



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 96-4-L81-940-DCL-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20011.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 16 JUNE 2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-56 LED 22"ARRAYS 4'VAPORTITE LUMINAIRE
 [MORE] WHITE FLAT REFLECTOR w/DCL LENS
 [LUMCAT] 96-4-L81-940-DCL-DIM-UNV
 [LAMPCAT] HLM 90 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7144
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
Total Luminaire Watts	65
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.27 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	11175	8733	8094
55	10110	6746	6625
65	8488	5646	4986
75	4746	3731	3615
85	1376	952	831

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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	2403.745	2403.745	2403.745	2403.745	2403.745
5	2395.341	2411.099	2370.127	2342.811	2352.267
10	2363.823	2330.204	2368.025	2415.302	2384.835
15	2317.597	2324.951	2372.228	2111.682	2131.643
20	2252.461	2240.904	2105.378	2279.776	2059.153
25	2176.818	2229.348	2206.235	2138.997	2182.071
30	2085.417	2296.585	2025.534	2147.402	1999.269
35	1965.650	1925.728	2046.545	2080.164	2047.596
40	1829.074	1584.287	1944.638	1893.160	1801.758
45	1660.980	1560.123	1742.926	1745.027	1743.976
50	1452.963	1291.173	1452.963	1541.213	1461.368
55	1250.200	1229.188	1232.340	1291.173	1332.146
60	1029.576	1095.763	1032.728	1146.192	1106.269
65	805.801	846.774	904.556	928.720	900.354
70	553.660	570.469	687.085	746.968	710.197
75	300.468	372.959	495.878	555.761	558.913
80	123.969	232.180	280.507	259.495	239.534
85	40.973	99.806	96.654	115.565	102.958
90	15.759	36.771	51.479	63.035	69.339
95	13.658	36.771	29.416	35.720	36.771
100	16.809	45.175	29.416	29.416	29.416
105	15.759	13.658	130.273	64.086	35.720
110	13.658	8.405	21.012	151.285	144.981
115	11.556	7.354	9.455	26.265	69.339
120	5.253	4.202	6.304	12.607	16.809
125	4.202	4.202	4.202	6.304	7.354
130	0.000	0.000	4.202	6.304	7.354
135	0.000	0.000	4.202	5.253	7.354
140	0.000	0.000	0.000	5.253	6.304
145	0.000	0.000	0.000	0.000	5.253
150	0.000	0.000	0.000	0.000	4.202
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	868.64	N.A.	12.20
0-30	1874.69	N.A.	26.20
0-40	3122.77	N.A.	43.70
0-60	5530.12	N.A.	77.40
0-80	6880.61	N.A.	96.30
0-90	7011.05	N.A.	98.10
10-90	6784.14	N.A.	95.00
20-40	2254.13	N.A.	31.60
20-50	3532.73	N.A.	49.50
40-70	3276.54	N.A.	45.90
60-80	1350.5	N.A.	18.90
70-80	481.30	N.A.	6.70
80-90	130.44	N.A.	1.80
90-110	95.65	N.A.	1.30
90-120	124.55	N.A.	1.70
90-130	129.59	N.A.	1.80
90-150	132.60	N.A.	1.90
90-180	132.66	N.A.	1.90
110-180	37.02	N.A.	0.50
0-180	7143.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	226.92
10-20	641.73
20-30	1006.05
30-40	1248.07
40-50	1278.6
50-60	1128.74
60-70	869.20
70-80	481.30
80-90	130.44
90-100	39.24
100-110	56.41
110-120	28.90
120-130	5.04
130-140	2.38
140-150	0.63
150-160	0.07
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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	103	99	95	105	101	97	94	96	93	90	92	90	87	88	86	84	82
2	98	90	83	78	96	88	82	76	84	79	74	81	76	72	77	74	71	68
3	90	79	71	64	87	77	70	64	74	68	62	71	66	61	68	64	60	57
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	55	51	49
5	75	62	53	47	73	61	53	46	59	51	46	57	50	45	55	49	44	42
6	70	56	47	41	67	55	47	40	53	46	40	51	45	39	49	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	43	36	31	41	35	31	29
9	56	42	34	29	54	42	34	29	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

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UGR TABLE - CORRECTED

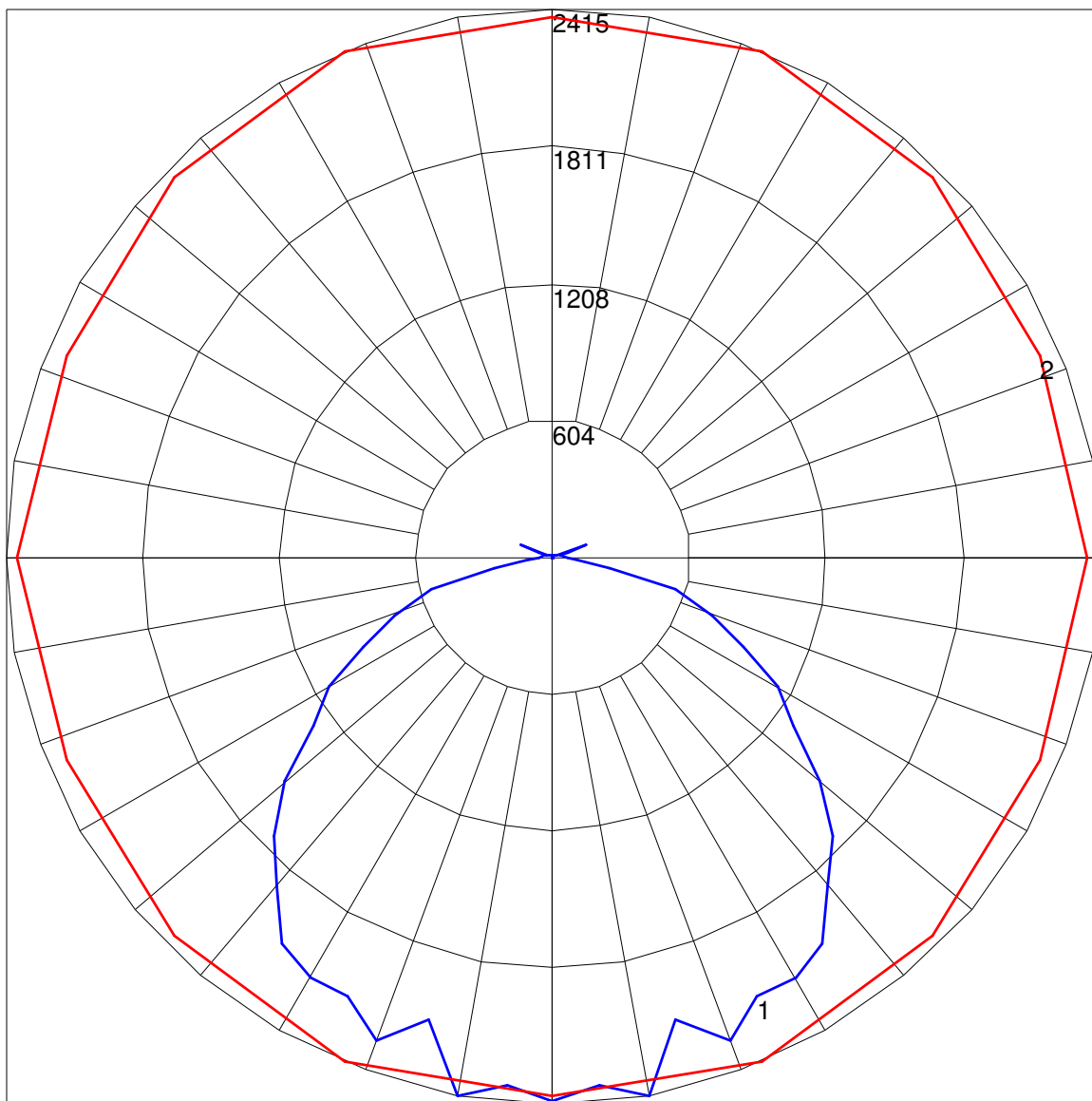
Reflectances

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	18.2	19.8	18.6	20.1	20.5	19.6	21.2	20.0	21.5	21.9
	3H	19.4	20.8	19.8	21.2	21.6	21.4	22.9	21.8	23.2	23.6
	4H	19.6	21.0	20.0	21.4	21.8	22.2	23.5	22.6	23.9	24.4
	6H	19.7	21.0	20.2	21.4	21.8	22.6	23.8	23.0	24.2	24.7
	8H	19.7	20.9	20.2	21.3	21.8	22.6	23.9	23.1	24.3	24.7
	12H	19.7	20.8	20.2	21.3	21.7	22.7	23.8	23.2	24.3	24.7
4H	2H	18.9	20.2	19.3	20.6	21.0	20.0	21.3	20.4	21.7	22.2
	3H	20.2	21.3	20.6	21.8	22.2	22.0	23.2	22.5	23.6	24.0
	4H	20.5	21.6	21.0	22.0	22.5	22.9	23.9	23.4	24.4	24.9
	6H	20.7	21.6	21.2	22.1	22.6	23.4	24.3	23.9	24.8	25.3
	8H	20.7	21.6	21.2	22.1	22.6	23.5	24.3	24.0	24.8	25.3
	12H	20.7	21.5	21.2	22.0	22.5	23.5	24.3	24.1	24.8	25.3
8H	4H	20.9	21.7	21.4	22.2	22.7	23.0	23.9	23.5	24.4	24.9
	6H	21.2	21.9	21.7	22.4	22.9	23.6	24.3	24.1	24.8	25.3
	8H	21.2	21.8	21.7	22.4	22.9	23.7	24.3	24.2	24.9	25.4
	12H	21.2	21.8	21.8	22.3	22.9	23.8	24.3	24.3	24.9	25.5
12H	4H	20.9	21.7	21.4	22.2	22.7	23.0	23.8	23.5	24.3	24.8
	6H	21.2	21.8	21.8	22.3	22.9	23.6	24.2	24.1	24.7	25.3
	8H	21.3	21.8	21.8	22.4	23.0	23.7	24.3	24.3	24.8	25.4

Maximum UGR = 25.5

POLAR GRAPH



Maximum Candela = 2415.302 Located At Horizontal Angle = 67.5, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)