



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 96-4-L62-830-HIAFR-DIM-UNV\_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TEST] GEN FROM BALLABS TEST NO. 19227.0  
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
[ISSUEDATE] 06-29-2022  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
[LUMINAIRE] 4' SUSPENDED ENCLOSED & GASKETED LUMINAIRE  
[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED DIFFUSER  
[LUMCAT] 96-4-L62-830-HIAFR-DIM-UNV  
[LAMPCAT] HLM 80 CRI 3000K CCT

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6177
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	48
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.23 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.18 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9308	7339	7146
55	7919	6245	6167
65	5804	5073	5476
75	3560	4277	4723
85	1312	3358	4029

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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>	2182.063	2182.063	2182.063	2182.063	2182.063
<b>5</b>	2201.195	2173.000	2158.903	2148.833	2145.813
<b>10</b>	2171.993	2136.750	2114.597	2106.541	2098.486
<b>15</b>	2117.618	2077.340	2044.110	2024.978	2013.902
<b>20</b>	2039.076	1997.791	1948.450	1908.172	1907.165
<b>25</b>	1946.436	1902.130	1829.630	1778.275	1762.164
<b>30</b>	1829.630	1773.241	1675.566	1660.462	1662.476
<b>35</b>	1685.636	1628.240	1535.600	1580.913	1605.080
<b>40</b>	1521.503	1469.141	1423.829	1474.176	1494.315
<b>45</b>	1348.307	1298.967	1306.015	1317.092	1345.287
<b>50</b>	1153.966	1106.639	1148.931	1168.063	1186.188
<b>55</b>	946.534	922.367	985.805	1024.069	1047.229
<b>60</b>	735.074	760.248	819.658	887.124	920.353
<b>65</b>	525.628	600.143	674.657	772.331	800.526
<b>70</b>	359.481	441.045	557.851	659.553	676.671
<b>75</b>	209.446	307.120	445.072	539.726	557.851
<b>80</b>	98.681	204.411	333.301	423.926	441.045
<b>85</b>	33.229	129.897	241.668	330.280	348.405
<b>90</b>	14.097	78.542	176.216	247.710	265.835
<b>95</b>	11.076	54.375	140.973	195.348	212.467
<b>100</b>	10.070	33.229	115.799	163.126	172.189
<b>105</b>	8.056	20.139	87.605	130.904	139.966
<b>110</b>	5.035	6.042	61.424	101.702	111.772
<b>115</b>	3.021	3.021	40.278	75.521	87.605
<b>120</b>	0.000	0.000	20.139	54.375	65.452
<b>125</b>	0.000	0.000	6.042	33.229	43.299
<b>130</b>	0.000	0.000	0.000	17.118	24.167
<b>135</b>	0.000	0.000	0.000	4.028	9.063
<b>140</b>	0.000	0.000	0.000	0.000	0.000
<b>145</b>	0.000	0.000	0.000	0.000	0.000
<b>150</b>	0.000	0.000	0.000	0.000	0.000
<b>155</b>	0.000	0.000	0.000	0.000	0.000
<b>160</b>	0.000	0.000	0.000	0.000	0.000
<b>165</b>	0.000	0.000	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	783.52	N.A.	12.70
0-30	1631.73	N.A.	26.40
0-40	2630.94	N.A.	42.60
0-60	4525.74	N.A.	73.30
0-80	5646.21	N.A.	91.40
0-90	5895.59	N.A.	95.40
10-90	5690.28	N.A.	92.10
20-40	1847.42	N.A.	29.90
20-50	2861.49	N.A.	46.30
40-70	2569.09	N.A.	41.60
60-80	1120.47	N.A.	18.10
70-80	446.18	N.A.	7.20
80-90	249.38	N.A.	4.00
90-110	223.09	N.A.	3.60
90-120	264.38	N.A.	4.30
90-130	279.00	N.A.	4.50
90-150	281.30	N.A.	4.60
90-180	281.30	N.A.	4.60
110-180	58.21	N.A.	0.90
0-180	6176.89	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	205.30
10-20	578.21
20-30	848.21
30-40	999.21
40-50	1014.07
50-60	880.73
60-70	674.29
70-80	446.18
80-90	249.38
90-100	139.90
100-110	83.19
110-120	41.29
120-130	14.62
130-140	2.30
140-150	0.00
150-160	0.00
160-170	0.00
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	115	115	115	115	109	109	109	103	103	103	98	98	98	95
1	107	102	97	93	104	99	95	91	94	90	87	89	86	84	85	83	81	78
2	97	89	81	76	94	86	80	74	82	77	72	78	73	70	74	71	67	65
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	78	67	59	53	64	57	51	61	55	50	59	53	49	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	47	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	43	38	48	42	38	36
7	64	50	42	36	62	49	41	35	47	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	36	31	42	35	31	40	35	30	28
9	56	42	34	29	54	42	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23

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**UGR TABLE - CORRECTED**

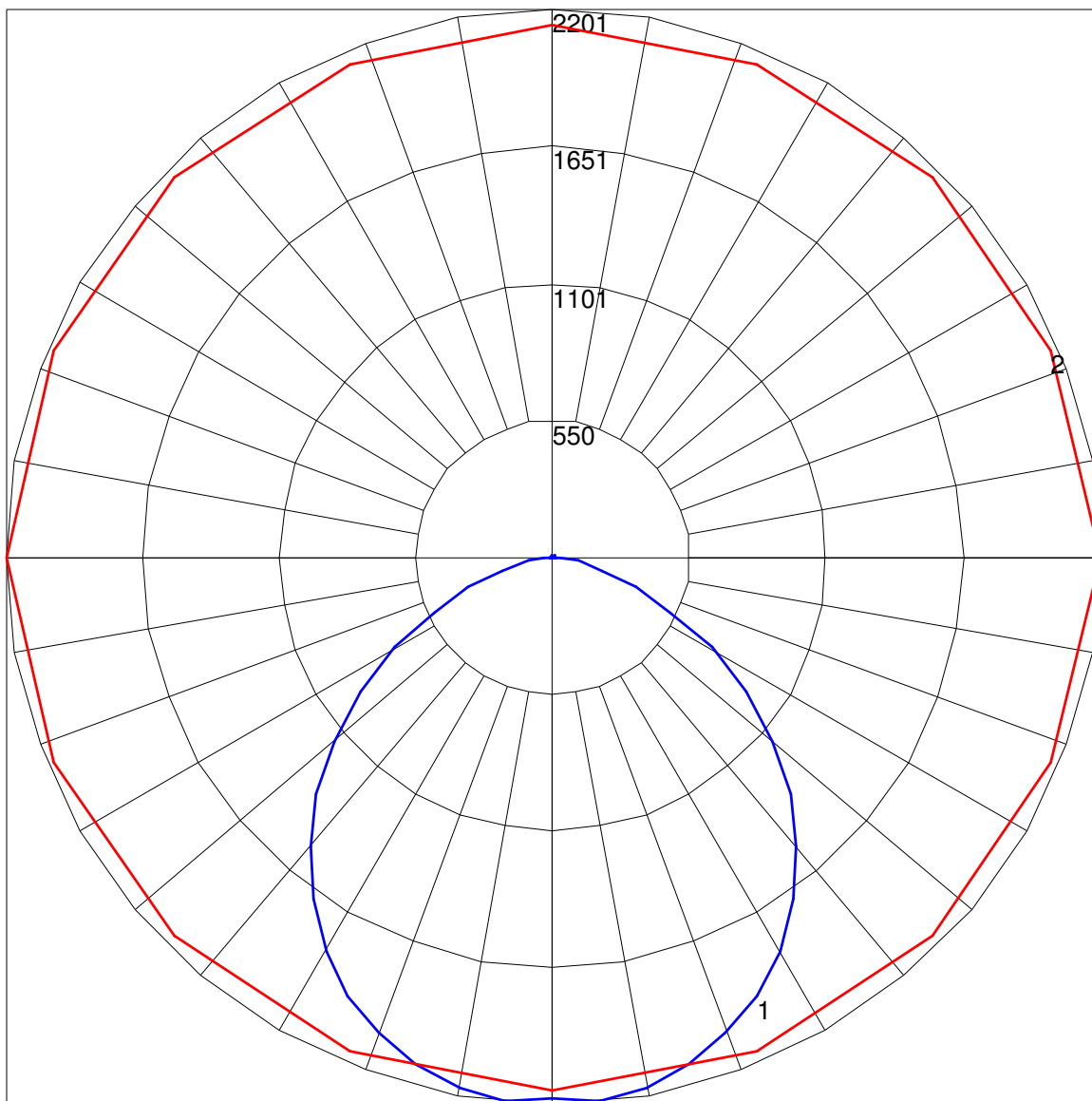
Reflectances

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	17.0	18.5	17.4	18.9	19.4	18.7	20.2	19.1	20.6	21.1
	3H	18.1	19.5	18.6	19.9	20.4	21.0	22.3	21.4	22.8	23.3
	4H	18.4	19.7	18.9	20.2	20.7	22.0	23.3	22.5	23.8	24.2
	6H	18.5	19.7	19.0	20.2	20.7	23.0	24.2	23.5	24.7	25.2
	8H	18.5	19.7	19.0	20.2	20.7	23.5	24.6	24.0	25.1	25.6
	12H	18.5	19.6	19.0	20.1	20.7	24.0	25.1	24.5	25.6	26.1
4H	2H	17.7	19.0	18.2	19.4	19.9	19.1	20.4	19.6	20.8	21.3
	3H	19.1	20.2	19.6	20.7	21.2	21.6	22.7	22.1	23.2	23.7
	4H	19.5	20.5	20.0	21.0	21.6	22.8	23.8	23.3	24.3	24.8
	6H	19.7	20.6	20.3	21.2	21.7	24.0	24.8	24.5	25.4	25.9
	8H	19.8	20.6	20.3	21.2	21.7	24.5	25.4	25.1	25.9	26.5
	12H	19.8	20.6	20.4	21.1	21.7	25.2	25.9	25.7	26.5	27.1
8H	4H	20.1	20.9	20.6	21.5	22.1	23.0	23.8	23.5	24.3	24.9
	6H	20.5	21.2	21.1	21.8	22.4	24.3	25.0	24.9	25.6	26.2
	8H	20.6	21.3	21.2	21.8	22.4	25.0	25.6	25.6	26.2	26.8
	12H	20.7	21.3	21.3	21.8	22.5	25.8	26.4	26.4	26.9	27.6
12H	4H	20.3	21.0	20.8	21.6	22.2	23.0	23.7	23.5	24.3	24.9
	6H	20.8	21.4	21.3	21.9	22.6	24.3	25.0	24.9	25.5	26.2
	8H	21.0	21.5	21.5	22.1	22.7	25.1	25.6	25.7	26.2	26.9

Maximum UGR = 27.6

POLAR GRAPH



Maximum Candela = 2201.195 Located At Horizontal Angle = 0, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)