



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 96-4-L110-930-HIAFR-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] 08-25-2023
[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-L110-930-HIAFR-DIM-UNV
[LAMPCAT] HLM 90 CRI 3000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8857
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	79.6
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	12987	10749	10258
55	10845	8882	8733
65	8301	7315	7953
75	5422	6088	7177
85	2096	4994	5989

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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	3190.943	3190.943	3190.943	3190.943	3190.943
5	3237.747	3174.423	3163.411	3151.021	3142.762
10	3189.566	3127.619	3093.204	3064.296	3045.024
15	3109.724	3035.388	2985.830	2944.532	2918.377
20	2991.337	2904.611	2849.547	2768.329	2733.914
25	2844.041	2740.797	2674.720	2578.359	2567.346
30	2660.954	2550.827	2484.750	2437.946	2453.089
35	2450.336	2337.455	2293.404	2309.923	2345.714
40	2191.536	2081.409	2108.940	2114.447	2148.862
45	1885.932	1812.973	1898.322	1891.439	1912.088
50	1584.459	1554.173	1639.522	1662.924	1667.054
55	1298.127	1313.270	1386.229	1449.552	1461.942
60	1025.562	1079.249	1157.715	1277.478	1295.374
65	751.620	825.956	956.732	1104.028	1139.819
70	517.599	597.441	783.281	936.083	988.394
75	317.993	407.472	618.090	780.528	824.579
80	156.932	262.929	472.171	629.103	651.128
85	52.311	163.815	345.525	487.314	496.950
90	20.649	105.998	254.670	363.421	374.433
95	19.272	72.959	206.489	284.955	298.721
100	16.519	45.428	156.932	221.631	236.774
105	11.013	26.155	115.634	172.074	189.970
110	6.883	9.636	82.596	133.530	148.672
115	5.506	2.753	53.687	99.115	117.010
120	2.753	1.377	33.038	71.583	83.972
125	0.000	0.000	11.013	44.051	57.817
130	0.000	0.000	0.000	20.649	33.038
135	0.000	0.000	0.000	6.883	12.389
140	0.000	0.000	0.000	5.506	5.506
145	0.000	0.000	0.000	2.753	2.753
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	1143.34	N.A.	12.90
0-30	2378.26	N.A.	26.90
0-40	3834.35	N.A.	43.30
0-60	6522.91	N.A.	73.60
0-80	8110.13	N.A.	91.60
0-90	8466.72	N.A.	95.60
10-90	8166.37	N.A.	92.20
20-40	2691.01	N.A.	30.40
20-50	4136.99	N.A.	46.70
40-70	3642.52	N.A.	41.10
60-80	1587.22	N.A.	17.90
70-80	633.26	N.A.	7.10
80-90	356.59	N.A.	4.00
90-110	310.61	N.A.	3.50
90-120	365.81	N.A.	4.10
90-130	385.88	N.A.	4.40
90-150	390.07	N.A.	4.40
90-180	390.07	N.A.	4.40
110-180	79.46	N.A.	0.90
0-180	8856.79	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	300.35
10-20	842.98
20-30	1234.92
30-40	1456.09
40-50	1445.98
50-60	1242.58
60-70	953.96
70-80	633.26
80-90	356.59
90-100	199.15
100-110	111.46
110-120	55.19
120-130	20.07
130-140	3.53
140-150	0.67
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

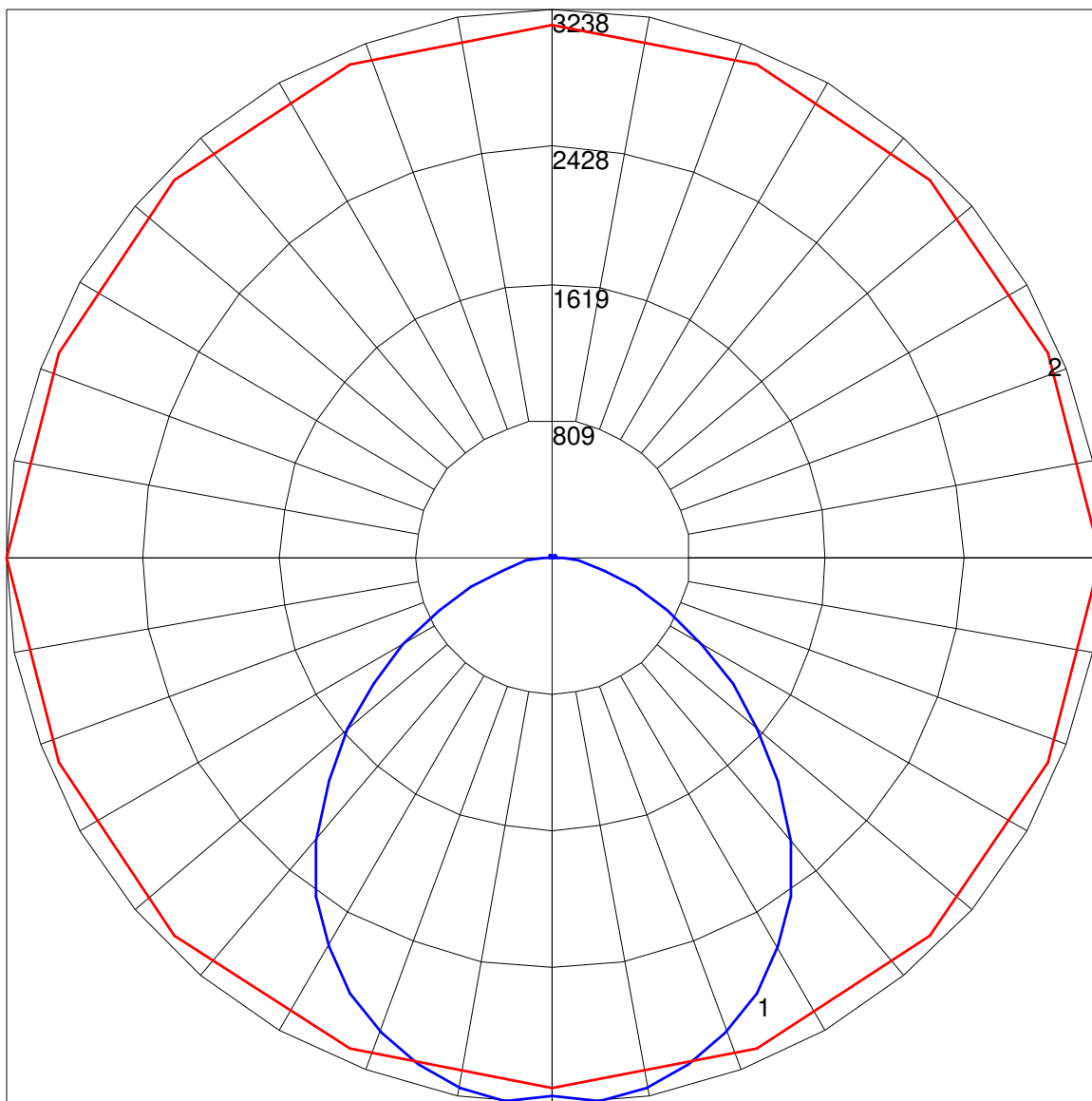
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	18.3	19.8	18.7	20.2	20.6	20.0	21.5	20.4	21.9	22.3
	3H	19.4	20.8	19.8	21.2	21.7	22.3	23.7	22.7	24.1	24.6
	4H	19.7	21.0	20.1	21.4	21.9	23.4	24.7	23.8	25.1	25.6
	6H	19.8	21.1	20.3	21.5	22.0	24.4	25.7	24.9	26.1	26.6
	8H	19.8	21.0	20.3	21.5	22.0	24.9	26.1	25.4	26.6	27.1
	12H	19.8	21.0	20.3	21.4	22.0	25.4	26.6	25.9	27.0	27.6
4H	2H	19.0	20.3	19.4	20.7	21.2	20.4	21.7	20.8	22.1	22.6
	3H	20.3	21.5	20.8	21.9	22.4	22.9	24.0	23.4	24.5	25.0
	4H	20.8	21.8	21.3	22.3	22.8	24.2	25.2	24.7	25.7	26.2
	6H	21.0	21.9	21.5	22.4	22.9	25.4	26.3	25.9	26.8	27.4
	8H	21.0	21.9	21.5	22.4	22.9	26.0	26.8	26.5	27.4	27.9
	12H	21.1	21.8	21.6	22.4	22.9	26.6	27.4	27.2	27.9	28.5
8H	4H	21.3	22.2	21.9	22.7	23.3	24.3	25.2	24.8	25.7	26.2
	6H	21.7	22.4	22.3	23.0	23.6	25.7	26.4	26.3	27.0	27.6
	8H	21.8	22.5	22.4	23.1	23.6	26.5	27.1	27.0	27.7	28.3
	12H	21.9	22.5	22.5	23.0	23.7	27.3	27.8	27.8	28.4	29.0
12H	4H	21.5	22.3	22.1	22.8	23.4	24.3	25.1	24.9	25.6	26.2
	6H	22.0	22.6	22.6	23.2	23.8	25.7	26.4	26.3	26.9	27.6
	8H	22.2	22.8	22.7	23.3	24.0	26.5	27.1	27.1	27.7	28.3

Maximum UGR = 29.0

POLAR GRAPH



Maximum Candela = 3237.747 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.)