



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L110-830-HIAFR-(L100)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 20008.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 06-29-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4' VAPORTITE LED LUMINAIRE
 [MORE] WHITE FLAT REFLECTOR w/FROSTED LENS
 [LUMCAT] 96-4-L110-830-HIAFR-(L100)-DIM-UNV
 [LAMPCAT] HLM 80 CRI 3000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9650
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	74.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.17 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	14150	11711	11177
55	11816	9678	9515
65	9044	7970	8665
75	5908	6633	7819
85	2284	5442	6526

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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	3476.641	3476.641	3476.641	3476.641	3476.641
5	3527.636	3458.643	3446.644	3433.145	3424.146
10	3475.141	3407.648	3370.152	3338.655	3317.657
15	3388.150	3307.158	3253.164	3208.169	3179.671
20	3259.163	3164.673	3104.679	3016.188	2978.692
25	3098.680	2986.191	2914.199	2809.210	2797.211
30	2899.200	2779.213	2707.220	2656.226	2672.724
35	2669.724	2546.737	2498.742	2516.740	2555.736
40	2387.753	2267.766	2297.763	2303.762	2341.258
45	2054.788	1975.296	2068.286	2060.787	2083.285
50	1726.322	1693.325	1786.315	1811.813	1816.312
55	1414.354	1430.852	1510.344	1579.337	1592.835
60	1117.385	1175.879	1261.370	1391.856	1411.354
65	818.915	899.907	1042.392	1202.876	1241.872
70	563.942	650.933	853.412	1019.895	1076.889
75	346.464	443.954	673.430	850.412	898.407
80	170.982	286.470	514.447	685.429	709.427
85	56.994	178.482	376.461	530.945	541.444
90	22.498	115.488	277.471	395.959	407.958
95	20.998	79.492	224.977	310.468	325.466
100	17.998	49.495	170.982	241.475	257.973
105	11.999	28.497	125.987	187.481	206.979
110	7.499	10.499	89.991	145.485	161.983
115	5.999	3.000	58.494	107.989	127.487
120	3.000	1.500	35.996	77.992	91.491
125	0.000	0.000	11.999	47.995	62.993
130	0.000	0.000	0.000	22.498	35.996
135	0.000	0.000	0.000	7.499	13.499
140	0.000	0.000	0.000	5.999	5.999
145	0.000	0.000	0.000	3.000	3.000
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	1245.7	N.A.	12.90
0-30	2591.19	N.A.	26.90
0-40	4177.66	N.A.	43.30
0-60	7106.93	N.A.	73.60
0-80	8836.27	N.A.	91.60
0-90	9224.78	N.A.	95.60
10-90	8897.54	N.A.	92.20
20-40	2931.95	N.A.	30.40
20-50	4507.4	N.A.	46.70
40-70	3968.65	N.A.	41.10
60-80	1729.34	N.A.	17.90
70-80	689.96	N.A.	7.20
80-90	388.51	N.A.	4.00
90-110	338.43	N.A.	3.50
90-120	398.56	N.A.	4.10
90-130	420.43	N.A.	4.40
90-150	425.00	N.A.	4.40
90-180	425.00	N.A.	4.40
110-180	86.57	N.A.	0.90
0-180	9649.78	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	327.24
10-20	918.46
20-30	1345.49
30-40	1586.46
40-50	1575.44
50-60	1353.83
60-70	1039.37
70-80	689.96
80-90	388.51
90-100	216.98
100-110	121.44
110-120	60.14
120-130	21.87
130-140	3.84
140-150	0.73
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	96
1	107	102	97	93	104	99	95	91	94	91	88	89	87	84	85	83	81	78
2	97	89	82	76	94	86	80	75	82	77	72	78	74	70	75	71	68	65
3	89	78	70	63	86	76	68	62	72	66	61	69	64	59	66	61	57	55
4	81	69	60	54	79	68	59	53	65	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	61	52	46	58	51	45	56	49	44	53	48	43	41
6	69	56	47	41	67	55	46	40	52	45	39	50	44	39	48	43	38	36
7	64	51	42	36	62	50	41	36	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	37	31	42	36	31	41	35	30	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	31	26	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

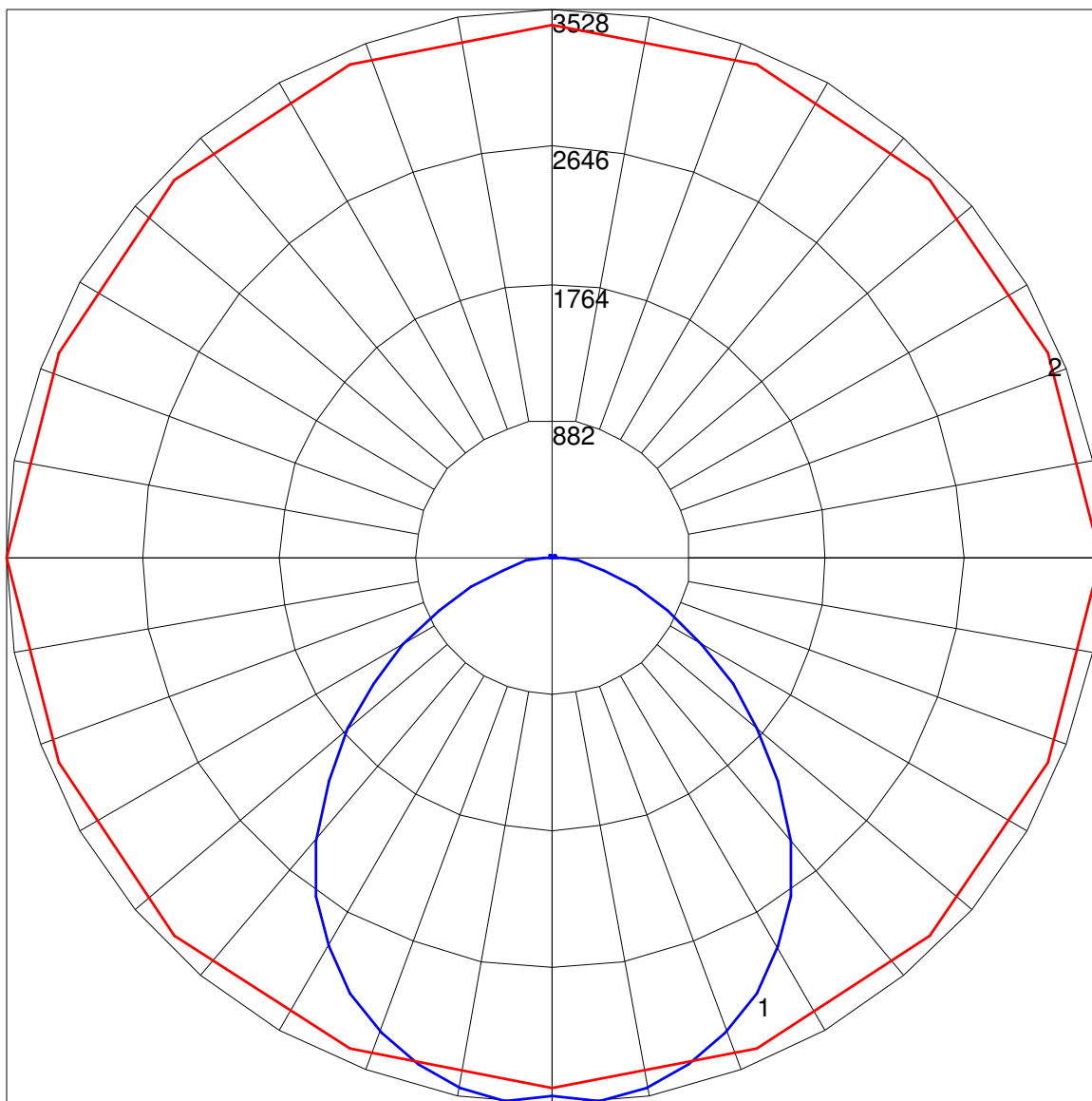
X=2H	Y=2H	18.6	20.1	19.0	20.5	20.9	20.3	21.8	20.7	22.2	22.6
	3H	19.7	21.1	20.1	21.5	22.0	22.6	24.0	23.0	24.4	24.9
	4H	20.0	21.3	20.4	21.7	22.2	23.7	25.0	24.1	25.4	25.9
	6H	20.1	21.4	20.6	21.8	22.3	24.7	26.0	25.2	26.4	26.9
	8H	20.1	21.3	20.6	21.8	22.3	25.2	26.4	25.7	26.9	27.4
	12H	20.1	21.3	20.6	21.7	22.3	25.7	26.9	26.2	27.3	27.9

UGR Viewed Endwise

4H	2H	19.3	20.6	19.7	21.0	21.5	20.7	22.0	21.1	22.4	22.9
	3H	20.6	21.8	21.1	22.2	22.7	23.2	24.3	23.7	24.8	25.3
	4H	21.1	22.1	21.6	22.6	23.1	24.5	25.5	25.0	26.0	26.5
	6H	21.3	22.2	21.8	22.7	23.2	25.7	26.6	26.2	27.1	27.7
	8H	21.3	22.2	21.8	22.7	23.2	26.3	27.1	26.8	27.7	28.2
	12H	21.4	22.1	21.9	22.7	23.2	26.9	27.7	27.5	28.2	28.8
8H	4H	21.6	22.5	22.2	23.0	23.6	24.6	25.5	25.1	26.0	26.5
	6H	22.0	22.8	22.6	23.3	23.9	26.0	26.7	26.6	27.3	27.9
	8H	22.1	22.8	22.7	23.4	23.9	26.8	27.4	27.3	28.0	28.6
	12H	22.2	22.8	22.8	23.3	24.0	27.6	28.1	28.1	28.7	29.3
12H	4H	21.8	22.6	22.4	23.1	23.7	24.6	25.4	25.2	25.9	26.5
	6H	22.3	22.9	22.9	23.5	24.1	26.0	26.7	26.6	27.2	27.9
	8H	22.5	23.1	23.0	23.6	24.3	26.8	27.4	27.4	28.0	28.6

Maximum UGR = 29.3

POLAR GRAPH



Maximum Candela = 3527.636 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.)