



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-840-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] 08-13--2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO.64836

[LUMINAIRE] 4' SUSPENDED ENCLOSED & GASKETED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED DIFFUSER

[LUMCAT] 96-4-L62-840-HIAFR-DIM-UNV

[LAMPCAT] HLM 80 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6272
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	136
Total Luminaire Watts	46
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	9452	7452	7256
55	8042	6341	6263
65	5894	5152	5561
75	3615	4343	4795
85	1332	3410	4091

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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	2215.753	2215.753	2215.753	2215.753	2215.753
5	2235.181	2206.551	2192.236	2182.011	2178.943
10	2205.528	2169.741	2147.246	2139.066	2130.886
15	2150.313	2109.413	2075.671	2056.244	2044.996
20	2070.558	2028.636	1978.534	1937.634	1936.611
25	1976.489	1931.499	1857.879	1805.731	1789.372
30	1857.879	1800.619	1701.437	1686.099	1688.144
35	1711.662	1653.379	1559.309	1605.322	1629.862
40	1544.994	1491.825	1445.812	1496.937	1517.387
45	1369.125	1319.022	1326.180	1337.427	1366.057
50	1171.783	1123.725	1166.670	1186.098	1204.503
55	961.148	936.608	1001.026	1039.880	1063.398
60	746.424	771.986	832.313	900.821	934.563
65	533.744	609.409	685.074	784.256	812.886
70	365.032	447.854	566.464	669.736	687.119
75	212.680	311.862	451.944	548.059	566.464
80	100.205	207.567	338.447	430.472	447.854
85	33.742	131.902	245.400	335.379	353.784
90	14.315	79.755	178.937	251.535	269.939
95	11.247	55.215	143.150	198.365	215.747
100	10.225	33.742	117.587	165.645	174.847
105	8.180	20.450	88.957	132.925	142.127
110	5.112	6.135	62.372	103.272	113.497
115	3.067	3.067	40.900	76.687	88.957
120	0.000	0.000	20.450	55.215	66.462
125	0.000	0.000	6.135	33.742	43.967
130	0.000	0.000	0.000	17.382	24.540
135	0.000	0.000	0.000	4.090	9.202
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	795.61	N.A.	12.70
0-30	1656.92	N.A.	26.40
0-40	2671.56	N.A.	42.60
0-60	4595.61	N.A.	73.30
0-80	5733.39	N.A.	91.40
0-90	5986.61	N.A.	95.40
10-90	5778.14	N.A.	92.10
20-40	1875.95	N.A.	29.90
20-50	2905.67	N.A.	46.30
40-70	2608.76	N.A.	41.60
60-80	1137.77	N.A.	18.10
70-80	453.07	N.A.	7.20
80-90	253.23	N.A.	4.00
90-110	226.54	N.A.	3.60
90-120	268.46	N.A.	4.30
90-130	283.30	N.A.	4.50
90-150	285.64	N.A.	4.60
90-180	285.64	N.A.	4.60
110-180	59.11	N.A.	0.90
0-180	6272.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	208.47
10-20	587.14
20-30	861.31
30-40	1014.64
40-50	1029.72
50-60	894.33
60-70	684.70
70-80	453.07
80-90	253.23
90-100	142.06
100-110	84.48
110-120	41.93
120-130	14.84
130-140	2.34
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

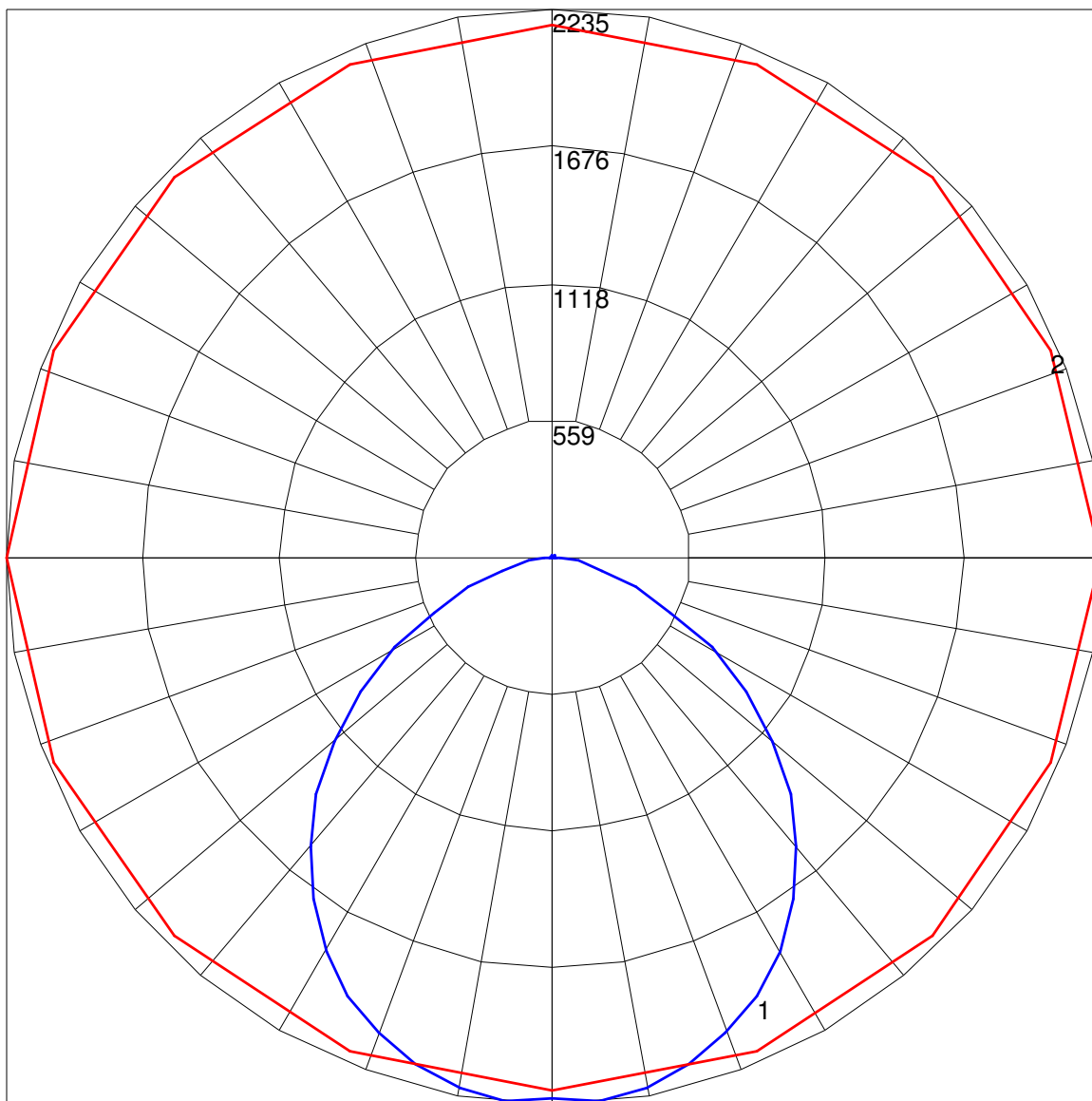
Reflectances

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	17.1	18.6	17.5	19.0	19.5	18.8	20.3	19.2	20.7	21.2
	3H	18.2	19.6	18.7	20.0	20.5	21.1	22.4	21.5	22.9	23.4
	4H	18.5	19.8	19.0	20.3	20.8	22.1	23.4	22.6	23.9	24.3
	6H	18.6	19.8	19.1	20.3	20.8	23.1	24.3	23.6	24.8	25.3
	8H	18.6	19.8	19.1	20.3	20.8	23.6	24.7	24.1	25.2	25.7
	12H	18.6	19.7	19.1	20.2	20.8	24.1	25.2	24.6	25.7	26.2
4H	2H	17.8	19.1	18.3	19.5	20.0	19.2	20.5	19.6	20.9	21.4
	3H	19.2	20.3	19.7	20.8	21.3	21.7	22.8	22.2	23.3	23.8
	4H	19.6	20.6	20.1	21.1	21.7	22.9	23.9	23.4	24.4	24.9
	6H	19.8	20.7	20.4	21.3	21.8	24.1	24.9	24.6	25.5	26.0
	8H	19.9	20.7	20.4	21.3	21.8	24.6	25.5	25.2	26.0	26.6
	12H	19.9	20.7	20.5	21.2	21.8	25.3	26.0	25.8	26.6	27.2
8H	4H	20.2	21.0	20.7	21.6	22.2	23.1	23.9	23.6	24.4	25.0
	6H	20.6	21.3	21.2	21.9	22.5	24.4	25.1	25.0	25.7	26.3
	8H	20.7	21.4	21.3	21.9	22.5	25.1	25.7	25.7	26.3	26.9
	12H	20.8	21.4	21.4	21.9	22.6	25.9	26.5	26.5	27.0	27.7
12H	4H	20.4	21.1	20.9	21.7	22.3	23.1	23.8	23.6	24.4	25.0
	6H	20.9	21.5	21.4	22.0	22.7	24.4	25.1	25.0	25.6	26.3
	8H	21.1	21.6	21.6	22.2	22.8	25.2	25.7	25.8	26.3	27.0

Maximum UGR = 27.7

POLAR GRAPH



Maximum Candela = 2235.181 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.)