



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 18-4-L90-840-A-(L70)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18321.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 02 SEPTEMBER 2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS INC - CARTHAGE, MO 64836

[LUMINAIRE] 4' SURFACE MOUNT WRAP LED LUMINAIRE

[MORE] WITH FROSTED PRISMATIC ACRYLIC DIFFUSER

[LUMCAT] 18-4-L90-840-A-(L70)-DIM-UNV

[LAMPCAT] HLM 80 CRI, 4000K CCT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] INDOOR, CLASSROOM, COMMERCIAL, INDUSTRIAL, MANUFACTURING, OFFICE, DIRECT

[_SEARCH_MOUNTING] PENDANT, SURFACE, SUSPENDED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7311
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	156
Total Luminaire Watts	46.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	1.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5106	4541	4270
55	3686	3160	2809
65	2265	1938	2026
75	1661	1468	1622
85	1208	1390	2093

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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	3067.743	3067.743	3067.743	3067.743	3067.743
5	3000.250	3013.909	3046.049	3032.390	3017.123
10	2969.717	2966.503	2954.451	2947.219	2925.525
15	2859.638	2861.245	2871.691	2854.817	2841.158
20	2755.184	2761.612	2732.686	2760.005	2764.826
25	2597.699	2609.751	2619.393	2582.433	2579.219
30	2509.314	2458.694	2455.480	2457.087	2449.052
35	2345.402	2286.746	2284.336	2261.035	2247.375
40	2161.401	2098.729	2095.515	2059.357	2051.322
45	1913.925	1858.484	1807.863	1729.924	1708.230
50	1549.138	1516.998	1427.007	1415.758	1366.745
55	1137.749	1136.142	1060.613	1005.976	948.927
60	768.141	764.124	722.342	688.595	679.757
65	527.896	519.058	509.416	509.416	537.538
70	356.752	350.324	367.197	385.678	417.817
75	249.887	237.031	267.564	284.437	299.704
80	162.306	171.144	203.284	241.852	287.651
85	76.332	101.240	133.380	204.891	206.498
90	3.214	20.087	65.887	116.507	142.219
95	0.000	15.266	65.887	89.991	89.991
100	0.000	20.087	57.852	61.066	70.708
105	1.607	21.694	40.978	53.834	57.852
110	8.838	25.712	42.585	52.227	57.852
115	10.445	25.712	42.585	52.227	53.834
120	10.445	27.319	45.799	57.852	59.459
125	13.659	28.926	45.799	53.834	59.459
130	20.087	33.747	52.227	64.280	64.280
135	20.087	32.140	52.227	61.066	65.887
140	20.087	32.140	47.406	61.066	64.280
145	21.694	32.140	45.799	53.834	59.459
150	27.319	32.140	40.978	47.406	47.406
155	27.319	32.140	40.978	42.585	40.978
160	27.319	28.926	33.747	35.354	33.747
165	28.926	28.926	32.140	33.747	33.747
170	28.926	28.926	28.926	28.926	28.926
175	27.319	32.140	32.140	28.926	28.926
180	30.533	30.533	30.533	30.533	30.533

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1094.19	N.A.	15.00
0-30	2296.36	N.A.	31.40
0-40	3724.51	N.A.	50.90
0-60	6063.03	N.A.	82.90
0-80	6884.83	N.A.	94.20
0-90	7040.05	N.A.	96.30
10-90	6753.31	N.A.	92.40
20-40	2630.32	N.A.	36.00
20-50	4008.9	N.A.	54.80
40-70	2865.97	N.A.	39.20
60-80	821.80	N.A.	11.20
70-80	294.35	N.A.	4.00
80-90	155.21	N.A.	2.10
90-110	101.22	N.A.	1.40
90-120	139.98	N.A.	1.90
90-130	178.55	N.A.	2.40
90-150	241.94	N.A.	3.30
90-180	270.66	N.A.	3.70
110-180	169.44	N.A.	2.30
0-180	7310.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	286.74
10-20	807.45
20-30	1202.17
30-40	1428.15
40-50	1378.58
50-60	959.94
60-70	527.45
70-80	294.35
80-90	155.21
90-100	60.16
100-110	41.06
110-120	38.77
120-130	38.57
130-140	36.42
140-150	26.97
150-160	17.04
160-170	8.83
170-180	2.85

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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	104	104	104	99	99	99	96
1	109	104	101	97	106	102	98	95	97	94	91	92	90	88	88	86	85	82
2	100	92	86	81	97	90	85	80	86	81	77	82	79	75	79	76	73	71
3	92	82	75	69	89	80	74	68	77	71	66	74	69	65	71	67	63	61
4	85	74	65	59	82	72	65	59	69	63	57	66	61	56	64	59	55	53
5	78	66	58	52	76	65	57	51	62	56	50	60	54	50	58	53	49	47
6	73	60	52	46	70	59	51	45	57	50	45	55	49	44	53	48	43	41
7	67	55	46	41	66	54	46	40	52	45	40	50	44	39	49	43	39	37
8	63	50	42	36	61	49	42	36	48	41	36	46	40	35	45	39	35	33
9	59	46	38	33	57	45	38	33	44	37	32	43	36	32	41	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	33	29	38	33	29	27

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UGR TABLE - CORRECTED

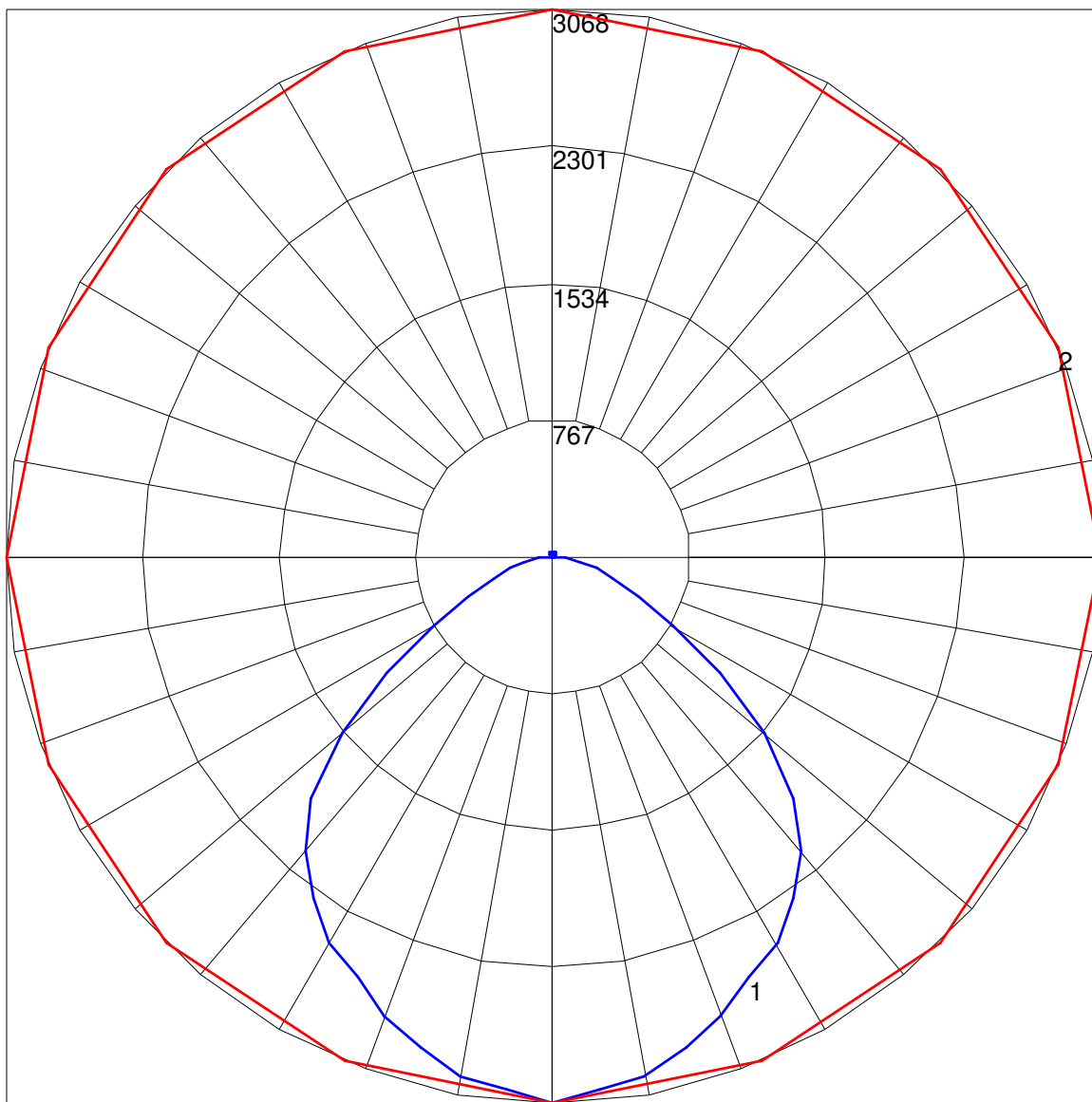
Reflectances

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	15.0	16.4	15.4	16.8	17.3	14.4	15.8	14.8	16.2	16.6
	3H	15.8	17.1	16.3	17.6	18.0	15.7	17.0	16.1	17.4	17.8
	4H	16.1	17.4	16.6	17.8	18.3	16.2	17.4	16.7	17.9	18.4
	6H	16.4	17.5	16.9	18.0	18.4	17.0	18.1	17.5	18.5	19.0
	8H	16.5	17.5	17.0	18.0	18.5	17.4	18.4	17.9	18.9	19.4
	12H	16.5	17.5	17.0	18.0	18.5	17.8	18.8	18.3	19.3	19.8
4H	2H	15.3	16.5	15.7	16.9	17.4	14.7	15.9	15.2	16.4	16.8
	3H	16.3	17.3	16.8	17.8	18.3	16.2	17.2	16.7	17.7	18.2
	4H	16.7	17.6	17.2	18.1	18.6	16.9	17.8	17.4	18.3	18.8
	6H	17.1	17.9	17.6	18.4	18.9	17.9	18.6	18.4	19.1	19.7
	8H	17.2	17.9	17.7	18.4	19.0	18.4	19.1	18.9	19.6	20.2
	12H	17.3	17.9	17.8	18.5	19.0	18.9	19.6	19.5	20.1	20.7
8H	4H	16.9	17.6	17.4	18.1	18.7	17.1	17.8	17.6	18.3	18.9
	6H	17.4	18.0	17.9	18.6	19.1	18.2	18.8	18.7	19.4	19.9
	8H	17.6	18.1	18.2	18.7	19.3	18.8	19.4	19.4	20.0	20.5
	12H	17.7	18.2	18.3	18.8	19.4	19.6	20.1	20.1	20.6	21.3
12H	4H	16.9	17.6	17.5	18.1	18.7	17.1	17.8	17.6	18.3	18.9
	6H	17.5	18.0	18.1	18.6	19.2	18.2	18.8	18.8	19.3	19.9
	8H	17.7	18.2	18.3	18.8	19.4	18.9	19.4	19.5	20.0	20.6

Maximum UGR = 21.3

POLAR GRAPH



Maximum Candela = 3067.743 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)