



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 97-4-L50-840-FR-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] 12-NOV-2019

[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-L50-840-FR-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5118
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	147
Total Luminaire Watts	34.8
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	4263	4641	5371
55	3975	5730	7094
65	3471	7244	8542
75	2829	6928	6475
85	2130	3844	3004

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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	824.668	824.668	824.668	824.668	824.668
5	838.117	850.489	853.179	814.447	777.867
10	830.586	844.034	857.483	823.592	788.626
15	815.523	832.737	858.559	834.889	800.999
20	790.778	817.137	859.097	843.496	812.295
25	761.729	799.923	858.021	853.717	828.972
30	725.149	778.405	853.717	869.318	853.179
35	685.879	749.894	851.027	897.829	896.753
40	635.312	709.548	851.565	944.630	974.755
45	580.442	666.513	869.318	1034.466	1094.178
50	517.502	621.325	916.119	1160.345	1224.361
55	450.259	579.366	988.741	1294.293	1358.847
60	374.947	541.710	1060.826	1413.179	1477.732
65	301.787	513.737	1104.937	1433.083	1482.574
70	230.778	483.074	1060.826	1302.362	1312.045
75	164.073	430.355	885.994	1016.176	973.141
80	103.285	346.436	610.566	645.533	623.477
85	58.098	247.992	381.940	386.244	367.954
90	37.118	171.066	245.302	242.075	219.481
95	27.435	114.582	167.839	159.769	150.086
100	23.132	78.002	122.651	115.658	111.354
105	19.366	54.332	98.982	95.754	91.988
110	14.524	35.504	79.616	83.919	80.154
115	11.835	24.207	62.402	73.698	71.547
120	8.069	16.138	47.339	63.477	61.864
125	5.917	9.683	34.428	51.105	50.567
130	4.841	5.917	23.670	37.118	38.732
135	0.000	0.000	16.138	27.435	29.049
140	0.000	0.000	10.221	19.904	20.980
145	0.000	0.000	6.455	13.987	15.062
150	0.000	0.000	0.000	9.145	10.221
155	0.000	0.000	0.000	4.841	5.379
160	0.000	0.000	0.000	0.000	4.841
165	0.000	2.690	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	315.40	N.A.	6.20
0-30	697.93	N.A.	13.60
0-40	1215.52	N.A.	23.70
0-60	2723.16	N.A.	53.20
0-80	4432.65	N.A.	86.60
0-90	4787.69	N.A.	93.50
10-90	4708.32	N.A.	92.00
20-40	900.12	N.A.	17.60
20-50	1563.53	N.A.	30.50
40-70	2465.58	N.A.	48.20
60-80	1709.49	N.A.	33.40
70-80	751.55	N.A.	14.70
80-90	355.04	N.A.	6.90
90-110	234.38	N.A.	4.60
90-120	284.88	N.A.	5.60
90-130	312.89	N.A.	6.10
90-150	329.28	N.A.	6.40
90-180	330.38	N.A.	6.50
110-180	96.00	N.A.	1.90
0-180	5118.07	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	79.37
10-20	236.03
20-30	382.53
30-40	517.59
40-50	663.41
50-60	844.23
60-70	957.94
70-80	751.55
80-90	355.04
90-100	152.32
100-110	82.06
110-120	50.50
120-130	28.01
130-140	11.97
140-150	4.42
150-160	0.95
160-170	0.15
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	63	63	63	63	61	61	61	61	57	57	57	54	54	54	51	51	51	50
1	55	51	48	45	53	50	47	44	47	44	42	44	42	40	42	40	38	37
2	49	43	38	34	47	42	37	34	39	35	32	37	34	31	34	32	30	28
3	43	36	31	27	42	35	30	26	33	29	25	31	27	24	29	26	23	22
4	39	31	26	22	37	30	25	21	29	24	20	27	23	20	25	22	19	18
5	36	28	22	18	34	27	21	18	25	20	17	24	20	16	22	19	16	15
6	33	24	19	15	31	24	19	15	22	18	14	21	17	14	20	16	14	12
7	30	22	17	13	29	21	16	13	20	16	12	19	15	12	18	14	12	10
8	28	20	15	11	27	19	14	11	18	14	11	17	13	11	16	13	10	9
9	26	18	13	10	25	18	13	10	17	12	10	16	12	9	15	12	9	8
10	24	16	12	9	23	16	12	9	15	11	9	15	11	8	14	10	8	7

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UGR TABLE - CORRECTED

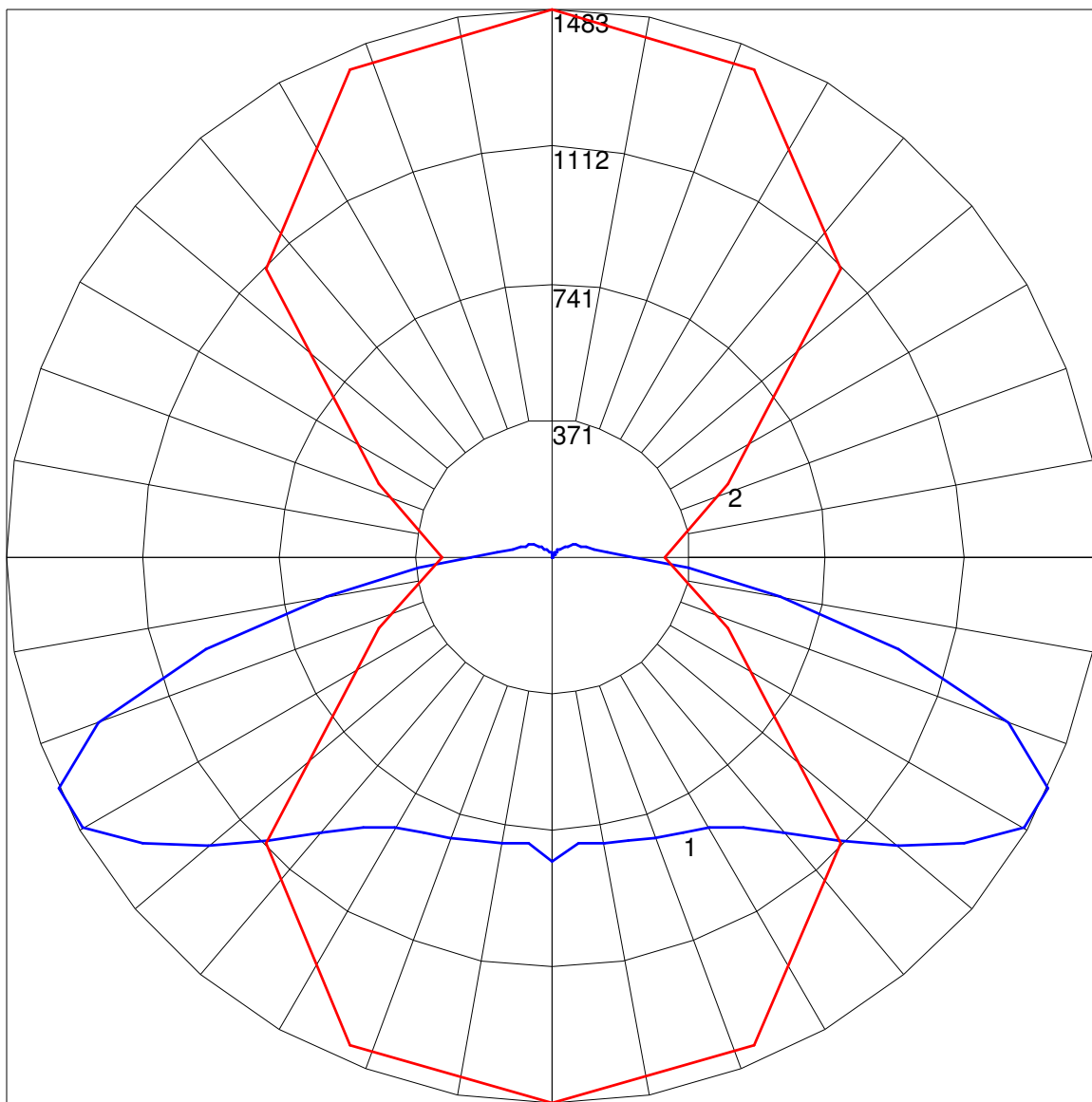
Reflectances

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	18.8	17.5	19.3	19.7	23.7	25.4	24.1	25.8	26.3
	3H	19.2	20.8	19.6	21.2	21.7	27.1	28.7	27.5	29.1	29.6
	4H	19.9	21.5	20.4	21.9	22.5	28.2	29.8	28.7	30.2	30.7
	6H	20.5	22.0	21.0	22.4	23.0	29.0	30.5	29.5	30.9	31.5
	8H	20.7	22.1	21.2	22.6	23.1	29.3	30.7	29.8	31.2	31.7
	12H	20.8	22.2	21.3	22.7	23.2	29.6	30.9	30.1	31.4	32.0
4H	2H	19.9	21.5	20.4	21.9	22.4	24.1	25.6	24.6	26.1	26.6
	3H	22.0	23.4	22.5	23.9	24.4	27.7	29.1	28.2	29.6	30.1
	4H	22.8	24.1	23.4	24.6	25.1	29.1	30.3	29.6	30.8	31.4
	6H	23.5	24.5	24.0	25.1	25.7	30.0	31.1	30.5	31.6	32.2
	8H	23.7	24.7	24.2	25.2	25.8	30.3	31.4	30.9	31.9	32.5
	12H	23.8	24.8	24.4	25.3	25.9	30.7	31.6	31.2	32.2	32.8
8H	4H	24.2	25.2	24.7	25.8	26.3	29.2	30.3	29.8	30.8	31.4
	6H	25.0	25.9	25.6	26.5	27.1	30.3	31.2	30.9	31.8	32.4
	8H	25.3	26.1	25.9	26.7	27.3	30.8	31.6	31.3	32.1	32.8
	12H	25.6	26.3	26.2	26.9	27.6	31.2	31.9	31.7	32.5	33.1
12H	4H	24.4	25.3	24.9	25.9	26.5	29.3	30.2	29.8	30.8	31.4
	6H	25.3	26.1	25.9	26.7	27.3	30.4	31.2	31.0	31.7	32.4
	8H	25.7	26.4	26.3	27.0	27.7	30.8	31.5	31.4	32.1	32.8

Maximum UGR = 33.1

POLAR GRAPH



Maximum Candela = 1482.574 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.)