



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-840-HIAFR-(L54)-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] 06-07-2021

[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-(L54)-DIM-UNV

[LAMPCAT] HLM 80 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5509
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	142
Total Luminaire Watts	38.9
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	8302	6546	6374
55	7063	5570	5501
65	5177	4525	4884
75	3175	3815	4212
85	1170	2995	3593

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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	1946.202	1946.202	1946.202	1946.202	1946.202
5	1963.266	1938.119	1925.545	1916.564	1913.870
10	1937.221	1905.787	1886.029	1878.844	1871.659
15	1888.723	1852.799	1823.161	1806.097	1796.218
20	1818.671	1781.848	1737.841	1701.916	1701.018
25	1736.045	1696.528	1631.864	1586.060	1571.691
30	1631.864	1581.570	1494.453	1480.982	1482.778
35	1503.434	1452.242	1369.616	1410.031	1431.586
40	1357.043	1310.341	1269.926	1314.831	1332.794
45	1202.568	1158.560	1164.847	1174.726	1199.873
50	1029.233	987.022	1024.742	1041.806	1057.972
55	844.222	822.668	879.249	913.377	934.033
60	655.619	678.072	731.061	791.234	820.872
65	468.813	535.273	601.733	688.850	713.997
70	320.625	393.372	497.552	588.261	603.529
75	186.807	273.923	396.964	481.386	497.552
80	88.015	182.316	297.274	378.104	393.372
85	29.638	115.856	215.546	294.580	310.746
90	12.574	70.052	157.169	220.935	237.101
95	9.879	48.498	125.735	174.233	189.501
100	8.981	29.638	103.283	145.494	153.577
105	7.185	17.962	78.135	116.754	124.837
110	4.491	5.389	54.785	90.709	99.690
115	2.694	2.694	35.924	67.358	78.135
120	0.000	0.000	17.962	48.498	58.377
125	0.000	0.000	5.389	29.638	38.619
130	0.000	0.000	0.000	15.268	21.555
135	0.000	0.000	0.000	3.592	8.083
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	698.83	N.A.	12.70
0-30	1455.36	N.A.	26.40
0-40	2346.56	N.A.	42.60
0-60	4036.55	N.A.	73.30
0-80	5035.91	N.A.	91.40
0-90	5258.33	N.A.	95.40
10-90	5075.22	N.A.	92.10
20-40	1647.73	N.A.	29.90
20-50	2552.19	N.A.	46.30
40-70	2291.4	N.A.	41.60
60-80	999.36	N.A.	18.10
70-80	397.95	N.A.	7.20
80-90	222.42	N.A.	4.00
90-110	198.98	N.A.	3.60
90-120	235.80	N.A.	4.30
90-130	248.84	N.A.	4.50
90-150	250.90	N.A.	4.60
90-180	250.90	N.A.	4.60
110-180	51.92	N.A.	0.90
0-180	5509.22	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	183.11
10-20	515.71
20-30	756.53
30-40	891.20
40-50	904.46
50-60	785.53
60-70	601.41
70-80	397.95
80-90	222.42
90-100	124.78
100-110	74.20
110-120	36.83
120-130	13.04
130-140	2.05
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

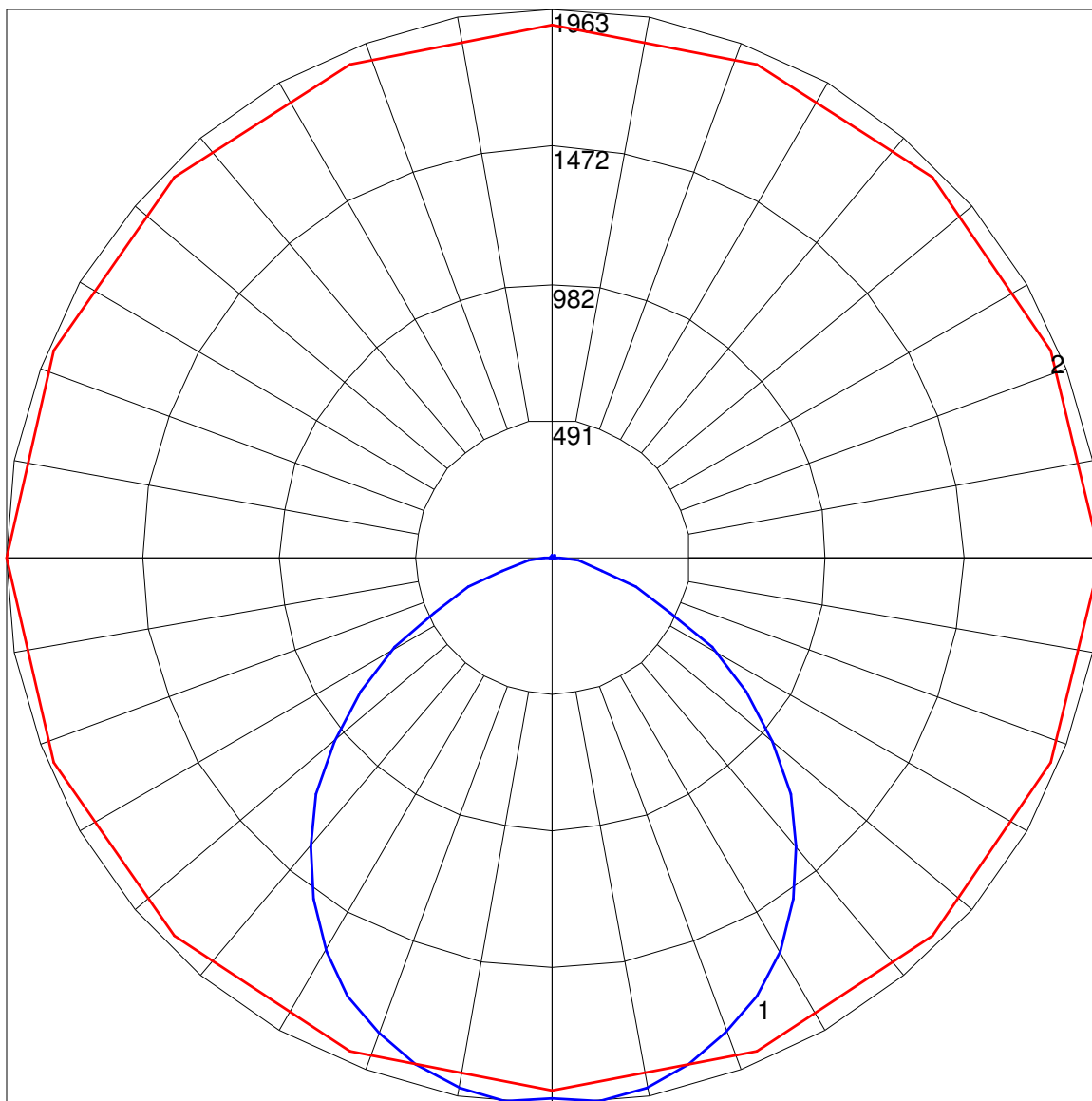
Reflectances

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	16.6	18.1	17.0	18.5	19.0	18.3	19.8	18.7	20.2	20.7
	3H	17.7	19.1	18.2	19.5	20.0	20.6	21.9	21.0	22.4	22.9
	4H	18.0	19.3	18.5	19.8	20.3	21.6	22.9	22.1	23.4	23.8
	6H	18.1	19.3	18.6	19.8	20.3	22.6	23.8	23.1	24.3	24.8
	8H	18.1	19.3	18.6	19.8	20.3	23.1	24.2	23.6	24.7	25.2
	12H	18.1	19.2	18.6	19.7	20.3	23.6	24.7	24.1	25.2	25.7
4H	2H	17.3	18.6	17.8	19.0	19.5	18.7	20.0	19.1	20.4	20.9
	3H	18.7	19.8	19.2	20.3	20.8	21.2	22.3	21.7	22.8	23.3
	4H	19.1	20.1	19.6	20.6	21.2	22.4	23.4	22.9	23.9	24.4
	6H	19.3	20.2	19.9	20.8	21.3	23.6	24.4	24.1	25.0	25.5
	8H	19.4	20.2	19.9	20.8	21.3	24.1	25.0	24.7	25.5	26.1
	12H	19.4	20.2	20.0	20.7	21.3	24.8	25.5	25.3	26.1	26.7
8H	4H	19.7	20.5	20.2	21.1	21.7	22.6	23.4	23.1	23.9	24.5
	6H	20.1	20.8	20.7	21.4	22.0	23.9	24.6	24.5	25.2	25.8
	8H	20.2	20.9	20.8	21.4	22.0	24.6	25.2	25.2	25.8	26.4
	12H	20.3	20.9	20.9	21.4	22.1	25.4	26.0	26.0	26.5	27.2
12H	4H	19.9	20.6	20.4	21.2	21.8	22.6	23.3	23.1	23.9	24.5
	6H	20.4	21.0	20.9	21.5	22.2	23.9	24.6	24.5	25.1	25.8
	8H	20.6	21.1	21.1	21.7	22.3	24.7	25.2	25.3	25.8	26.5

Maximum UGR = 27.2

POLAR GRAPH



Maximum Candela = 1963.266 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.)