



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 97-4-L50-840-A-DRV-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18138.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 23-MARCH-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMINAIRE] 4' SUSPENDED LED ENCLOSED/GASKETED LUMINAIRE

[MORE] RAW ALUM A-SHAPED HEATSINK w/BTM SPEC REFL & CLEAR ACRYLIC

[MORE] DROP LENS

[LUMCAT] 97-4-L50-840-A-DRV-UNV

[LAMPCAT] HLM 80 CRI 4000K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5118
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	146
Total Luminaire Watts	35
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.36
Spacing Criterion (90-270)	5.24
Spacing Criterion (Diagonal)	4.38
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.52 ft
Luminous Height	0.30 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	493	5290	5697
55	526	5593	6084
65	599	6077	6370
75	756	5140	5431
85	1074	5181	6076

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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	101.031	101.031	101.031	101.031	101.031
5	106.567	107.951	110.719	107.259	106.567
10	103.799	109.335	103.107	103.107	103.799
15	107.259	107.259	113.487	422.809	490.625
20	89.267	89.267	453.949	855.999	879.527
25	91.343	93.419	772.267	1029.690	1016.542
30	86.499	245.658	1018.618	1000.626	1093.353
35	89.267	415.197	929.350	1165.321	1228.292
40	80.963	660.856	1011.698	1206.840	1277.424
45	76.120	842.159	1116.881	1269.120	1302.336
50	74.044	715.524	1142.485	1374.995	1422.743
55	67.816	665.008	1087.817	1200.613	1306.488
60	64.356	665.008	1049.757	1249.744	1295.416
65	59.512	770.191	1044.913	1219.296	1237.980
70	55.360	660.856	963.950	1052.525	1076.053
75	50.516	507.233	741.127	867.071	912.742
80	42.212	389.594	638.712	808.251	860.151
85	34.600	285.794	580.584	762.579	830.395
90	22.836	206.907	480.245	658.088	712.756
95	4.152	69.200	399.974	597.192	665.700
100	0.000	25.604	110.719	467.097	530.069
105	0.000	34.600	38.752	78.888	110.027
110	0.000	19.376	31.832	46.364	55.360
115	0.000	10.380	35.984	38.752	44.980
120	0.000	8.304	27.680	36.676	35.292
125	0.000	0.000	17.300	38.060	43.596
130	0.000	0.000	14.532	26.988	31.832
135	0.000	0.000	14.532	17.300	20.068
140	0.000	0.000	11.764	15.224	15.916
145	0.000	0.000	0.000	15.224	17.300
150	0.000	0.000	0.000	12.456	13.148
155	0.000	0.000	0.000	11.764	11.764
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	88.54	N.A.	1.70
0-30	369.96	N.A.	7.20
0-40	872.31	N.A.	17.00
0-60	2452.68	N.A.	47.90
0-80	4044.84	N.A.	79.00
0-90	4598.66	N.A.	89.90
10-90	4588.54	N.A.	89.70
20-40	783.77	N.A.	15.30
20-50	1528.84	N.A.	29.90
40-70	2464.14	N.A.	48.10
60-80	1592.16	N.A.	31.10
70-80	708.39	N.A.	13.80
80-90	553.82	N.A.	10.80
90-110	461.05	N.A.	9.00
90-120	487.82	N.A.	9.50
90-130	504.82	N.A.	9.90
90-150	517.42	N.A.	10.10
90-180	519.04	N.A.	10.10
110-180	57.99	N.A.	1.10
0-180	5117.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	10.12
10-20	78.42
20-30	281.42
30-40	502.35
40-50	745.08
50-60	835.29
60-70	883.77
70-80	708.39
80-90	553.82
90-100	367.37
100-110	93.69
110-120	26.77
120-130	16.99
130-140	8.57
140-150	4.03
150-160	1.62
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	117	117	117	117	113	113	113	113	105	105	105	99	99	99	93	93	93	90
1	101	93	87	81	97	90	84	79	84	79	74	78	74	70	72	69	66	63
2	89	77	68	60	85	74	66	59	69	62	56	64	58	53	59	54	50	47
3	79	65	55	46	75	63	53	45	58	50	43	54	47	41	50	44	39	36
4	71	56	45	37	67	54	44	36	50	41	34	46	39	32	42	36	31	28
5	64	48	38	30	61	47	37	29	43	34	28	40	32	26	37	30	25	22
6	58	43	32	24	55	41	31	24	38	29	23	35	28	22	33	26	21	18
7	53	38	28	21	51	36	27	20	34	25	19	31	24	18	29	22	17	15
8	49	34	24	17	47	33	23	17	30	22	16	28	21	16	26	20	15	12
9	46	30	21	15	44	29	21	15	27	20	14	26	18	13	24	17	13	11
10	42	28	19	13	41	27	18	13	25	17	12	23	16	12	22	16	11	9

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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	13.5	15.2	14.0	15.7	16.3	20.2	21.9	20.7	22.4	22.9
	3H	15.2	16.7	15.7	17.2	17.8	23.2	24.7	23.7	25.3	25.8
	4H	15.5	17.0	16.0	17.6	18.2	24.4	25.9	24.9	26.4	27.0
	6H	15.7	17.1	16.3	17.7	18.3	25.8	27.2	26.3	27.8	28.4
	8H	15.8	17.1	16.3	17.7	18.3	26.6	27.9	27.1	28.5	29.1
	12H	15.8	17.1	16.4	17.7	18.3	27.5	28.8	28.0	29.3	30.0

UGR Viewed Endwise

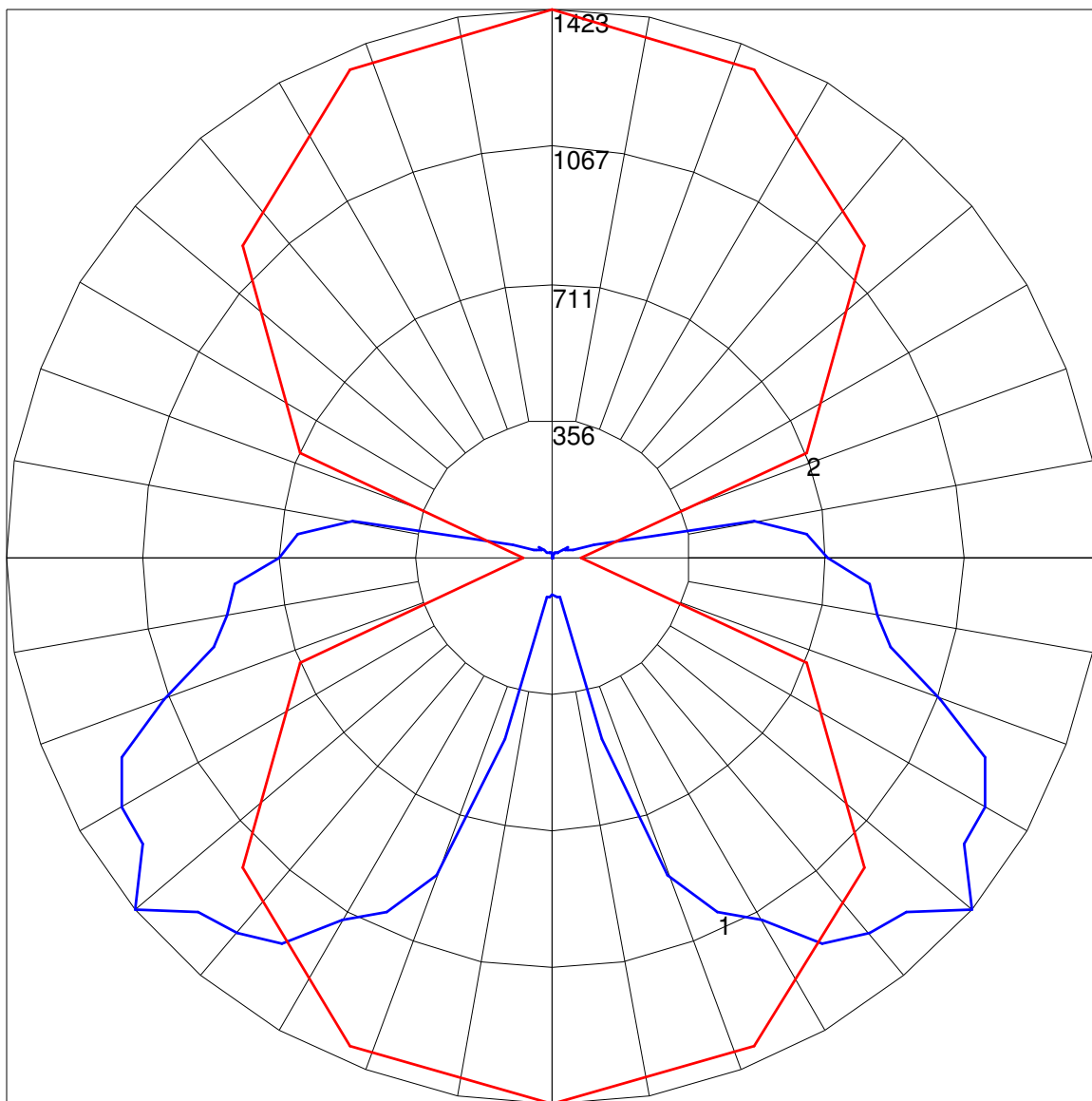
4H	2H	16.6	18.1	17.1	18.7	19.3	20.7	22.2	21.2	22.7	23.3
	3H	18.6	19.9	19.2	20.5	21.1	23.9	25.2	24.4	25.7	26.4
	4H	19.3	20.5	19.8	21.0	21.7	25.2	26.5	25.8	27.0	27.7
	6H	19.6	20.7	20.2	21.3	22.0	26.8	27.9	27.4	28.5	29.2
	8H	19.7	20.7	20.3	21.3	22.0	27.7	28.7	28.3	29.4	30.0
	12H	19.8	20.7	20.4	21.3	22.0	28.7	29.7	29.3	30.3	31.0

8H	4H	20.7	21.7	21.3	22.3	23.0	25.5	26.5	26.1	27.1	27.8
	6H	21.4	22.3	22.0	22.9	23.6	27.2	28.1	27.8	28.8	29.4
	8H	21.6	22.4	22.3	23.1	23.8	28.3	29.1	28.9	29.7	30.4
	12H	21.8	22.5	22.4	23.2	23.9	29.5	30.2	30.1	30.9	31.6

12H	4H	21.1	22.0	21.7	22.6	23.3	25.5	26.4	26.1	27.1	27.7
	6H	22.0	22.8	22.6	23.4	24.1	27.3	28.1	27.9	28.7	29.5
	8H	22.3	23.1	23.0	23.7	24.5	28.4	29.1	29.0	29.8	30.5

Maximum UGR = 31.6

POLAR GRAPH



Maximum Candela = 1422.743 Located At Horizontal Angle = 90, Vertical Angle = 50  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (50) (Through Max. Cd.)