



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-835-HIAFR-(L50)-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] 15-DEC-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4'SUSPENDED ENCLOSED & GASKETED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC LINEAR RIBBED DIFFUSER

[LUMCAT] 96-4-L62-835-HIAFR-(L50)-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4906
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	133
Total Luminaire Watts	37
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	7393	5829	5676
55	6290	4960	4899
65	4610	4030	4350
75	2827	3397	3751
85	1042	2667	3200

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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	1733.176	1733.176	1733.176	1733.176	1733.176
5	1748.372	1725.978	1714.781	1706.783	1704.383
10	1725.178	1697.185	1679.589	1673.191	1666.792
15	1681.989	1649.996	1623.603	1608.407	1599.609
20	1619.604	1586.812	1547.621	1515.629	1514.830
25	1546.022	1510.830	1453.245	1412.455	1399.658
30	1453.245	1408.456	1330.875	1318.877	1320.477
35	1338.873	1293.284	1219.702	1255.693	1274.888
40	1208.504	1166.915	1130.923	1170.914	1186.910
45	1070.938	1031.748	1037.346	1046.144	1068.539
50	916.576	878.985	912.577	927.773	942.170
55	751.816	732.621	783.008	813.401	831.797
60	583.857	603.852	651.041	704.628	731.021
65	417.498	476.683	535.869	613.450	635.844
70	285.530	350.314	443.092	523.872	537.469
75	166.359	243.940	353.514	428.695	443.092
80	78.381	162.360	264.735	336.718	350.314
85	26.394	103.175	191.953	262.336	276.732
90	11.197	62.385	139.966	196.752	211.148
95	8.798	43.189	111.973	155.162	168.759
100	7.998	26.394	91.978	129.568	136.767
105	6.398	15.996	69.583	103.975	111.173
110	3.999	4.799	48.788	80.780	88.778
115	2.399	2.399	31.992	59.985	69.583
120	0.000	0.000	15.996	43.189	51.987
125	0.000	0.000	4.799	26.394	34.392
130	0.000	0.000	0.000	13.597	19.195
135	0.000	0.000	0.000	3.199	7.198
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	622.33	N.A.	12.70
0-30	1296.06	N.A.	26.40
0-40	2089.71	N.A.	42.60
0-60	3594.72	N.A.	73.30
0-80	4484.69	N.A.	91.40
0-90	4682.77	N.A.	95.40
10-90	4519.7	N.A.	92.10
20-40	1467.38	N.A.	29.90
20-50	2272.83	N.A.	46.30
40-70	2040.59	N.A.	41.60
60-80	889.97	N.A.	18.10
70-80	354.39	N.A.	7.20
80-90	198.08	N.A.	4.00
90-110	177.20	N.A.	3.60
90-120	209.99	N.A.	4.30
90-130	221.60	N.A.	4.50
90-150	223.43	N.A.	4.60
90-180	223.43	N.A.	4.60
110-180	46.23	N.A.	0.90
0-180	4906.2	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	163.07
10-20	459.26
20-30	673.72
30-40	793.65
40-50	805.46
50-60	699.55
60-70	535.58
70-80	354.39
80-90	198.08
90-100	111.12
100-110	66.08
110-120	32.79
120-130	11.61
130-140	1.83
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

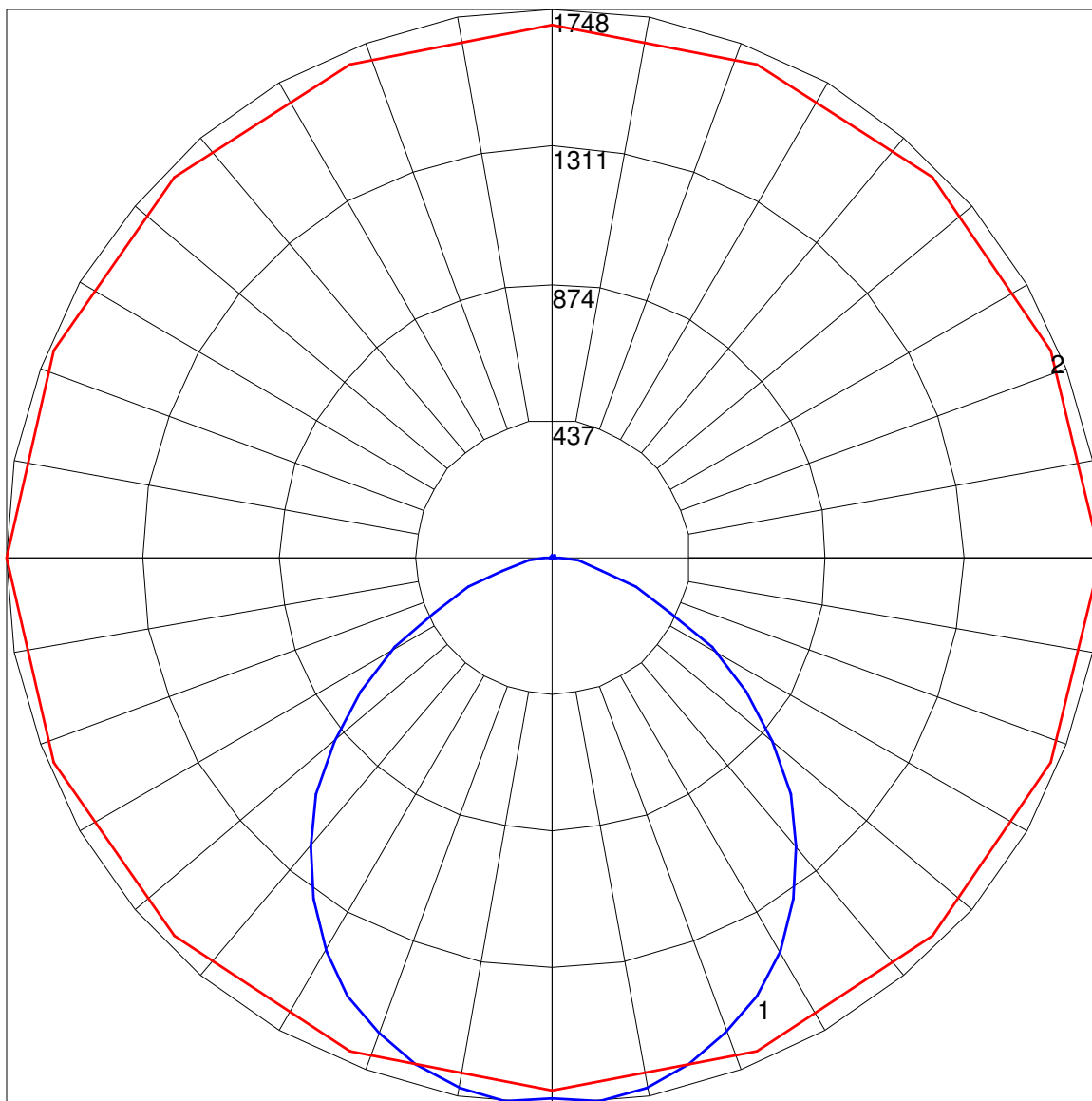
Reflectances

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	16.2	17.7	16.6	18.1	18.6	17.9	19.4	18.3	19.8	20.3
	3H	17.3	18.7	17.8	19.1	19.6	20.2	21.5	20.6	22.0	22.5
	4H	17.6	18.9	18.1	19.4	19.9	21.2	22.5	21.7	23.0	23.4
	6H	17.7	18.9	18.2	19.4	19.9	22.2	23.4	22.7	23.9	24.4
	8H	17.7	18.9	18.2	19.4	19.9	22.7	23.8	23.2	24.3	24.8
	12H	17.7	18.8	18.2	19.3	19.9	23.2	24.3	23.7	24.8	25.3
4H	2H	16.9	18.2	17.4	18.6	19.1	18.3	19.6	18.7	20.0	20.5
	3H	18.3	19.4	18.8	19.9	20.4	20.8	21.9	21.3	22.4	22.9
	4H	18.7	19.7	19.2	20.2	20.8	22.0	23.0	22.5	23.5	24.0
	6H	18.9	19.8	19.5	20.4	20.9	23.2	24.0	23.7	24.6	25.1
	8H	19.0	19.8	19.5	20.4	20.9	23.7	24.6	24.3	25.1	25.7
	12H	19.0	19.8	19.6	20.3	20.9	24.4	25.1	24.9	25.7	26.3
8H	4H	19.3	20.1	19.8	20.7	21.3	22.2	23.0	22.7	23.5	24.1
	6H	19.7	20.4	20.3	21.0	21.6	23.5	24.2	24.1	24.8	25.4
	8H	19.8	20.5	20.4	21.0	21.6	24.2	24.8	24.8	25.4	26.0
	12H	19.9	20.5	20.5	21.0	21.7	25.0	25.6	25.6	26.1	26.8
12H	4H	19.5	20.2	20.0	20.8	21.4	22.2	22.9	22.7	23.5	24.1
	6H	20.0	20.6	20.5	21.1	21.8	23.5	24.2	24.1	24.7	25.4
	8H	20.2	20.7	20.7	21.3	21.9	24.3	24.8	24.9	25.4	26.1

Maximum UGR = 26.8

POLAR GRAPH



Maximum Candela = 1748.372 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.)