



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L81-850-HIAFR-(L76)-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] 14-FEB-2024  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 4' SUSPENDED ENCLOSED & GASKETED LED LUMINAIRE  
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC LINEAR RIBBED DIFFUSER  
 [MORE] 0-10V DIMMING DRIVER  
 [LUMCAT] 96-4-L81-850-HIAFR-(L76)-DIM-UNV  
 [LAMPCAT] HLMX 80 CRI 5000K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7961
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	138
Total Luminaire Watts	57.8
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	11997	9459	9210
55	10207	8049	7949
65	7481	6539	7058
75	4588	5513	6087
85	1690	4328	5193

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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	2812.437	2812.437	2812.437	2812.437	2812.437
5	2837.096	2800.756	2782.586	2769.608	2765.714
10	2799.458	2754.033	2725.481	2715.098	2704.715
15	2729.374	2677.460	2634.631	2609.972	2595.696
20	2628.142	2574.930	2511.336	2459.422	2458.124
25	2508.740	2451.635	2358.190	2292.000	2271.234
30	2358.190	2285.510	2159.619	2140.151	2142.747
35	2172.598	2098.620	1979.218	2037.621	2068.770
40	1961.048	1893.560	1835.157	1900.049	1926.006
45	1737.818	1674.224	1683.309	1697.585	1733.925
50	1487.334	1426.335	1480.845	1505.504	1528.865
55	1219.977	1188.829	1270.593	1319.911	1349.762
60	947.429	979.875	1056.448	1143.404	1186.233
65	677.477	773.517	869.558	995.449	1031.789
70	463.332	568.457	719.008	850.090	872.154
75	269.952	395.844	573.649	695.647	719.008
80	127.189	263.463	429.588	546.394	568.457
85	42.829	167.422	311.484	425.694	449.055
90	18.170	101.232	227.123	319.271	342.632
95	14.276	70.084	181.699	251.783	273.846
100	12.978	42.829	149.253	210.251	221.932
105	10.383	25.957	112.913	168.720	180.401
110	6.489	7.787	79.169	131.083	144.061
115	3.894	3.894	51.914	97.339	112.913
120	0.000	0.000	25.957	70.084	84.360
125	0.000	0.000	7.787	42.829	55.807
130	0.000	0.000	0.000	22.063	31.148
135	0.000	0.000	0.000	5.191	11.681
140	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	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	1009.87	N.A.	12.70
0-30	2103.12	N.A.	26.40
0-40	3390.99	N.A.	42.60
0-60	5833.17	N.A.	73.30
0-80	7277.34	N.A.	91.40
0-90	7598.76	N.A.	95.40
10-90	7334.14	N.A.	92.10
20-40	2381.12	N.A.	29.90
20-50	3688.14	N.A.	46.30
40-70	3311.27	N.A.	41.60
60-80	1444.17	N.A.	18.10
70-80	575.08	N.A.	7.20
80-90	321.42	N.A.	4.00
90-110	287.54	N.A.	3.60
90-120	340.76	N.A.	4.30
90-130	359.60	N.A.	4.50
90-150	362.57	N.A.	4.60
90-180	362.57	N.A.	4.60
110-180	75.02	N.A.	0.90
0-180	7961.32	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	264.61
10-20	745.25
20-30	1093.25
30-40	1287.87
40-50	1307.02
50-60	1135.16
60-70	869.09
70-80	575.08
80-90	321.42
90-100	180.32
100-110	107.23
110-120	53.22
120-130	18.84
130-140	2.97
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	82	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

X=2H	Y=2H	17.9	19.4	18.3	19.8	20.3	19.6	21.1	20.0	21.5	22.0
	3H	19.0	20.4	19.5	20.8	21.3	21.9	23.2	22.3	23.7	24.2
	4H	19.3	20.6	19.8	21.1	21.6	22.9	24.2	23.4	24.7	25.1
	6H	19.4	20.6	19.9	21.1	21.6	23.9	25.1	24.4	25.6	26.1
	8H	19.4	20.6	19.9	21.1	21.6	24.4	25.5	24.9	26.0	26.5
	12H	19.4	20.5	19.9	21.0	21.6	24.9	26.0	25.4	26.5	27.0

### UGR Viewed Endwise

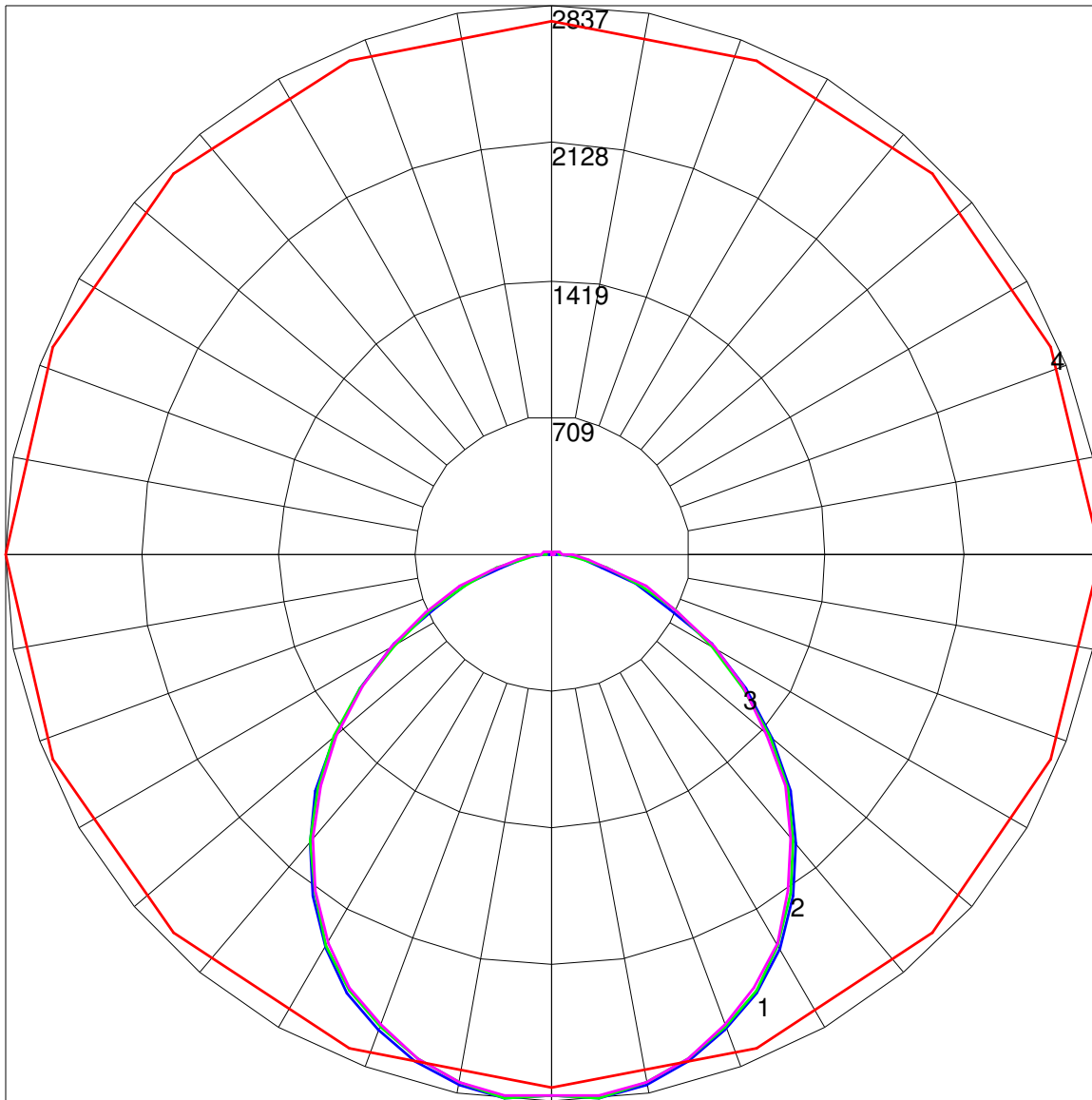
4H	2H	18.6	19.9	19.1	20.3	20.8	20.0	21.3	20.4	21.7	22.2
	3H	20.0	21.1	20.5	21.6	22.1	22.5	23.6	23.0	24.1	24.6
	4H	20.4	21.4	20.9	21.9	22.5	23.7	24.7	24.2	25.2	25.7
	6H	20.6	21.5	21.2	22.1	22.6	24.9	25.7	25.4	26.3	26.8
	8H	20.7	21.5	21.2	22.1	22.6	25.4	26.3	26.0	26.8	27.4
	12H	20.7	21.5	21.3	22.0	22.6	26.1	26.8	26.6	27.4	28.0

8H	4H	21.0	21.8	21.5	22.4	23.0	23.9	24.7	24.4	25.2	25.8
	6H	21.4	22.1	22.0	22.7	23.3	25.2	25.9	25.8	26.5	27.1
	8H	21.5	22.2	22.1	22.7	23.3	25.9	26.5	26.5	27.1	27.7
	12H	21.6	22.2	22.2	22.7	23.4	26.7	27.3	27.3	27.8	28.5

12H	4H	21.2	21.9	21.7	22.5	23.1	23.9	24.6	24.4	25.2	25.8
	6H	21.7	22.3	22.2	22.8	23.5	25.2	25.9	25.8	26.4	27.1
	8H	21.9	22.4	22.4	23.0	23.6	26.0	26.5	26.6	27.1	27.8

Maximum UGR = 28.5

POLAR GRAPH



Maximum Candela = 2837.096 Located At Horizontal Angle = 0, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Vertical Plane Through Horizontal Angles (5 - 185)  
# 3 - Vertical Plane Through Horizontal Angles (10 - 190)  
# 4 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)