



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 97-4-L50-840-FR-(L48)-DIM-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

[ISSUEDATE] 12-08-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4 LED 22" ARRAYS 4' SUSPENDED ENCLOSED/GASKETED

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

[MORE] ACRYLIC DROP LENS

[LUMCAT] 97-4-L50-840-FR-(L48)-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4897
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	158
Total Luminaire Watts	31
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)	4.25 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	4079	4441	5139
55	3803	5483	6788
65	3321	6931	8173
75	2707	6629	6195
85	2038	3678	2875

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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	789.058	789.058	789.058	789.058	789.058
5	801.926	813.765	816.338	779.279	744.278
10	794.720	807.588	820.456	788.029	754.572
15	780.308	796.779	821.485	798.838	766.411
20	756.631	781.852	822.000	807.073	777.220
25	728.837	765.381	820.971	816.853	793.176
30	693.836	744.793	816.853	831.780	816.338
35	656.262	717.513	814.279	859.059	858.030
40	607.879	678.909	814.794	903.840	932.664
45	555.378	637.732	831.780	989.797	1046.930
50	495.156	594.496	876.560	1110.240	1171.492
55	430.817	554.348	946.046	1238.404	1300.170
60	358.756	518.318	1015.018	1352.157	1413.922
65	288.755	491.553	1057.225	1371.201	1418.555
70	220.813	462.214	1015.018	1246.125	1255.390
75	156.988	411.772	847.736	972.297	931.120
80	98.825	331.477	584.202	617.658	596.555
85	55.589	237.284	365.448	369.565	352.065
90	35.515	163.679	234.710	231.622	210.004
95	26.250	109.634	160.591	152.870	143.606
100	22.133	74.634	117.355	110.664	106.546
105	18.530	51.986	94.708	91.619	88.016
110	13.897	33.971	76.178	80.296	76.693
115	11.324	23.162	59.707	70.516	68.457
120	7.721	15.441	45.295	60.736	59.192
125	5.662	9.265	32.942	48.898	48.383
130	4.632	5.662	22.647	35.515	37.059
135	0.000	0.000	15.441	26.250	27.795
140	0.000	0.000	9.780	19.044	20.074
145	0.000	0.000	6.177	13.383	14.412
150	0.000	0.000	0.000	8.750	9.780
155	0.000	0.000	0.000	4.632	5.147
160	0.000	0.000	0.000	0.000	4.632
165	0.000	2.574	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	301.78	N.A.	6.20
0-30	667.79	N.A.	13.60
0-40	1163.03	N.A.	23.70
0-60	2605.57	N.A.	53.20
0-80	4241.24	N.A.	86.60
0-90	4580.95	N.A.	93.50
10-90	4505.01	N.A.	92.00
20-40	861.25	N.A.	17.60
20-50	1496.01	N.A.	30.50
40-70	2359.11	N.A.	48.20
60-80	1635.67	N.A.	33.40
70-80	719.10	N.A.	14.70
80-90	339.71	N.A.	6.90
90-110	224.26	N.A.	4.60
90-120	272.58	N.A.	5.60
90-130	299.38	N.A.	6.10
90-150	315.06	N.A.	6.40
90-180	316.11	N.A.	6.50
110-180	91.85	N.A.	1.90
0-180	4897.06	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	75.94
10-20	225.84
20-30	366.01
30-40	495.24
40-50	634.76
50-60	807.78
60-70	916.57
70-80	719.10
80-90	339.71
90-100	145.74
100-110	78.51
110-120	48.32
120-130	26.80
130-140	11.46
140-150	4.22
150-160	0.91
160-170	0.14
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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	103	96	90	85	99	93	88	83	88	83	79	83	79	76	78	75	72	69
2	91	80	72	64	87	78	70	63	73	66	60	69	63	58	64	60	56	53
3	81	68	58	50	78	66	57	49	62	54	47	58	51	46	55	49	44	41
4	73	59	48	40	70	57	47	40	54	45	38	50	43	37	47	41	36	33
5	67	52	41	33	64	50	40	33	47	38	32	44	37	31	42	35	30	27
6	61	46	36	28	58	44	35	28	42	33	27	39	32	26	37	30	25	23
7	56	41	31	24	54	40	30	24	38	29	23	35	28	23	33	27	22	20
8	52	37	28	21	50	36	27	21	34	26	20	32	25	20	31	24	19	17
9	48	34	25	19	47	33	24	18	31	23	18	30	22	17	28	22	17	15
10	45	31	22	17	44	30	22	16	29	21	16	27	20	16	26	20	15	13

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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	13.6	15.3	14.0	15.7	16.2	21.3	23.0	21.7	23.4	23.9
	3H	15.3	16.9	15.8	17.3	17.8	24.7	26.3	25.1	26.7	27.2
	4H	15.9	17.4	16.4	17.9	18.4	25.8	27.4	26.3	27.8	28.3
	6H	16.2	17.7	16.7	18.2	18.7	26.6	28.1	27.1	28.5	29.1
	8H	16.3	17.7	16.9	18.2	18.8	26.9	28.3	27.4	28.8	29.3
	12H	16.4	17.7	16.9	18.2	18.8	27.2	28.5	27.7	29.0	29.6

UGR Viewed Endwise

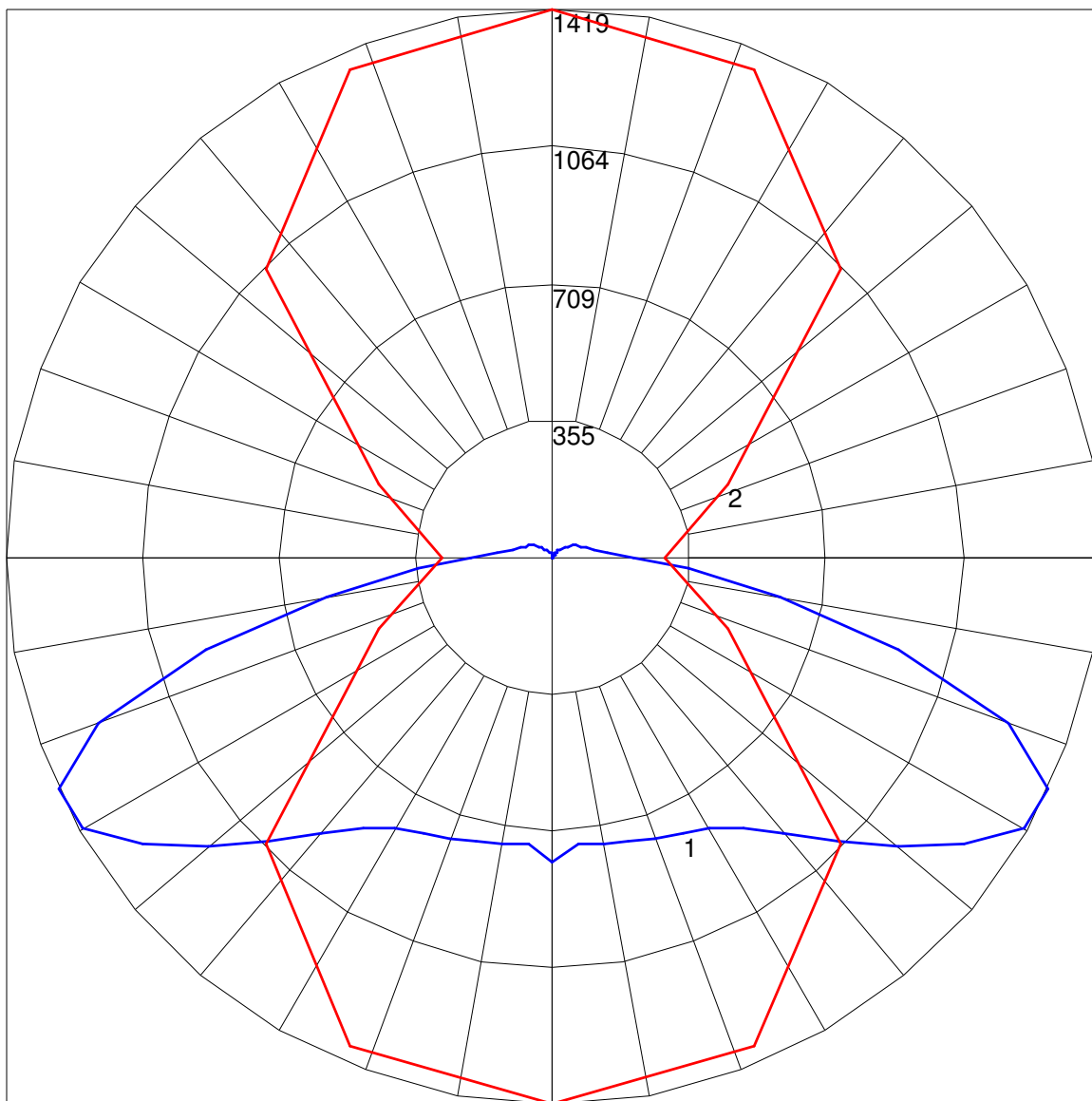
4H	2H	17.1	18.7	17.6	19.1	19.6	21.7	23.2	22.2	23.7	24.2
	3H	18.9	20.2	19.4	20.7	21.3	25.3	26.7	25.8	27.2	27.7
	4H	19.5	20.7	20.0	21.2	21.8	26.7	27.9	27.2	28.4	29.0
	6H	19.9	21.0	20.4	21.5	22.1	27.6	28.7	28.1	29.2	29.8
	8H	20.0	21.0	20.5	21.6	22.1	27.9	29.0	28.5	29.5	30.1
	12H	20.1	21.0	20.6	21.6	22.2	28.3	29.2	28.8	29.8	30.4

8H	4H	21.2	22.3	21.8	22.8	23.4	26.8	27.9	27.4	28.4	29.0
	6H	21.9	22.7	22.4	23.3	23.9	27.9	28.8	28.5	29.4	30.0
	8H	22.1	22.9	22.6	23.5	24.1	28.4	29.2	28.9	29.7	30.4
	12H	22.2	22.9	22.8	23.5	24.2	28.8	29.5	29.3	30.1	30.7

12H	4H	21.5	22.5	22.1	23.0	23.6	26.9	27.8	27.4	28.4	29.0
	6H	22.3	23.1	22.9	23.6	24.3	28.0	28.8	28.6	29.3	30.0
	8H	22.6	23.3	23.2	23.9	24.6	28.4	29.1	29.0	29.7	30.4

Maximum UGR = 30.7

POLAR GRAPH



Maximum Candela = 1418.555 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.)