



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L6-835-X-SQ-XX-XX-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 17322.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 26-JUL-2021

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

[LUMINAIRE] 2' DIRECT/INDIRECT SURFACE LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC SQUARE LENS

[LUMCAT] LLM-2-L6-835-S-SQ-xx-xx-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1182
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	152
Total Luminaire Watts	7.8
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.10
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.00 ft
Luminous Width (90-270)	0.21 ft
Luminous Height	0.20 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5544	4274	4397
55	4326	3549	3936
65	3334	3042	3544
75	2304	2509	2931
85	1291	2155	2482

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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	360.571	360.571	360.571	360.571	360.571
5	362.020	362.600	363.759	363.759	364.629
10	351.875	353.325	355.064	356.223	356.223
15	333.905	337.093	339.412	340.571	341.151
20	320.282	324.920	328.108	330.427	330.716
25	288.399	294.196	298.833	302.022	303.181
30	258.834	266.660	273.037	278.834	281.442
35	232.748	242.603	252.747	262.602	266.660
40	197.386	210.140	225.502	240.284	246.661
45	166.663	182.314	203.763	225.792	234.777
50	136.518	155.358	181.155	208.401	219.125
55	109.563	130.721	162.315	193.908	206.082
60	86.375	108.983	143.475	177.387	189.850
65	66.085	90.433	128.982	164.344	176.228
70	47.535	73.042	112.461	146.083	156.808
75	31.593	56.810	94.780	124.635	133.620
80	19.130	45.216	81.737	109.273	116.809
85	9.275	34.202	68.984	93.331	99.418
90	1.449	22.608	52.173	71.013	75.360
95	0.000	21.449	49.854	66.375	69.853
100	0.000	20.000	44.637	58.259	61.158
105	0.000	18.840	40.289	51.883	54.202
110	0.000	17.101	36.521	46.666	49.564
115	0.000	15.652	33.043	42.028	44.637
120	0.000	15.072	30.144	39.709	41.738
125	0.000	13.913	27.246	35.361	37.970
130	0.000	12.753	24.637	32.463	34.492
135	0.000	11.594	22.028	28.405	31.014
140	0.000	11.304	20.869	26.956	28.985
145	0.000	11.594	19.420	25.796	27.246
150	0.000	9.565	15.942	20.289	22.028
155	0.000	9.565	14.492	18.260	19.130
160	0.000	7.826	11.884	14.782	15.652
165	0.000	6.956	10.724	11.884	12.463
170	0.000	0.000	8.116	10.145	10.435
175	0.000	0.000	3.768	7.246	7.246
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	130.35	N.A.	11.00
0-30	268.01	N.A.	22.70
0-40	424.67	N.A.	35.90
0-60	725.82	N.A.	61.40
0-80	946.59	N.A.	80.10
0-90	1014.08	N.A.	85.80
10-90	979.74	N.A.	82.90
20-40	294.32	N.A.	24.90
20-50	451.06	N.A.	38.20
40-70	425.78	N.A.	36.00
60-80	220.77	N.A.	18.70
70-80	96.14	N.A.	8.10
80-90	67.49	N.A.	5.70
90-110	83.28	N.A.	7.00
90-120	111.65	N.A.	9.40
90-130	133.21	N.A.	11.30
90-150	159.22	N.A.	13.50
90-180	168.00	N.A.	14.20
110-180	84.72	N.A.	7.20
0-180	1182.07	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	34.34
10-20	96.01
20-30	137.66
30-40	156.66
40-50	156.74
50-60	144.41
60-70	124.62
70-80	96.14
80-90	67.49
90-100	46.57
100-110	36.70
110-120	28.37
120-130	21.56
130-140	15.31
140-150	10.69
150-160	5.91
160-170	2.49
170-180	0.38

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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	113	113	113	113	109	109	109	109	101	101	101	94	94	94	87	87	87	84
1	102	96	91	87	97	93	88	84	86	82	79	80	77	74	74	72	70	67
2	92	83	76	70	88	80	74	68	74	69	64	69	65	61	64	61	57	54
3	84	73	64	58	80	70	63	56	65	59	54	61	55	51	56	52	48	46
4	77	64	56	49	73	62	54	48	58	51	46	54	48	44	50	45	41	39
5	70	58	49	42	67	56	47	41	52	45	39	49	42	38	45	40	36	34
6	65	52	43	37	62	50	42	36	47	40	35	44	38	33	41	36	32	29
7	60	47	38	32	58	46	37	32	43	36	31	40	34	29	38	32	28	26
8	56	43	35	29	54	42	34	28	39	32	27	37	31	26	35	29	25	23
9	52	39	31	26	50	38	31	26	36	29	25	34	28	24	32	27	23	21
10	49	36	29	24	47	35	28	23	33	27	22	32	26	22	30	25	21	19

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UGR TABLE - CORRECTED

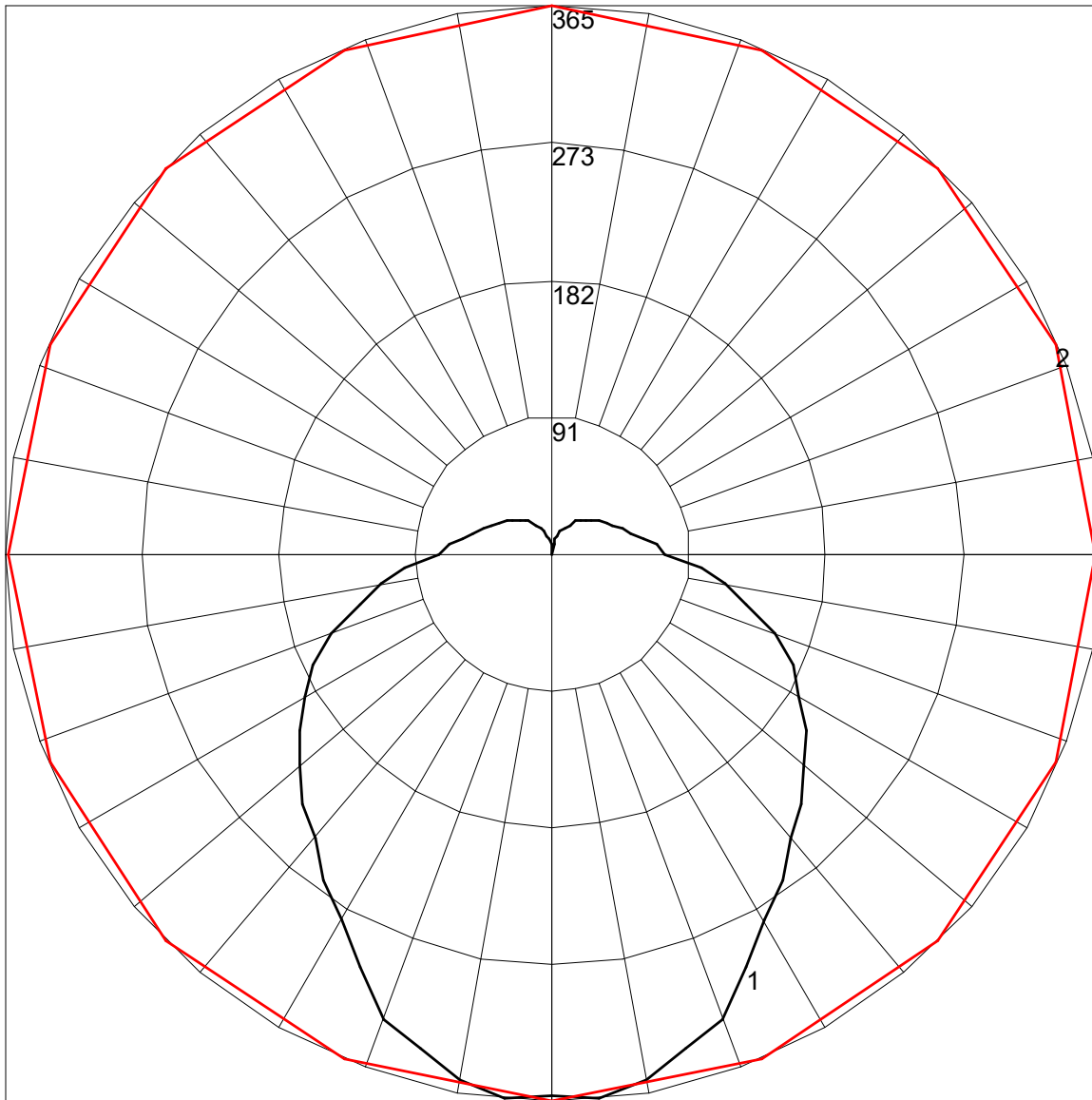
Reflectances

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	12.7	14.1	13.3	14.6	15.3	17.5	18.9	18.1	19.5	20.1
	3H	13.8	15.1	14.4	15.7	16.3	20.2	21.5	20.8	22.1	22.8
	4H	14.2	15.3	14.7	15.9	16.6	21.5	22.6	22.0	23.2	23.9
	6H	14.3	15.5	14.9	16.1	16.8	22.7	23.8	23.3	24.4	25.1
	8H	14.4	15.4	15.0	16.1	16.8	23.3	24.4	24.0	25.0	25.7
	12H	14.4	15.4	15.0	16.0	16.8	24.0	25.0	24.6	25.6	26.4
4H	2H	14.0	15.2	14.6	15.8	16.5	17.8	19.0	18.4	19.6	20.3
	3H	15.4	16.5	16.1	17.1	17.8	20.7	21.7	21.3	22.3	23.0
	4H	15.9	16.8	16.5	17.5	18.2	22.1	23.0	22.7	23.6	24.4
	6H	16.2	17.0	16.8	17.7	18.4	23.5	24.3	24.1	25.0	25.7
	8H	16.3	17.1	16.9	17.7	18.5	24.2	25.0	24.9	25.7	26.4
	12H	16.3	17.0	17.0	17.7	18.5	25.0	25.7	25.7	26.4	27.2
8H	4H	17.0	17.7	17.6	18.4	19.2	22.1	22.9	22.8	23.6	24.4
	6H	17.5	18.2	18.2	18.9	19.6	23.8	24.4	24.4	25.1	25.9
	8H	17.7	18.3	18.4	19.0	19.8	24.6	25.2	25.3	25.9	26.7
	12H	17.8	18.3	18.5	19.0	19.9	25.6	26.1	26.3	26.8	27.6
12H	4H	17.3	18.0	18.0	18.7	19.5	22.1	22.9	22.8	23.5	24.3
	6H	18.0	18.6	18.7	19.3	20.1	23.8	24.4	24.5	25.1	25.9
	8H	18.3	18.8	19.0	19.5	20.3	24.7	25.2	25.4	25.9	26.8

Maximum UGR = 27.6

POLAR GRAPH



Maximum Candela = 364.629 Located At Horizontal Angle = 90, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)