



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L81-835-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] 27 DEC 2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 4' SUSPENDED ENCLOSED & GASKETED LUMINAIRE  
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED DIFFUSER  
 [MORE] 0-10V DIMMING DRIVER  
 [LUMCAT] 96-4-L81-835-HIAFR-(L76)-DIM-UNV  
 [LAMPCAT] HLMX 80 CRI 3500K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7505
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
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	11310	8917	8683
55	9622	7588	7494
65	7053	6164	6654
75	4325	5197	5738
85	1594	4080	4895

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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	2651.342	2651.342	2651.342	2651.342	2651.342
5	2674.588	2640.330	2623.201	2610.966	2607.296
10	2639.107	2596.284	2569.367	2559.579	2549.791
15	2573.037	2524.097	2483.721	2460.475	2447.016
20	2477.604	2427.440	2367.488	2318.548	2317.324
25	2365.041	2311.207	2223.114	2160.715	2141.139
30	2223.114	2154.598	2035.917	2017.565	2020.012
35	2048.152	1978.412	1865.850	1920.908	1950.272
40	1848.721	1785.098	1730.040	1791.216	1815.686
45	1638.277	1578.325	1586.890	1600.348	1634.607
50	1402.140	1344.635	1396.023	1419.269	1441.292
55	1150.098	1120.733	1197.814	1244.308	1272.448
60	893.161	923.749	995.936	1077.911	1118.286
65	638.671	729.211	819.750	938.431	972.689
70	436.792	535.897	677.823	801.398	822.197
75	254.490	373.170	540.791	655.800	677.823
80	119.904	248.372	404.981	515.097	535.897
85	40.376	157.833	293.642	401.311	423.334
90	17.129	95.434	214.114	300.983	323.006
95	13.459	66.069	171.291	237.361	258.160
100	12.235	40.376	140.703	198.208	209.220
105	9.788	24.470	106.445	159.056	170.068
110	6.118	7.341	74.634	123.574	135.809
115	3.671	3.671	48.940	91.763	106.445
120	0.000	0.000	24.470	66.069	79.528
125	0.000	0.000	7.341	40.376	52.611
130	0.000	0.000	0.000	20.800	29.364
135	0.000	0.000	0.000	4.894	11.012
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	952.02	N.A.	12.70
0-30	1982.65	N.A.	26.40
0-40	3196.75	N.A.	42.60
0-60	5499.05	N.A.	73.30
0-80	6860.5	N.A.	91.40
0-90	7163.5	N.A.	95.40
10-90	6914.05	N.A.	92.10
20-40	2244.73	N.A.	29.90
20-50	3476.89	N.A.	46.30
40-70	3121.6	N.A.	41.60
60-80	1361.44	N.A.	18.10
70-80	542.14	N.A.	7.20
80-90	303.01	N.A.	4.00
90-110	271.07	N.A.	3.60
90-120	321.24	N.A.	4.30
90-130	339.00	N.A.	4.50
90-150	341.80	N.A.	4.60
90-180	341.80	N.A.	4.60
110-180	70.73	N.A.	0.90
0-180	7505.3	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	249.46
10-20	702.56
20-30	1030.63
30-40	1214.1
40-50	1232.15
50-60	1070.14
60-70	819.31
70-80	542.14
80-90	303.01
90-100	169.99
100-110	101.09
110-120	50.17
120-130	17.76
130-140	2.80
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	17.7	19.2	18.1	19.6	20.1	19.4	20.9	19.8	21.3	21.8
	3H	18.8	20.2	19.3	20.6	21.1	21.7	23.0	22.1	23.5	24.0
	4H	19.1	20.4	19.6	20.9	21.4	22.7	24.0	23.2	24.5	24.9
	6H	19.2	20.4	19.7	20.9	21.4	23.7	24.9	24.2	25.4	25.9
	8H	19.2	20.4	19.7	20.9	21.4	24.2	25.3	24.7	25.8	26.3
	12H	19.2	20.3	19.7	20.8	21.4	24.7	25.8	25.2	26.3	26.8

### UGR Viewed Endwise

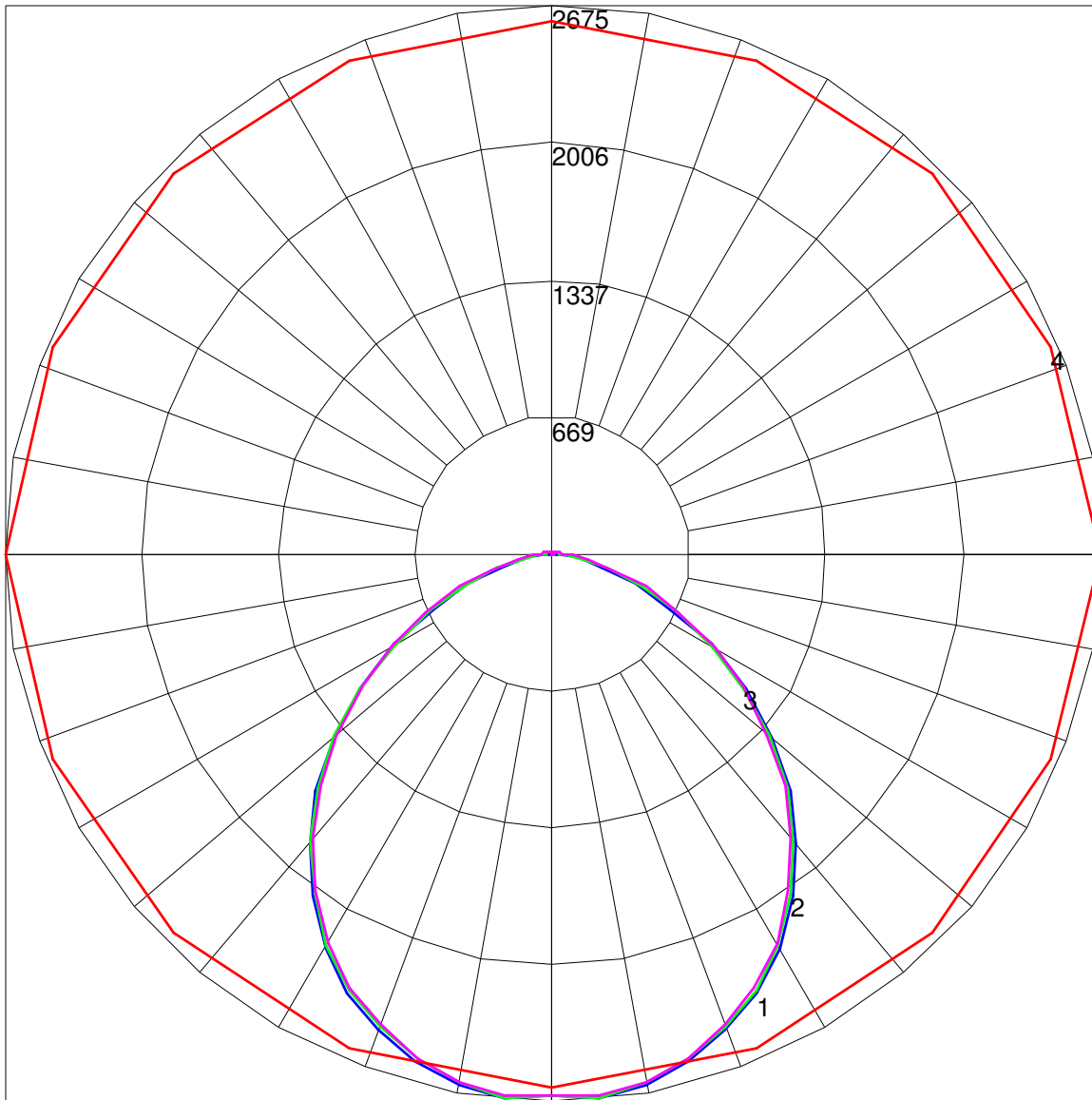
4H	2H	18.4	19.7	18.9	20.1	20.6	19.8	21.1	20.2	21.5	22.0
	3H	19.8	20.9	20.3	21.4	21.9	22.3	23.4	22.8	23.9	24.4
	4H	20.2	21.2	20.7	21.7	22.3	23.5	24.5	24.0	25.0	25.5
	6H	20.4	21.3	21.0	21.9	22.4	24.7	25.5	25.2	26.1	26.6
	8H	20.5	21.3	21.0	21.9	22.4	25.2	26.1	25.8	26.6	27.2
	12H	20.5	21.3	21.1	21.8	22.4	25.9	26.6	26.4	27.2	27.8

8H	4H	20.8	21.6	21.3	22.2	22.8	23.7	24.5	24.2	25.0	25.6
	6H	21.2	21.9	21.8	22.5	23.1	25.0	25.7	25.6	26.3	26.9
	8H	21.3	22.0	21.9	22.5	23.1	25.7	26.3	26.3	26.9	27.5
	12H	21.4	22.0	22.0	22.5	23.2	26.5	27.1	27.1	27.6	28.3

12H	4H	21.0	21.7	21.5	22.3	22.9	23.7	24.4	24.2	25.0	25.6
	6H	21.5	22.1	22.0	22.6	23.3	25.0	25.7	25.6	26.2	26.9
	8H	21.7	22.2	22.2	22.8	23.4	25.8	26.3	26.4	26.9	27.6

Maximum UGR = 28.3

POLAR GRAPH



Maximum Candela = 2674.588 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.)