



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 97-4-L95-840-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  
[ISSUEDATE] 05-04-2022  
[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-L95-840-FR-DIM-UNV

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9398
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	145
Total Luminaire Watts	64.8
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	7828	8522	9862
55	7299	10523	13026
65	6373	13302	15685
75	5195	12722	11889
85	3912	7059	5517

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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>
<b>0</b>	1514.309	1514.309	1514.309	1514.309	1514.309
<b>5</b>	1539.004	1561.724	1566.663	1495.541	1428.370
<b>10</b>	1525.175	1549.870	1574.565	1512.333	1448.126
<b>15</b>	1497.516	1529.126	1576.541	1533.077	1470.845
<b>20</b>	1452.077	1500.480	1577.529	1548.882	1491.589
<b>25</b>	1398.735	1468.870	1575.553	1567.651	1522.211
<b>30</b>	1331.565	1429.357	1567.651	1596.297	1566.663
<b>35</b>	1259.455	1377.004	1562.711	1648.651	1646.675
<b>40</b>	1166.601	1302.918	1563.699	1734.590	1789.907
<b>45</b>	1065.844	1223.894	1596.297	1899.554	2009.200
<b>50</b>	950.271	1140.918	1682.236	2130.701	2248.250
<b>55</b>	826.795	1063.869	1815.590	2376.665	2495.202
<b>60</b>	688.502	994.722	1947.956	2594.970	2713.507
<b>65</b>	554.160	943.356	2028.957	2631.519	2722.398
<b>70</b>	423.769	887.051	1947.956	2391.482	2409.263
<b>75</b>	301.281	790.246	1626.919	1865.968	1786.944
<b>80</b>	189.659	636.148	1121.162	1185.369	1144.869
<b>85</b>	106.683	455.379	701.343	709.246	675.660
<b>90</b>	68.159	314.123	450.440	444.513	403.025
<b>95</b>	50.378	210.403	308.196	293.379	275.598
<b>100</b>	42.476	143.232	225.220	212.379	204.476
<b>105</b>	35.561	99.769	181.757	175.830	168.915
<b>110</b>	26.671	65.195	146.196	154.098	147.183
<b>115</b>	21.732	44.451	114.586	135.330	131.378
<b>120</b>	14.817	29.634	86.927	116.561	113.598
<b>125</b>	10.866	17.781	63.220	93.842	92.854
<b>130</b>	8.890	10.866	43.464	68.159	71.122
<b>135</b>	0.000	0.000	29.634	50.378	53.342
<b>140</b>	0.000	0.000	18.768	36.549	38.524
<b>145</b>	0.000	0.000	11.854	25.683	27.659
<b>150</b>	0.000	0.000	0.000	16.793	18.768
<b>155</b>	0.000	0.000	0.000	8.890	9.878
<b>160</b>	0.000	0.000	0.000	0.000	8.890
<b>165</b>	0.000	4.939	0.000	0.000	0.000
<b>170</b>	0.000	0.000	0.000	0.000	0.000
<b>175</b>	0.000	0.000	0.000	0.000	0.000
<b>180</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	579.16	N.A.	6.20
0-30	1281.59	N.A.	13.60
0-40	2232.02	N.A.	23.70
0-60	5000.44	N.A.	53.20
0-80	8139.51	N.A.	86.60
0-90	8791.47	N.A.	93.50
10-90	8645.72	N.A.	92.00
20-40	1652.85	N.A.	17.60
20-50	2871.05	N.A.	30.50
40-70	4527.45	N.A.	48.20
60-80	3139.07	N.A.	33.40
70-80	1380.04	N.A.	14.70
80-90	651.95	N.A.	6.90
90-110	430.38	N.A.	4.60
90-120	523.11	N.A.	5.60
90-130	574.55	N.A.	6.10
90-150	604.65	N.A.	6.40
90-180	606.66	N.A.	6.50
110-180	176.28	N.A.	1.90
0-180	9398.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	145.74
10-20	433.42
20-30	702.43
30-40	950.43
40-50	1218.19
50-60	1550.24
60-70	1759.03
70-80	1380.04
80-90	651.95
90-100	279.70
100-110	150.68
110-120	92.73
120-130	51.44
130-140	21.99
140-150	8.11
150-160	1.74
160-170	0.27
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**

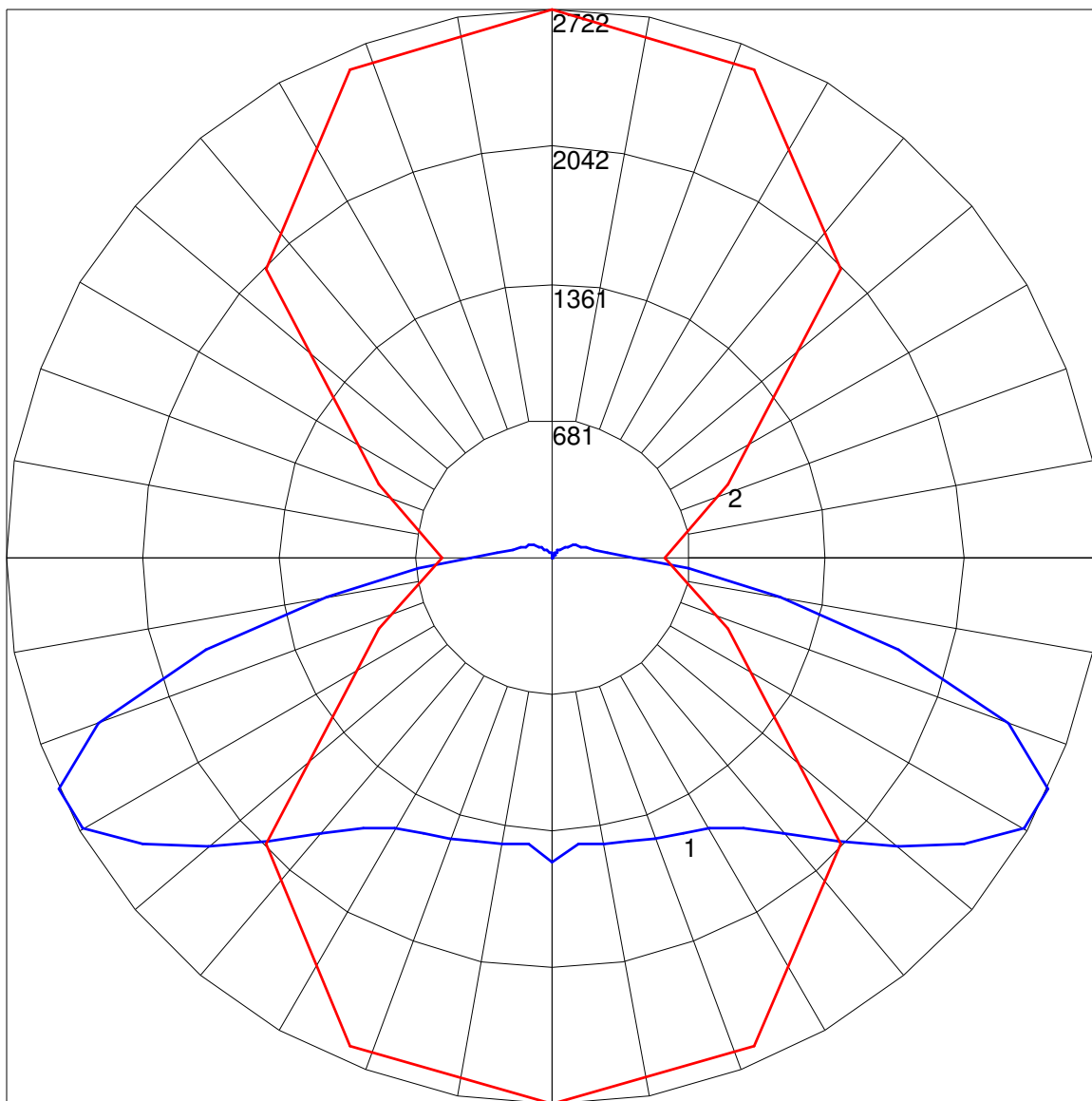
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	15.9	17.6	16.3	18.0	18.5	23.6	25.3	24.0	25.7	26.2
	3H	17.6	19.2	18.1	19.6	20.1	27.0	28.6	27.4	29.0	29.5
	4H	18.2	19.7	18.7	20.2	20.7	28.1	29.7	28.6	30.1	30.6
	6H	18.5	20.0	19.0	20.5	21.0	28.9	30.4	29.4	30.8	31.4
	8H	18.6	20.0	19.2	20.5	21.1	29.2	30.6	29.7	31.1	31.6
	12H	18.7	20.0	19.2	20.5	21.1	29.5	30.8	30.0	31.3	31.9
4H	2H	19.4	21.0	19.9	21.4	21.9	24.0	25.5	24.5	26.0	26.5
	3H	21.2	22.5	21.7	23.0	23.6	27.6	29.0	28.1	29.5	30.0
	4H	21.8	23.0	22.3	23.5	24.1	29.0	30.2	29.5	30.7	31.3
	6H	22.2	23.3	22.7	23.8	24.4	29.9	31.0	30.4	31.5	32.1
	8H	22.3	23.3	22.8	23.9	24.4	30.2	31.3	30.8	31.8	32.4
	12H	22.4	23.3	22.9	23.9	24.5	30.6	31.5	31.1	32.1	32.7
8H	4H	23.5	24.6	24.1	25.1	25.7	29.1	30.2	29.7	30.7	31.3
	6H	24.2	25.0	24.7	25.6	26.2	30.2	31.1	30.8	31.7	32.3
	8H	24.4	25.2	24.9	25.8	26.4	30.7	31.5	31.2	32.0	32.7
	12H	24.5	25.2	25.1	25.8	26.5	31.1	31.8	31.6	32.4	33.0
12H	4H	23.8	24.8	24.4	25.3	25.9	29.2	30.1	29.7	30.7	31.3
	6H	24.6	25.4	25.2	25.9	26.6	30.3	31.1	30.9	31.6	32.3
	8H	24.9	25.6	25.5	26.2	26.9	30.7	31.4	31.3	32.0	32.7

Maximum UGR = 33.0

POLAR GRAPH



Maximum Candela = 2722.398 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.)