



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-840-HIAFR-(L30)-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] 10-JAN-2024  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 4' ENCLOSED & GASKETED LED LUMINAIRE  
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED DIFFUSER  
 [MORE] 0-10V DIMMING DRIVER  
 [LUMCAT] 96-4-L40-840-HIAFR-(L30)-DIM-UNV  
 [LAMPCAT] HLM 80 CRI 4000K CCT LED ARRAYS

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3031
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	142
Total Luminaire Watts	21.3
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	4568	3601	3507
55	3886	3064	3026
65	2848	2490	2687
75	1747	2099	2317
85	644	1648	1977

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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	1070.782	1070.782	1070.782	1070.782	1070.782
5	1080.171	1066.335	1059.417	1054.476	1052.993
10	1065.841	1048.546	1037.675	1033.722	1029.769
15	1039.158	1019.392	1003.086	993.698	988.262
20	1000.615	980.356	956.144	936.378	935.884
25	955.155	933.414	897.836	872.636	864.729
30	897.836	870.165	822.234	814.822	815.810
35	827.175	799.010	753.550	775.786	787.645
40	746.632	720.937	698.701	723.408	733.291
45	661.642	637.429	640.888	646.323	660.159
50	566.274	543.050	563.804	573.192	582.086
55	464.483	452.624	483.754	502.531	513.896
60	360.716	373.069	402.223	435.329	451.636
65	257.936	294.502	331.068	378.999	392.834
70	176.405	216.429	273.749	323.656	332.056
75	102.779	150.710	218.406	264.854	273.749
80	48.425	100.309	163.557	208.029	216.429
85	16.306	63.743	118.591	162.075	170.969
90	6.918	38.542	86.473	121.556	130.451
95	5.435	26.683	69.178	95.861	104.262
100	4.941	16.306	56.825	80.049	84.496
105	3.953	9.883	42.989	64.237	68.684
110	2.471	2.965	30.142	49.907	54.849
115	1.482	1.482	19.765	37.060	42.989
120	0.000	0.000	9.883	26.683	32.119
125	0.000	0.000	2.965	16.306	21.248
130	0.000	0.000	0.000	8.400	11.859
135	0.000	0.000	0.000	1.977	4.447
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	384.49	N.A.	12.70
0-30	800.72	N.A.	26.40
0-40	1291.05	N.A.	42.60
0-60	2220.87	N.A.	73.30
0-80	2770.71	N.A.	91.40
0-90	2893.08	N.A.	95.40
10-90	2792.34	N.A.	92.10
20-40	906.57	N.A.	29.90
20-50	1404.19	N.A.	46.30
40-70	1260.7	N.A.	41.60
60-80	549.84	N.A.	18.10
70-80	218.95	N.A.	7.20
80-90	122.37	N.A.	4.00
90-110	109.48	N.A.	3.60
90-120	129.74	N.A.	4.30
90-130	136.91	N.A.	4.50
90-150	138.04	N.A.	4.60
90-180	138.04	N.A.	4.60
110-180	28.56	N.A.	0.90
0-180	3031.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	100.75
10-20	283.74
20-30	416.24
30-40	490.33
40-50	497.62
50-60	432.19
60-70	330.89
70-80	218.95
80-90	122.37
90-100	68.65
100-110	40.82
110-120	20.26
120-130	7.17
130-140	1.13
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

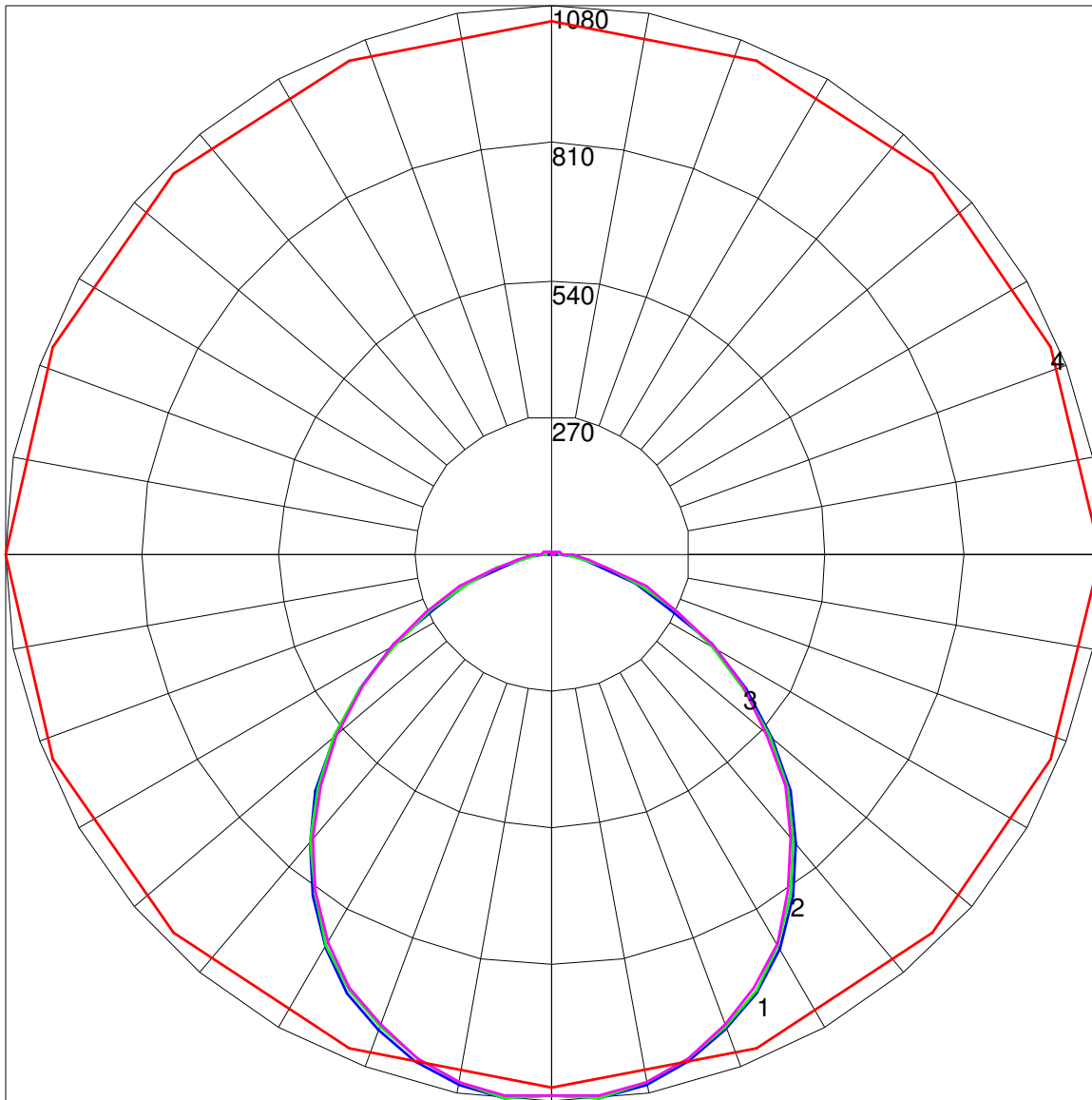
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**UGR TABLE - CORRECTED**

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					UGR Viewed Endwise				
X=2H	Y=2H	14.6	16.1	15.0	16.5	17.0	16.3	17.8	16.7	18.2	18.7
	3H	15.7	17.1	16.2	17.5	18.0	18.6	19.9	19.0	20.4	20.9
	4H	16.0	17.3	16.5	17.8	18.3	19.6	20.9	20.1	21.4	21.8
	6H	16.1	17.3	16.6	17.8	18.3	20.6	21.8	21.1	22.3	22.8
	8H	16.1	17.3	16.6	17.8	18.3	21.1	22.2	21.6	22.7	23.2
	12H	16.1	17.2	16.6	17.7	18.3	21.6	22.7	22.1	23.2	23.7
4H	2H	15.3	16.6	15.8	17.0	17.5	16.7	18.0	17.1	18.4	18.9
	3H	16.7	17.8	17.2	18.3	18.8	19.2	20.3	19.7	20.8	21.3
	4H	17.1	18.1	17.6	18.6	19.2	20.4	21.4	20.9	21.9	22.4
	6H	17.3	18.2	17.9	18.8	19.3	21.6	22.4	22.1	23.0	23.5
	8H	17.4	18.2	17.9	18.8	19.3	22.1	23.0	22.7	23.5	24.1
	12H	17.4	18.2	18.0	18.7	19.3	22.8	23.5	23.3	24.1	24.7
8H	4H	17.7	18.5	18.2	19.1	19.7	20.6	21.4	21.1	21.9	22.5
	6H	18.1	18.8	18.7	19.4	20.0	21.9	22.6	22.5	23.2	23.8
	8H	18.2	18.9	18.8	19.4	20.0	22.6	23.2	23.2	23.8	24.4
	12H	18.3	18.9	18.9	19.4	20.1	23.4	24.0	24.0	24.5	25.2
12H	4H	17.9	18.6	18.4	19.2	19.8	20.6	21.3	21.1	21.9	22.5
	6H	18.4	19.0	18.9	19.5	20.2	21.9	22.6	22.5	23.1	23.8
	8H	18.6	19.1	19.1	19.7	20.3	22.7	23.2	23.3	23.8	24.5

Maximum UGR = 25.2

POLAR GRAPH



Maximum Candela = 1080.171 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.)