



IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMA-3-L23-8TW-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-L23-8TW-AF-DIM-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2386
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	19.2
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	3348	3198	3639
55	2740	2566	3037
65	2215	2041	2474
75	1753	1448	1707
85	1806	1383	663

IES INDOOR REPORT
PHOTOMETRIC FILENAME : WMA-3-L23-8TW-AF-DIM-UNV 4000K_.IES

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	427.411	427.411	427.411	427.411	427.411	427.411	427.411	427.411	427.411
5	466.535	461.368	451.771	438.484	424.827	417.076	404.896	396.038	391.978
10	492.372	483.513	465.428	439.591	410.802	390.132	366.880	351.747	346.210
15	507.135	497.539	472.440	436.269	396.776	365.034	334.399	314.468	307.086
20	537.032	520.423	484.621	433.316	376.845	330.339	290.846	264.640	256.151
25	523.006	507.135	466.535	410.064	348.794	298.228	255.413	229.577	219.242
30	522.268	502.706	455.831	389.394	317.790	259.473	211.860	184.916	174.951
35	516.732	496.432	443.282	371.309	295.275	234.744	186.762	157.603	148.376
40	493.848	472.071	414.862	338.459	258.366	195.989	148.376	121.063	111.836
45	481.299	456.569	394.562	310.408	226.993	163.140	117.372	91.904	83.415
50	441.806	417.815	355.438	275.344	194.882	133.612	90.428	66.437	59.793
55	404.896	380.905	318.528	239.911	162.401	104.085	64.591	43.553	36.909
60	359.867	337.352	280.881	206.693	133.612	79.724	45.029	25.837	20.300
65	326.279	303.395	247.293	174.582	106.299	56.840	24.729	9.966	6.644
70	281.988	261.319	208.538	142.470	79.355	35.064	8.489	1.845	1.845
75	249.508	224.409	165.723	107.406	53.150	16.609	1.845	3.322	3.322
80	243.233	216.658	150.959	79.355	31.373	1.845	3.322	3.322	4.429
85	240.280	212.598	144.316	62.377	12.180	1.845	6.275	10.704	12.180
90	219.242	194.882	132.136	56.471	0.000	6.275	11.442	15.502	16.978
95	238.804	213.336	145.423	62.377	12.918	2.215	8.858	12.918	14.395
100	241.757	216.658	151.698	79.724	32.480	1.845	3.322	4.798	5.906
105	248.031	224.409	167.938	108.145	53.888	14.026	1.845	3.322	3.322
110	281.619	262.795	211.122	142.839	79.355	31.742	6.644	1.845	2.953
115	324.065	304.503	248.769	176.427	106.668	54.257	23.622	8.120	5.906
120	356.914	336.614	281.619	207.800	134.350	78.617	43.184	24.729	19.562
125	401.574	379.798	320.743	241.757	165.354	104.085	65.699	43.553	36.909
130	435.900	415.600	355.438	276.451	197.465	133.612	90.428	66.437	59.793
135	475.024	454.355	394.562	311.515	228.838	163.140	117.372	91.166	83.415
140	489.788	470.964	415.969	339.936	262.057	197.096	149.483	122.170	113.312
145	512.303	493.848	443.282	372.047	300.443	235.851	187.869	159.080	149.483
150	516.732	500.861	455.831	390.502	321.850	260.950	214.075	186.393	176.427
155	518.946	505.290	465.797	410.802	353.223	298.228	256.520	229.946	220.349
160	530.757	518.208	483.144	433.316	381.274	331.447	291.215	267.224	257.997
165	505.659	497.539	472.810	437.377	402.682	365.403	335.137	315.575	308.563
170	488.311	482.037	464.320	439.591	417.076	390.132	367.618	353.223	347.687
175	465.797	462.475	452.509	441.067	431.840	418.922	407.111	398.253	394.562
180	428.518	428.518	428.518	428.518	428.518	428.518	428.518	428.518	428.518

IES INDOOR REPORT
PHOTOMETRIC FILENAME : WMA-3-L23-8TW-AF-DIM-UNV 4000K_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	154.12	N.A.	6.50
0-30	320.49	N.A.	13.40
0-40	515.47	N.A.	21.60
0-60	883.69	N.A.	37.00
0-80	1113.94	N.A.	46.70
0-90	1192.3	N.A.	50.00
10-90	1151.88	N.A.	48.30
20-40	361.36	N.A.	15.10
20-50	557.46	N.A.	23.40
40-70	503.11	N.A.	21.10
60-80	230.25	N.A.	9.60
70-80	95.35	N.A.	4.00
80-90	78.36	N.A.	3.30
90-110	174.53	N.A.	7.30
90-120	309.15	N.A.	13.00
90-130	481.41	N.A.	20.20
90-150	872.95	N.A.	36.60
90-180	1194.03	N.A.	50.00
110-180	1019.5	N.A.	42.70
0-180	2386.32	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	40.41
10-20	113.70
20-30	166.37
30-40	194.99
40-50	196.10
50-60	172.11
60-70	134.90
70-80	95.35
80-90	78.36
90-100	79.04
100-110	95.49
110-120	134.62
120-130	172.25
130-140	196.08
140-150	195.46
150-160	166.58
160-170	113.93
170-180	40.56

IES INDOOR REPORT
PHOTOMETRIC FILENAME : WMA-3-L23-8TW-AF-DIM-UNV 4000K_.IES

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	54	54	54	54	50	50	50	50	42	42	42	35	35	35	28	28	28	25
1	49	46	44	42	45	43	41	39	36	35	33	30	29	28	24	24	23	20
2	44	40	37	34	41	37	34	32	31	29	27	26	25	23	21	20	19	17
3	40	35	32	28	37	33	29	27	28	25	23	23	21	19	19	17	16	14
4	37	31	27	24	34	29	25	23	25	22	20	20	18	17	17	15	14	12
5	34	28	24	21	31	26	22	19	22	19	17	18	16	14	15	13	12	10
6	31	25	21	18	29	23	19	17	20	17	15	17	14	13	14	12	11	9
7	29	23	18	16	27	21	17	15	18	15	13	15	13	11	12	11	9	8
8	27	20	17	14	25	19	16	13	16	14	11	14	12	10	11	10	8	7
9	25	19	15	12	23	17	14	12	15	12	10	13	11	9	11	9	8	7
10	23	17	13	11	21	16	13	10	14	11	9	12	10	8	10	8	7	6

IES INDOOR REPORT

PHOTOMETRIC FILENAME : WMA-3-L23-8TW-AF-DIM-UNV 4000K_.IES

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	16.0	16.9	17.0	17.9	19.2	10.5	11.4	11.5	12.4	13.7
	3H	17.9	18.7	18.9	19.7	21.0	11.6	12.4	12.6	13.4	14.7
	4H	18.7	19.5	19.7	20.5	21.8	11.9	12.7	12.9	13.7	15.0
	6H	19.6	20.3	20.6	21.3	22.6	12.1	12.8	13.0	13.7	15.1
	8H	20.0	20.7	21.0	21.7	23.0	12.1	12.7	13.1	13.7	15.1
	12H	20.5	21.2	21.5	22.2	23.5	12.1	12.7	13.1	13.7	15.0

UGR Viewed Endwise

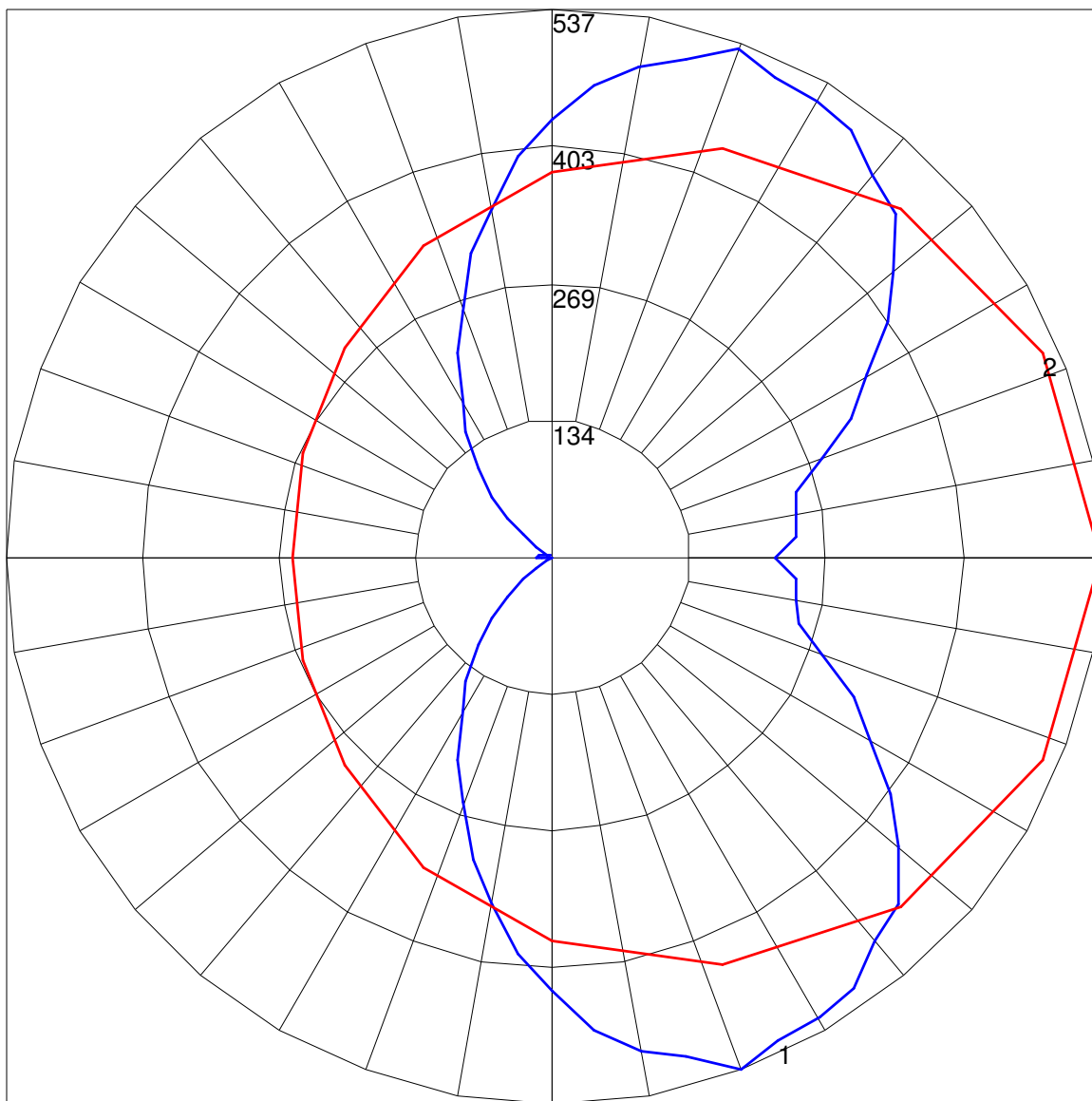
4H	2H	16.4	17.2	17.4	18.2	19.5	11.7	12.5	12.7	13.5	14.8
	3H	18.5	19.2	19.5	20.2	21.5	13.0	13.7	14.0	14.7	16.0
	4H	19.5	20.1	20.5	21.1	22.4	13.4	14.0	14.4	15.0	16.4
	6H	20.6	21.1	21.6	22.1	23.5	13.6	14.2	14.6	15.2	16.5
	8H	21.2	21.6	22.2	22.7	24.0	13.7	14.2	14.7	15.2	16.5
	12H	21.7	22.2	22.8	23.2	24.6	13.7	14.1	14.7	15.2	16.5

8H	4H	19.7	20.2	20.7	21.2	22.5	14.3	14.7	15.3	15.8	17.1
	6H	21.0	21.4	22.0	22.5	23.8	14.7	15.1	15.7	16.2	17.5
	8H	21.7	22.1	22.8	23.2	24.5	14.8	15.2	15.9	16.2	17.6
	12H	22.5	22.9	23.6	23.9	25.3	14.9	15.2	15.9	16.2	17.6

12H	4H	19.7	20.1	20.7	21.2	22.5	14.5	15.0	15.6	16.0	17.4
	6H	21.1	21.4	22.1	22.5	23.8	15.1	15.5	16.2	16.5	17.9
	8H	21.9	22.2	22.9	23.2	24.6	15.4	15.7	16.4	16.7	18.1

Maximum UGR = 25.3

POLAR GRAPH



Maximum Candela = 537.032 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.)