



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 97-4-L79-840-FR-(L70)-DRV-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 19304.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 02/03/2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 4 LED 22" ARRAYS 4' SUSPENDED ENCLOSED/GASKETED

[MORE] LUMINAIRE WHITE FLAT REFL w/HIGHLY SPEC CENTER REFL & FROSTED

[MORE] ACRYLIC DROP LENS

[LUMCAT] 97-4-L79-840-FR-(L70)-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7096
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	50.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.32
Spacing Criterion (90-270)	1.86
Spacing Criterion (Diagonal)	1.90
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.46 ft
Luminous Height	0.27 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5911	6435	7447
55	5511	7945	9835
65	4812	10044	11843
75	3922	9606	8977
85	2953	5330	4166

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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	1143.385	1143.385	1143.385	1143.385	1143.385
5	1162.031	1179.186	1182.915	1129.214	1078.496
10	1151.590	1170.236	1188.882	1141.894	1093.413
15	1130.706	1154.573	1190.374	1157.556	1110.568
20	1096.397	1132.943	1191.120	1169.490	1126.231
25	1056.121	1109.076	1189.628	1183.661	1149.352
30	1005.403	1079.242	1183.661	1205.291	1182.915
35	950.956	1039.712	1179.932	1244.821	1243.329
40	880.847	983.774	1180.678	1309.709	1351.477
45	804.770	924.106	1205.291	1434.266	1517.055
50	717.506	861.455	1270.179	1608.795	1697.550
55	624.275	803.278	1370.869	1794.511	1884.012
60	519.856	751.069	1470.813	1959.343	2048.845
65	418.421	712.285	1531.972	1986.940	2055.558
70	319.969	669.772	1470.813	1805.698	1819.124
75	227.484	596.679	1228.412	1408.907	1349.239
80	143.203	480.326	846.538	895.018	864.438
85	80.552	343.836	529.552	535.519	510.160
90	51.464	237.180	340.107	335.632	304.306
95	38.038	158.866	232.705	221.517	208.092
100	32.071	108.148	170.053	160.357	154.391
105	26.851	75.331	137.236	132.761	127.540
110	20.138	49.226	110.386	116.352	111.131
115	16.409	33.563	86.518	102.181	99.198
120	11.188	22.375	65.635	88.010	85.773
125	8.204	13.425	47.734	70.856	70.110
130	6.713	8.204	32.817	51.464	53.701
135	0.000	0.000	22.375	38.038	40.276
140	0.000	0.000	14.171	27.596	29.088
145	0.000	0.000	8.950	19.392	20.884
150	0.000	0.000	0.000	12.679	14.171
155	0.000	0.000	0.000	6.713	7.458
160	0.000	0.000	0.000	0.000	6.713
165	0.000	3.729	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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Zone	Lumens	%Lamp	%Fixt
0-20	437.30	N.A.	6.20
0-30	967.67	N.A.	13.60
0-40	1685.29	N.A.	23.70
0-60	3775.61	N.A.	53.20
0-80	6145.77	N.A.	86.60
0-90	6638.03	N.A.	93.50
10-90	6527.99	N.A.	92.00
20-40	1247.99	N.A.	17.60
20-50	2167.79	N.A.	30.50
40-70	3418.47	N.A.	48.20
60-80	2370.17	N.A.	33.40
70-80	1042.01	N.A.	14.70
80-90	492.26	N.A.	6.90
90-110	324.96	N.A.	4.60
90-120	394.98	N.A.	5.60
90-130	433.82	N.A.	6.10
90-150	456.54	N.A.	6.40
90-180	458.06	N.A.	6.50
110-180	133.10	N.A.	1.90
0-180	7096.09	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	110.04
10-20	327.26
20-30	530.37
30-40	717.62
40-50	919.80
50-60	1170.51
60-70	1328.16
70-80	1042.01
80-90	492.26
90-100	211.19
100-110	113.77
110-120	70.02
120-130	38.84
130-140	16.60
140-150	6.12
150-160	1.32
160-170	0.20
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	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	103	96	90	85	99	93	88	83	88	83	79	83	79	76	78	75	72	69
2	91	80	72	64	87	78	70	63	73	66	60	69	63	58	64	60	56	53
3	81	68	58	50	78	66	57	49	62	54	47	58	51	46	55	49	44	41
4	73	59	48	40	70	57	47	40	54	45	38	50	43	37	47	41	36	33
5	67	52	41	33	64	50	40	33	47	38	32	44	37	31	42	35	30	27
6	61	46	36	28	58	44	35	28	42	33	27	39	32	26	37	30	25	23
7	56	41	31	24	54	40	30	24	38	29	23	35	28	23	33	27	22	20
8	52	37	28	21	50	36	27	21	34	26	20	32	25	20	31	24	19	17
9	48	34	25	19	47	33	24	18	31	23	18	30	22	17	28	22	17	15
10	45	31	22	17	44	30	22	16	29	21	16	27	20	16	26	20	15	13

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UGR TABLE - CORRECTED

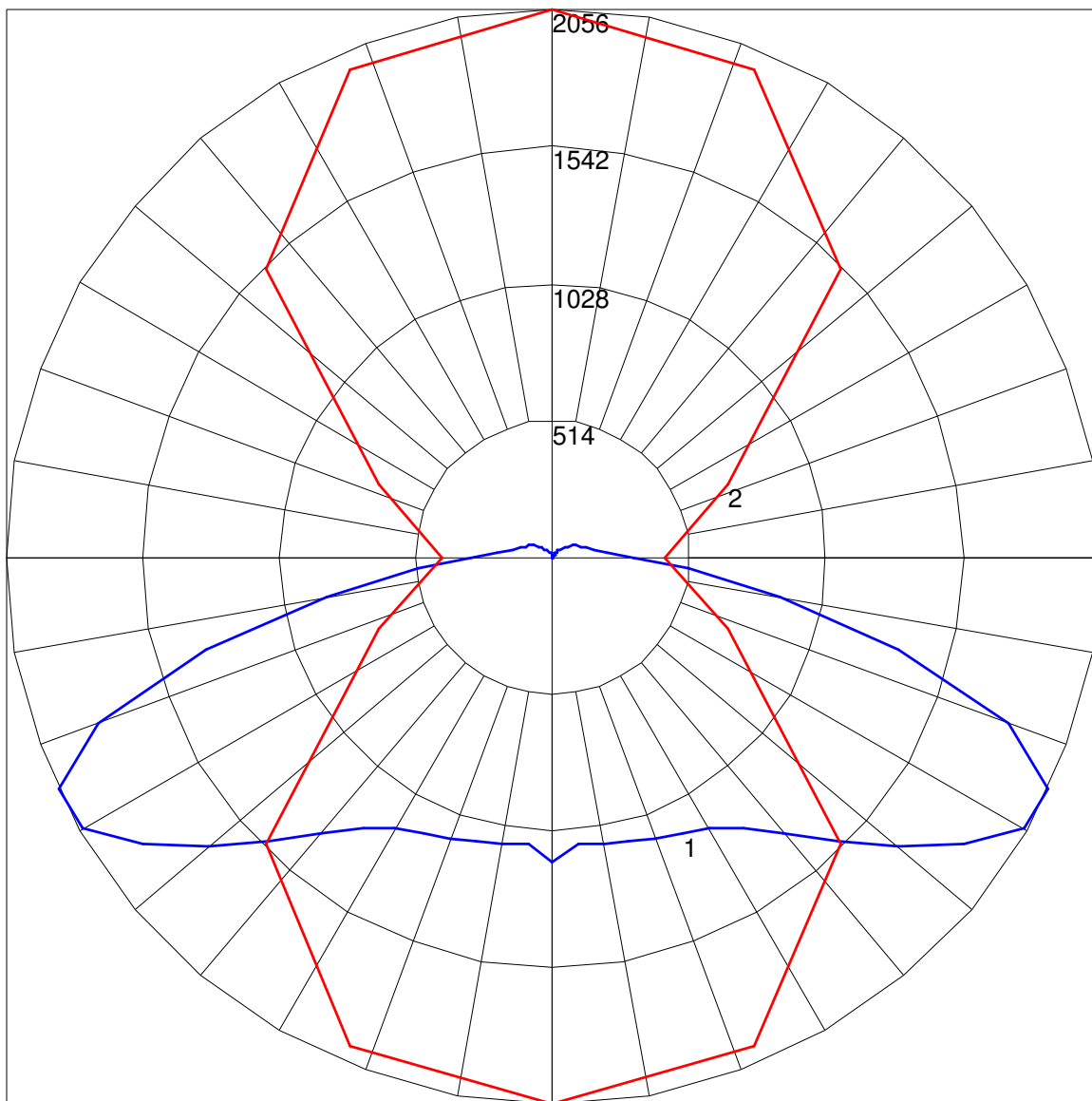
Reflectances

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	16.0	17.7	16.4	18.2	18.6	22.6	24.3	23.0	24.7	25.2
	3H	18.1	19.7	18.5	20.1	20.6	26.0	27.6	26.4	28.0	28.5
	4H	18.8	20.4	19.3	20.8	21.4	27.1	28.7	27.6	29.1	29.6
	6H	19.4	20.9	19.9	21.3	21.9	27.9	29.4	28.4	29.8	30.4
	8H	19.6	21.0	20.1	21.5	22.0	28.2	29.6	28.7	30.1	30.6
	12H	19.7	21.1	20.2	21.6	22.1	28.5	29.8	29.0	30.3	30.9
4H	2H	18.8	20.4	19.3	20.8	21.3	23.0	24.5	23.5	25.0	25.5
	3H	20.9	22.3	21.4	22.8	23.3	26.6	28.0	27.1	28.5	29.0
	4H	21.7	23.0	22.3	23.5	24.0	28.0	29.2	28.5	29.7	30.3
	6H	22.4	23.4	22.9	24.0	24.6	28.9	30.0	29.4	30.5	31.1
	8H	22.6	23.6	23.1	24.1	24.7	29.2	30.3	29.8	30.8	31.4
	12H	22.7	23.7	23.3	24.2	24.8	29.6	30.5	30.1	31.1	31.7
8H	4H	23.1	24.1	23.6	24.7	25.2	28.1	29.2	28.7	29.7	30.3
	6H	23.9	24.8	24.5	25.4	26.0	29.2	30.1	29.8	30.7	31.3
	8H	24.2	25.0	24.8	25.6	26.2	29.7	30.5	30.2	31.0	31.7
	12H	24.5	25.2	25.1	25.8	26.5	30.1	30.8	30.6	31.4	32.0
12H	4H	23.3	24.2	23.8	24.8	25.4	28.2	29.1	28.7	29.7	30.3
	6H	24.2	25.0	24.8	25.6	26.2	29.3	30.1	29.9	30.6	31.3
	8H	24.6	25.3	25.2	25.9	26.6	29.7	30.4	30.3	31.0	31.7

Maximum UGR = 32.0

POLAR GRAPH



Maximum Candela = 2055.558 Located At Horizontal Angle = 90, Vertical Angle = 65
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (65) (Through Max. Cd.)