



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-835-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] 17-JULY-2020

[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-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6240
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	48
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	9403	7414	7219
55	8001	6309	6231
65	5864	5125	5532
75	3596	4321	4771
85	1325	3393	4070

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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	2204.446	2204.446	2204.446	2204.446	2204.446
5	2223.774	2195.290	2181.048	2170.875	2167.824
10	2194.273	2158.668	2136.288	2128.150	2120.011
15	2139.340	2098.649	2065.078	2045.750	2034.560
20	2059.992	2018.283	1968.437	1927.746	1926.728
25	1966.402	1921.642	1848.398	1796.516	1780.240
30	1848.398	1791.430	1692.754	1677.495	1679.529
35	1702.927	1644.942	1551.352	1597.130	1621.544
40	1537.110	1484.211	1438.434	1489.298	1509.643
45	1362.138	1312.291	1319.412	1330.602	1359.086
50	1165.803	1117.991	1160.716	1180.045	1198.356
55	956.243	931.828	995.917	1034.574	1057.971
60	742.614	768.046	828.066	896.224	929.794
65	531.020	606.299	681.578	780.254	808.738
70	363.169	445.569	563.573	666.318	683.612
75	211.594	310.270	449.638	545.262	563.573
80	99.693	206.508	336.720	428.275	445.569
85	33.570	131.229	244.147	333.668	351.979
90	14.242	79.348	178.024	250.251	268.562
95	11.190	54.933	142.419	197.352	214.646
100	10.173	33.570	116.987	164.799	173.955
105	8.138	20.346	88.503	132.246	141.402
110	5.086	6.104	62.054	102.745	112.918
115	3.052	3.052	40.691	76.296	88.503
120	0.000	0.000	20.346	54.933	66.123
125	0.000	0.000	6.104	33.570	43.743
130	0.000	0.000	0.000	17.294	24.415
135	0.000	0.000	0.000	4.069	9.156
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	791.55	N.A.	12.70
0-30	1648.47	N.A.	26.40
0-40	2657.93	N.A.	42.60
0-60	4572.16	N.A.	73.30
0-80	5704.13	N.A.	91.40
0-90	5956.06	N.A.	95.40
10-90	5748.65	N.A.	92.10
20-40	1866.37	N.A.	29.90
20-50	2890.84	N.A.	46.30
40-70	2595.44	N.A.	41.60
60-80	1131.97	N.A.	18.10
70-80	450.76	N.A.	7.20
80-90	251.93	N.A.	4.00
90-110	225.38	N.A.	3.60
90-120	267.09	N.A.	4.30
90-130	281.86	N.A.	4.50
90-150	284.19	N.A.	4.60
90-180	284.19	N.A.	4.60
110-180	58.81	N.A.	0.90
0-180	6240.25	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	207.41
10-20	584.14
20-30	856.91
30-40	1009.46
40-50	1024.47
50-60	889.77
60-70	681.21
70-80	450.76
80-90	251.93
90-100	141.33
100-110	84.05
110-120	41.71
120-130	14.77
130-140	2.33
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

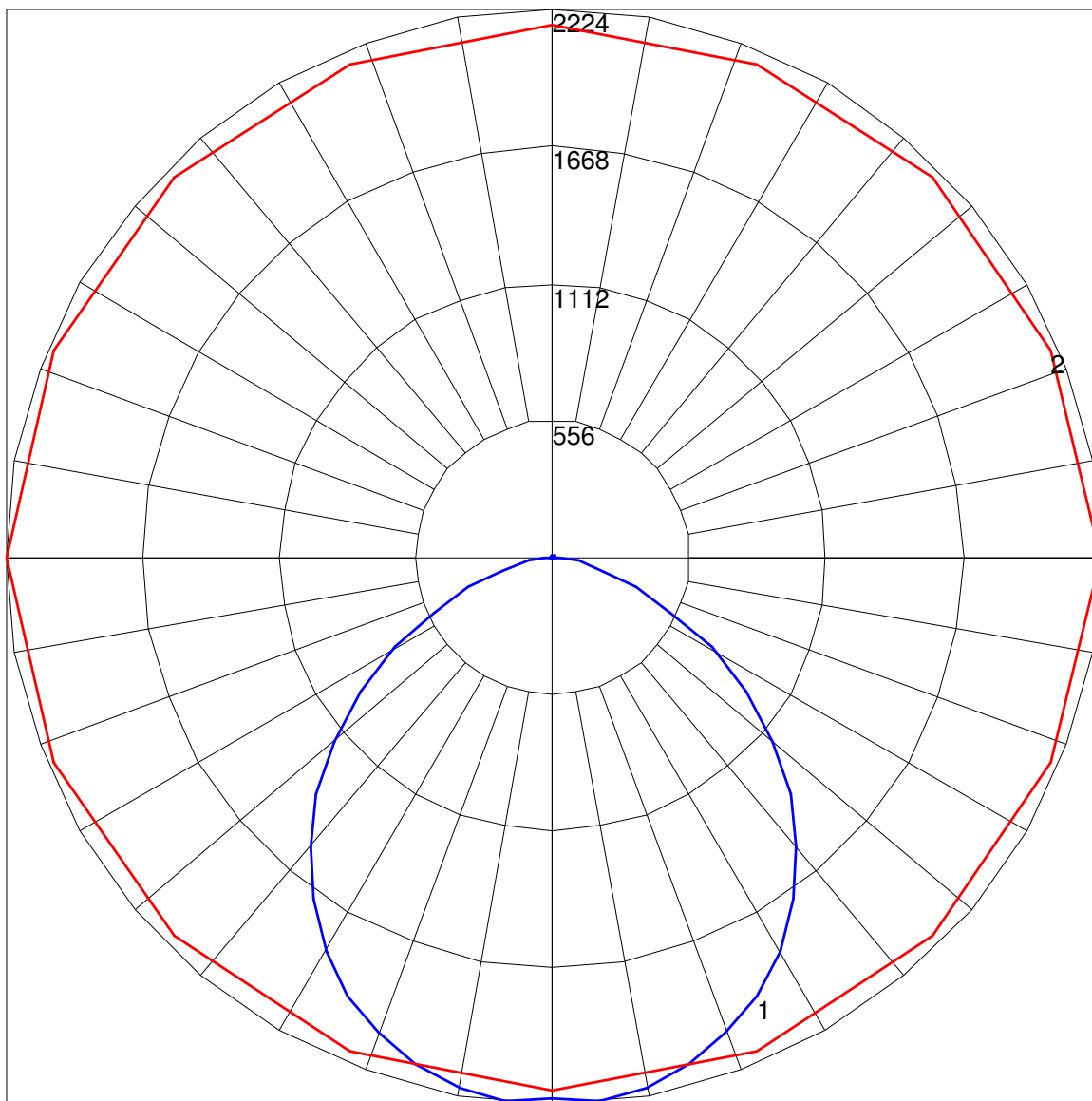
Reflectances

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 = 2223.774 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.)