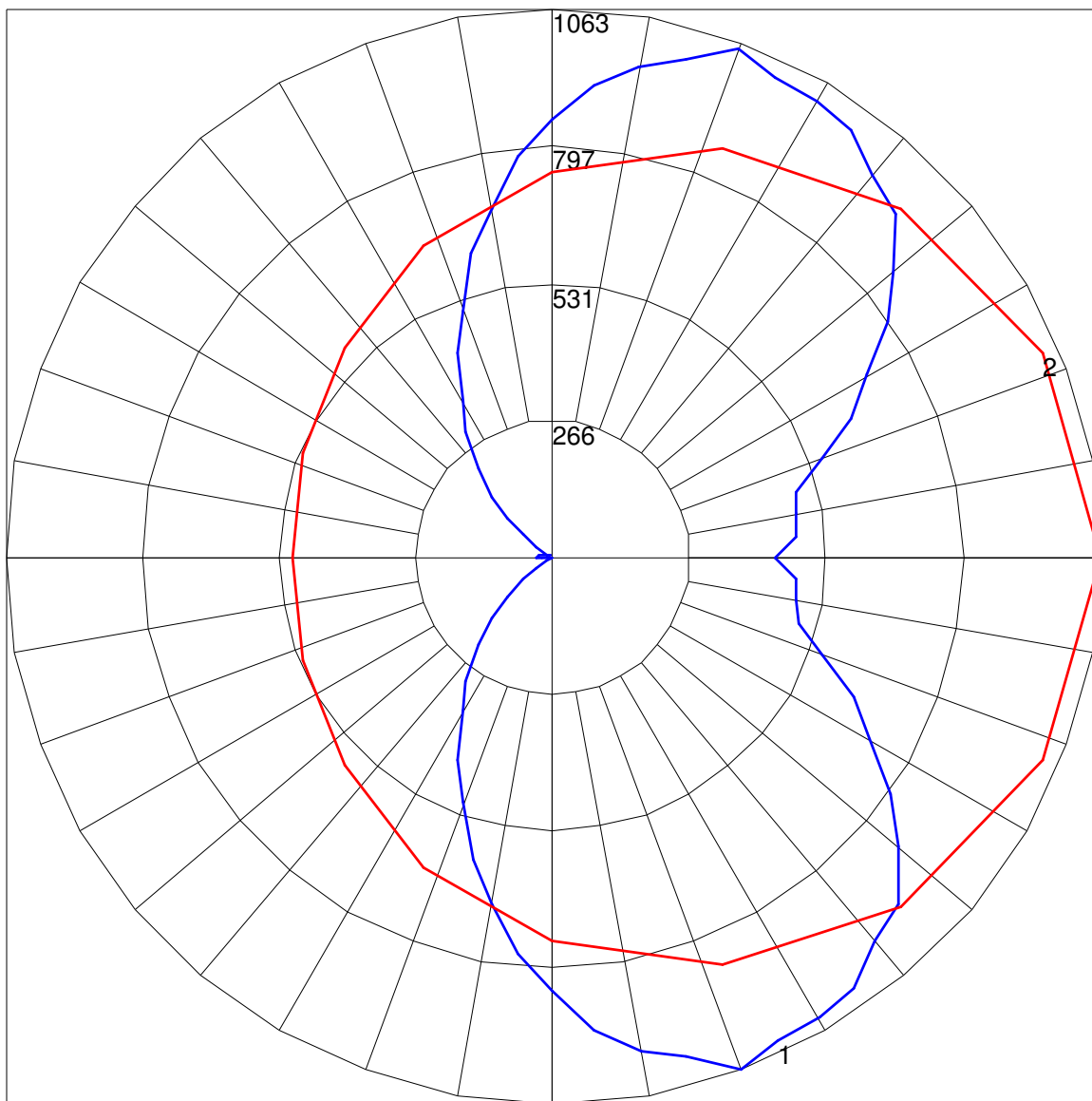
4H	2H	16.5	17.3	17.5	18.3	19.6	10.6	11.5	11.6	12.5
	3H	18.6	19.3	19.6	20.3	21.6	11.7	12.5	12.7	13.5
	4H	19.6	20.2	20.6	21.2	22.6	12.0	12.8	13.0	13.8
	6H	20.7	21.2	21.7	22.2	23.6	12.2	12.9	13.2	13.9
	8H	21.3	21.8	22.3	22.8	24.1	12.2	12.8	13.2	13.9
	12H	21.9	22.3	22.9	23.3	24.7	12.2	12.8	13.2	13.8

8H	4H	19.8	20.3	20.8	21.3	22.7	12.2	12.8	13.2	13.9
	6H	21.1	21.5	22.2	22.6	23.9	12.2	12.8	13.2	13.9
	8H	21.9	22.2	22.9	23.3	24.6	12.2	12.8	13.2	13.9
	12H	22.7	23.0	23.7	24.0	25.4	12.2	12.8	13.2	13.8

12H	4H	19.8	20.2	20.8	21.3	22.6	12.2	12.8	13.2	13.8
	6H	21.2	21.5	22.2	22.6	24.0	12.2	12.8	13.2	13.8
	8H	22.0	22.3	23.0	23.3	24.8	12.2	12.8	13.2	13.8

Maximum UGR = 25.4

POLAR GRAPH



Maximum Candela = 1062.949 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.)