



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-835-HIAFR-(L45)-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] 04-16-2021

[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-(L45)-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4419
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
Total Luminaire Watts	32.7
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	6659	5251	5113
55	5666	4468	4412
65	4153	3630	3918
75	2547	3060	3379
85	938	2403	2882

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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	1561.130	1561.130	1561.130	1561.130	1561.130
5	1574.818	1554.647	1544.561	1537.357	1535.195
10	1553.926	1528.712	1512.863	1507.099	1501.336
15	1515.024	1486.208	1462.434	1448.746	1440.822
20	1458.832	1429.295	1393.995	1365.179	1364.458
25	1392.554	1360.856	1308.986	1272.246	1260.719
30	1308.986	1268.643	1198.764	1187.957	1189.398
35	1205.968	1164.904	1098.627	1131.045	1148.335
40	1088.541	1051.079	1018.661	1054.681	1069.090
45	964.630	929.330	934.373	942.297	962.469
50	825.591	791.731	821.989	835.677	848.644
55	677.186	659.896	705.282	732.658	749.227
60	525.900	543.910	586.414	634.682	658.455
65	376.054	429.365	482.675	552.555	572.727
70	257.187	315.540	399.108	471.869	484.116
75	149.845	219.725	318.422	386.140	399.108
80	70.600	146.243	238.456	303.293	315.540
85	23.774	92.933	172.899	236.295	249.262
90	10.086	56.192	126.072	177.221	190.188
95	7.925	38.902	100.858	139.760	152.007
100	7.204	23.774	82.847	116.707	123.190
105	5.763	14.408	62.676	93.653	100.137
110	3.602	4.322	43.945	72.761	79.966
115	2.161	2.161	28.816	54.031	62.676
120	0.000	0.000	14.408	38.902	46.827
125	0.000	0.000	4.322	23.774	30.978
130	0.000	0.000	0.000	12.247	17.290
135	0.000	0.000	0.000	2.882	6.484
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	560.56	N.A.	12.70
0-30	1167.4	N.A.	26.40
0-40	1882.27	N.A.	42.60
0-60	3237.88	N.A.	73.30
0-80	4039.51	N.A.	91.40
0-90	4217.93	N.A.	95.40
10-90	4071.04	N.A.	92.10
20-40	1321.72	N.A.	29.90
20-50	2047.22	N.A.	46.30
40-70	1838.02	N.A.	41.60
60-80	801.63	N.A.	18.10
70-80	319.21	N.A.	7.20
80-90	178.41	N.A.	4.00
90-110	159.61	N.A.	3.60
90-120	189.15	N.A.	4.30
90-130	199.61	N.A.	4.50
90-150	201.25	N.A.	4.60
90-180	201.25	N.A.	4.60
110-180	41.64	N.A.	0.90
0-180	4419.18	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	146.88
10-20	413.67
20-30	606.84
30-40	714.87
40-50	725.50
50-60	630.11
60-70	482.41
70-80	319.21
80-90	178.41
90-100	100.09
100-110	59.52
110-120	29.54
120-130	10.46
130-140	1.65
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

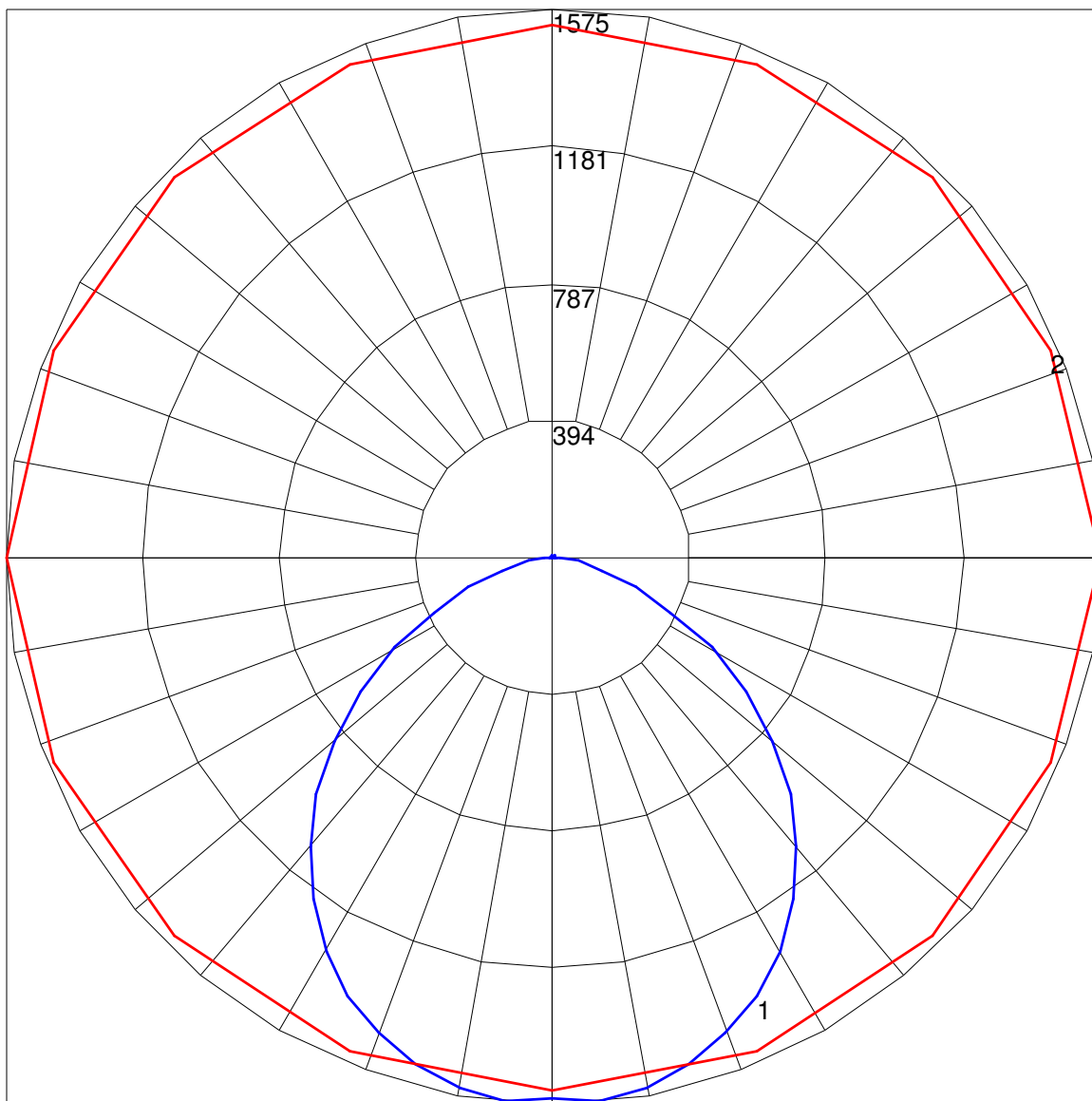
Reflectances

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	15.9	17.4	16.3	17.8	18.3	17.6	19.1	18.0	19.5	20.0
	3H	17.0	18.4	17.5	18.8	19.3	19.9	21.2	20.3	21.7	22.2
	4H	17.3	18.6	17.8	19.1	19.6	20.9	22.2	21.4	22.7	23.1
	6H	17.4	18.6	17.9	19.1	19.6	21.9	23.1	22.4	23.6	24.1
	8H	17.4	18.6	17.9	19.1	19.6	22.4	23.5	22.9	24.0	24.5
	12H	17.4	18.5	17.9	19.0	19.6	22.9	24.0	23.4	24.5	25.0
4H	2H	16.6	17.9	17.1	18.3	18.8	18.0	19.3	18.4	19.7	20.2
	3H	18.0	19.1	18.5	19.6	20.1	20.5	21.6	21.0	22.1	22.6
	4H	18.4	19.4	18.9	19.9	20.5	21.7	22.7	22.2	23.2	23.7
	6H	18.6	19.5	19.2	20.1	20.6	22.9	23.7	23.4	24.3	24.8
	8H	18.7	19.5	19.2	20.1	20.6	23.4	24.3	24.0	24.8	25.4
	12H	18.7	19.5	19.3	20.0	20.6	24.1	24.8	24.6	25.4	26.0
8H	4H	19.0	19.8	19.5	20.4	21.0	21.9	22.7	22.4	23.2	23.8
	6H	19.4	20.1	20.0	20.7	21.3	23.2	23.9	23.8	24.5	25.1
	8H	19.5	20.2	20.1	20.7	21.3	23.9	24.5	24.5	25.1	25.7
	12H	19.6	20.2	20.2	20.7	21.4	24.7	25.3	25.3	25.8	26.5
12H	4H	19.2	19.9	19.7	20.5	21.1	21.9	22.6	22.4	23.2	23.8
	6H	19.7	20.3	20.2	20.8	21.5	23.2	23.9	23.8	24.4	25.1
	8H	19.9	20.4	20.4	21.0	21.6	24.0	24.5	24.6	25.1	25.8

Maximum UGR = 26.5

POLAR GRAPH



Maximum Candela = 1574.818 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.)