



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 97-2-L45-840-FR-DRV-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 19304.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 12-NOV-2019

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 2 LED 22" ARRAYS 2' SUSPENDED ENCLOSED/GASKETED

[MORE] LUMINAIRE WHITE FLAT REFL w/HIGHLY SPEC CENTER REFL & FROSTED

[MORE] ACRYLIC DROP LENS

[LUMCAT] 97-2-L45-840-FR-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4554
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	147
Total Luminaire Watts	30.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.32
Spacing Criterion (90-270)	1.86
Spacing Criterion (Diagonal)	1.90
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.30 ft
Luminous Width (90-270)	0.46 ft
Luminous Height	0.27 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6671	7437	8831
55	6104	9122	11664
65	5178	11440	14045
75	4000	10826	10646
85	2580	5911	4940

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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>
0	733.790	733.790	733.790	733.790	733.790
5	745.757	756.766	759.160	724.696	692.147
10	739.056	751.022	762.989	732.833	701.720
15	725.653	740.970	763.946	742.885	712.729
20	703.635	727.089	764.425	750.544	722.781
25	677.787	711.772	763.467	759.638	737.620
30	645.238	692.625	759.638	773.519	759.160
35	610.295	667.256	757.245	798.889	797.931
40	565.301	631.356	757.724	840.532	867.337
45	516.477	593.063	773.519	920.469	973.601
50	460.474	552.856	815.163	1032.476	1089.437
55	400.641	515.520	879.783	1151.663	1209.103
60	333.628	482.014	943.923	1257.448	1314.887
65	268.530	457.123	983.174	1275.158	1319.195
70	205.346	429.839	943.923	1158.843	1167.459
75	145.992	382.930	788.358	904.194	865.901
80	91.903	308.259	543.283	574.396	554.770
85	51.696	220.664	339.851	343.680	327.405
90	33.028	152.215	218.270	215.398	195.295
95	24.412	101.955	149.343	142.163	133.547
100	20.583	69.406	109.135	102.913	99.083
105	17.232	48.345	88.074	85.202	81.851
110	12.924	31.592	70.842	74.671	71.321
115	10.531	21.540	55.525	65.577	63.662
120	7.180	14.360	42.122	56.482	55.046
125	5.265	8.616	30.634	45.473	44.994
130	4.308	5.265	21.061	33.028	34.464
135	0.000	0.000	14.360	24.412	25.848
140	0.000	0.000	9.095	17.711	18.668
145	0.000	0.000	5.744	12.445	13.403
150	0.000	0.000	0.000	8.137	9.095
155	0.000	0.000	0.000	4.308	4.787
160	0.000	0.000	0.000	0.000	4.308
165	0.000	2.393	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	280.65	N.A.	6.20
0-30	621.02	N.A.	13.60
0-40	1081.57	N.A.	23.70
0-60	2423.07	N.A.	53.20
0-80	3944.17	N.A.	86.60
0-90	4260.09	N.A.	93.50
10-90	4189.47	N.A.	92.00
20-40	800.92	N.A.	17.60
20-50	1391.23	N.A.	30.50
40-70	2193.87	N.A.	48.20
60-80	1521.1	N.A.	33.40
70-80	668.73	N.A.	14.70
80-90	315.92	N.A.	6.90
90-110	208.55	N.A.	4.60
90-120	253.49	N.A.	5.60
90-130	278.41	N.A.	6.10
90-150	292.99	N.A.	6.40
90-180	293.97	N.A.	6.50
110-180	85.42	N.A.	1.90
0-180	4554.06	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	70.62
10-20	210.02
20-30	340.37
30-40	460.55
40-50	590.30
50-60	751.20
60-70	852.37
70-80	668.73
80-90	315.92
90-100	135.54
100-110	73.01
110-120	44.94
120-130	24.93
130-140	10.66
140-150	3.93
150-160	0.85
160-170	0.13
170-180	0.00

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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	209	209	209	209	203	203	203	203	191	191	191	181	181	181	171	171	171	166
1	183	171	161	151	177	166	156	148	156	148	141	147	140	134	138	133	128	123
2	162	143	127	114	156	138	124	112	130	118	107	122	112	103	115	106	99	94
3	145	121	103	89	139	118	101	88	110	96	84	103	91	81	97	87	78	73
4	130	105	86	72	125	102	84	71	95	80	68	89	76	66	84	73	64	59
5	119	92	73	59	114	89	72	58	84	68	57	79	65	55	74	62	53	48
6	109	81	63	50	104	79	62	49	74	59	48	70	57	46	66	54	45	41
7	100	73	55	43	96	71	54	42	67	52	41	63	50	40	60	48	39	35
8	93	66	49	37	89	64	48	37	61	46	36	57	44	35	54	43	34	30
9	86	60	44	33	83	58	43	33	55	42	32	53	40	31	50	39	30	27
10	81	55	40	29	78	54	39	29	51	38	28	48	36	28	46	35	27	24

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**UGR TABLE - CORRECTED**

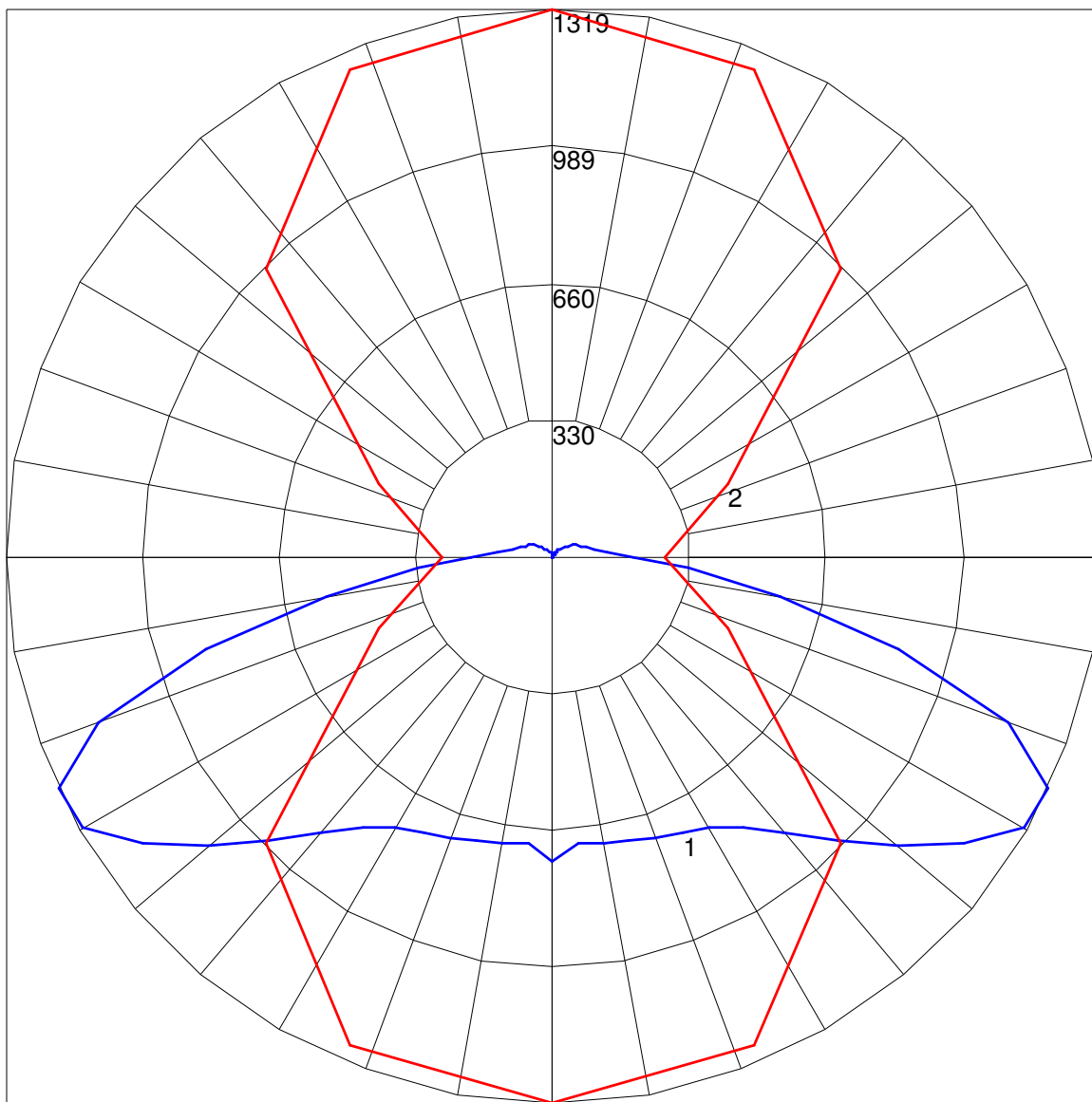
Reflectances

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	14.4	16.2	14.9	16.6	17.0	21.0	22.7	21.4	23.2	23.6
	3H	16.4	18.1	16.9	18.5	19.0	24.3	25.9	24.8	26.4	26.9
	4H	17.2	18.7	17.7	19.2	19.7	25.5	27.0	25.9	27.5	28.0
	6H	17.7	19.2	18.2	19.6	20.2	26.2	27.7	26.7	28.1	28.7
	8H	17.9	19.3	18.4	19.8	20.3	26.5	27.9	27.0	28.4	28.9
	12H	18.0	19.3	18.5	19.8	20.4	26.7	28.0	27.2	28.5	29.1
4H	2H	17.3	18.8	17.8	19.3	19.8	21.5	23.0	21.9	23.5	24.0
	3H	19.4	20.7	19.9	21.2	21.8	25.0	26.3	25.5	26.8	27.4
	4H	20.1	21.4	20.7	21.9	22.4	26.3	27.5	26.8	28.0	28.6
	6H	20.7	21.8	21.3	22.4	22.9	27.2	28.3	27.7	28.8	29.4
	8H	20.9	21.9	21.4	22.5	23.1	27.5	28.6	28.1	29.1	29.7
	12H	21.0	22.0	21.6	22.6	23.2	27.8	28.7	28.4	29.3	29.9
8H	4H	21.5	22.5	22.0	23.1	23.7	26.5	27.5	27.0	28.1	28.7
	6H	22.3	23.2	22.9	23.8	24.4	27.5	28.4	28.1	29.0	29.6
	8H	22.6	23.4	23.2	24.0	24.6	27.9	28.7	28.5	29.3	29.9
	12H	22.9	23.6	23.4	24.1	24.8	28.3	29.0	28.9	29.6	30.3
12H	4H	21.7	22.6	22.2	23.2	23.8	26.5	27.5	27.1	28.0	28.6
	6H	22.6	23.4	23.2	24.0	24.6	27.6	28.4	28.2	28.9	29.6
	8H	23.0	23.7	23.6	24.3	25.0	28.0	28.7	28.6	29.3	30.0

Maximum UGR = 30.3

POLAR GRAPH



Maximum Candela = 1319.195 Located At Horizontal Angle = 90, Vertical Angle = 65  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (65) (Through Max. Cd.)