



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-835-HIAFR-(L53)-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

[ISSUE DATE] 10-15-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4' SUSPENDED ENCLOSED & GASKETED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED DIFFUSER

[LUMCAT] 96-4-L62-835-HIAFR-(L53)-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5196
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	57.7
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	7830	6174	6012
55	6662	5253	5188
65	4883	4268	4607
75	2994	3598	3973
85	1103	2825	3389

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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	1835.626	1835.626	1835.626	1835.626	1835.626
5	1851.721	1828.002	1816.143	1807.673	1805.131
10	1827.155	1797.508	1778.872	1772.095	1765.318
15	1781.413	1747.530	1719.576	1703.481	1694.164
20	1715.341	1680.610	1639.103	1605.220	1604.373
25	1637.409	1600.137	1539.148	1495.946	1482.393
30	1539.148	1491.711	1409.544	1396.838	1398.532
35	1418.015	1369.731	1291.800	1329.918	1350.248
40	1279.941	1235.892	1197.774	1240.128	1257.069
45	1134.243	1092.735	1098.665	1107.983	1131.701
50	970.756	930.943	966.520	982.615	997.862
55	796.257	775.927	829.293	861.482	880.965
60	618.370	639.547	689.525	746.279	774.233
65	442.177	504.861	567.545	649.712	673.430
70	302.408	371.022	469.283	554.839	569.239
75	176.193	258.360	374.410	454.036	469.283
80	83.014	171.958	280.384	356.621	371.022
85	27.954	109.274	203.300	277.843	293.090
90	11.859	66.072	148.239	208.382	223.630
95	9.318	45.742	118.591	164.334	178.734
100	8.471	27.954	97.414	137.227	144.851
105	6.777	16.942	73.696	110.121	117.744
110	4.235	5.082	51.672	85.555	94.026
115	2.541	2.541	33.883	63.531	73.696
120	0.000	0.000	16.942	45.742	55.060
125	0.000	0.000	5.082	27.954	36.425
130	0.000	0.000	0.000	14.400	20.330
135	0.000	0.000	0.000	3.388	7.624
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	659.12	N.A.	12.70
0-30	1372.67	N.A.	26.40
0-40	2213.24	N.A.	42.60
0-60	3807.21	N.A.	73.30
0-80	4749.79	N.A.	91.40
0-90	4959.57	N.A.	95.40
10-90	4786.86	N.A.	92.10
20-40	1554.12	N.A.	29.90
20-50	2407.18	N.A.	46.30
40-70	2161.21	N.A.	41.60
60-80	942.58	N.A.	18.10
70-80	375.34	N.A.	7.20
80-90	209.78	N.A.	4.00
90-110	187.67	N.A.	3.60
90-120	222.41	N.A.	4.30
90-130	234.70	N.A.	4.50
90-150	236.64	N.A.	4.60
90-180	236.64	N.A.	4.60
110-180	48.97	N.A.	0.90
0-180	5196.21	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	172.71
10-20	486.41
20-30	713.55
30-40	840.57
40-50	853.07
50-60	740.90
60-70	567.24
70-80	375.34
80-90	209.78
90-100	117.69
100-110	69.99
110-120	34.73
120-130	12.30
130-140	1.94
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

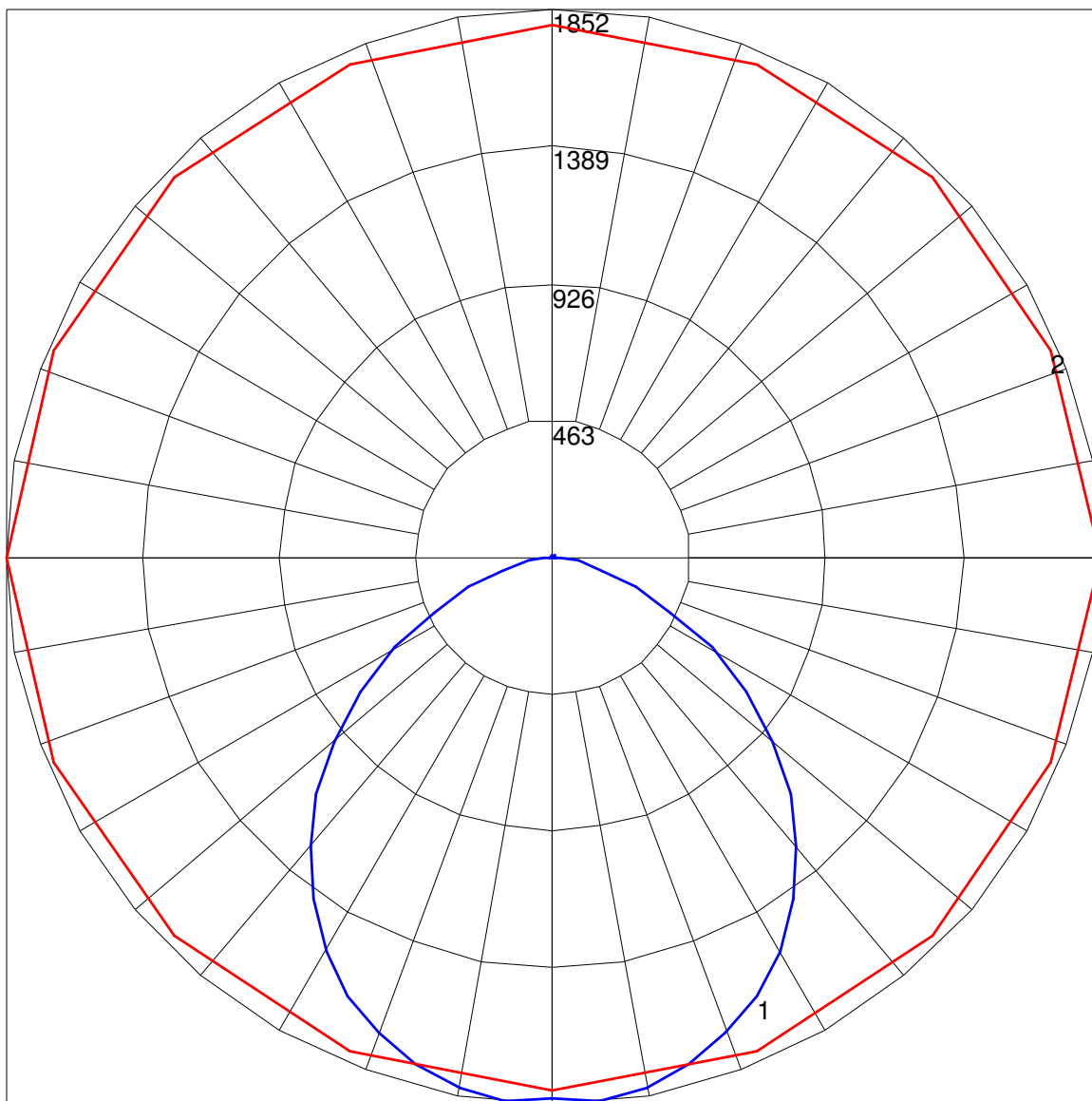
Reflectances

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	16.4	17.9	16.8	18.3	18.8	18.1	19.6	18.5	20.0	20.5
	3H	17.5	18.9	18.0	19.3	19.8	20.4	21.7	20.8	22.2	22.7
	4H	17.8	19.1	18.3	19.6	20.1	21.4	22.7	21.9	23.2	23.6
	6H	17.9	19.1	18.4	19.6	20.1	22.4	23.6	22.9	24.1	24.6
	8H	17.9	19.1	18.4	19.6	20.1	22.9	24.0	23.4	24.5	25.0
	12H	17.9	19.0	18.4	19.5	20.1	23.4	24.5	23.9	25.0	25.5
4H	2H	17.1	18.4	17.6	18.8	19.3	18.5	19.8	18.9	20.2	20.7
	3H	18.5	19.6	19.0	20.1	20.6	21.0	22.1	21.5	22.6	23.1
	4H	18.9	19.9	19.4	20.4	21.0	22.2	23.2	22.7	23.7	24.2
	6H	19.1	20.0	19.7	20.6	21.1	23.4	24.2	23.9	24.8	25.3
	8H	19.2	20.0	19.7	20.6	21.1	23.9	24.8	24.5	25.3	25.9
	12H	19.2	20.0	19.8	20.5	21.1	24.6	25.3	25.1	25.9	26.5
8H	4H	19.5	20.3	20.0	20.9	21.5	22.4	23.2	22.9	23.7	24.3
	6H	19.9	20.6	20.5	21.2	21.8	23.7	24.4	24.3	25.0	25.6
	8H	20.0	20.7	20.6	21.2	21.8	24.4	25.0	25.0	25.6	26.2
	12H	20.1	20.7	20.7	21.2	21.9	25.2	25.8	25.8	26.3	27.0
12H	4H	19.7	20.4	20.2	21.0	21.6	22.4	23.1	22.9	23.7	24.3
	6H	20.2	20.8	20.7	21.3	22.0	23.7	24.4	24.3	24.9	25.6
	8H	20.4	20.9	20.9	21.5	22.1	24.5	25.0	25.1	25.6	26.3

Maximum UGR = 27.0

POLAR GRAPH



Maximum Candela = 1851.721 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.)