



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L15-835-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-L15-835-S-SQ-xx-xx-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2979
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	144
Total Luminaire Watts	20.7
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	13973	10771	11082
55	10903	8944	9921
65	8404	7667	8933
75	5807	6323	7388
85	3253	5432	6255

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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	908.748	908.748	908.748	908.748	908.748
5	912.401	913.862	916.784	916.784	918.975
10	886.833	890.486	894.869	897.791	897.791
15	841.542	849.577	855.421	858.344	859.805
20	807.208	818.896	826.932	832.776	833.506
25	726.853	741.463	753.151	761.186	764.108
30	652.341	672.065	688.136	702.746	709.320
35	586.596	611.433	637.000	661.838	672.065
40	497.474	529.616	568.333	605.589	621.660
45	420.040	459.488	513.545	569.063	591.709
50	344.068	391.551	456.566	525.233	552.262
55	276.131	329.458	409.083	488.708	519.389
60	217.691	274.670	361.600	447.069	478.481
65	166.555	227.918	325.075	414.196	444.147
70	119.803	184.087	283.436	368.175	395.203
75	79.625	143.179	238.875	314.117	336.763
80	48.213	113.959	206.002	275.400	294.394
85	23.376	86.200	173.860	235.223	250.563
90	3.653	56.979	131.491	178.974	189.931
95	0.000	54.057	125.647	167.286	176.052
100	0.000	50.405	112.498	146.832	154.137
105	0.000	47.483	101.540	130.760	136.604
110	0.000	43.100	92.044	117.611	124.916
115	0.000	39.447	83.278	105.923	112.498
120	0.000	37.986	75.973	100.079	105.193
125	0.000	35.064	68.667	89.122	95.696
130	0.000	32.142	62.093	81.817	86.930
135	0.000	29.220	55.518	71.590	78.164
140	0.000	28.490	52.596	67.937	73.051
145	0.000	29.220	48.944	65.015	68.667
150	0.000	24.107	40.178	51.135	55.518
155	0.000	24.107	36.525	46.022	48.213
160	0.000	19.724	29.951	37.256	39.447
165	0.000	17.532	27.029	29.951	31.412
170	0.000	0.000	20.454	25.568	26.298
175	0.000	0.000	9.497	18.263	18.263
180	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	328.51	N.A.	11.00
0-30	675.47	N.A.	22.70
0-40	1070.29	N.A.	35.90
0-60	1829.29	N.A.	61.40
0-80	2385.7	N.A.	80.10
0-90	2555.78	N.A.	85.80
10-90	2469.23	N.A.	82.90
20-40	741.78	N.A.	24.90
20-50	1136.81	N.A.	38.20
40-70	1073.09	N.A.	36.00
60-80	556.40	N.A.	18.70
70-80	242.31	N.A.	8.10
80-90	170.09	N.A.	5.70
90-110	209.89	N.A.	7.00
90-120	281.39	N.A.	9.40
90-130	335.73	N.A.	11.30
90-150	401.27	N.A.	13.50
90-180	423.40	N.A.	14.20
110-180	213.52	N.A.	7.20
0-180	2979.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	86.55
10-20	241.96
20-30	346.96
30-40	394.83
40-50	395.03
50-60	363.97
60-70	314.09
70-80	242.31
80-90	170.09
90-100	117.38
100-110	92.50
110-120	71.51
120-130	54.33
130-140	38.59
140-150	26.95
150-160	14.89
160-170	6.27
170-180	0.97

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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	292	292	292	292	281	281	281	281	260	260	260	241	241	241	224	224	224	216
1	261	248	235	224	251	238	227	217	221	212	204	205	198	191	190	184	179	171
2	236	214	196	180	226	206	189	175	191	177	165	178	166	156	165	156	148	140
3	215	187	166	149	206	181	161	145	168	151	138	156	142	131	145	134	124	117
4	197	166	143	126	188	160	139	123	149	131	117	139	124	112	129	117	107	100
5	181	148	125	108	173	143	122	106	134	115	101	125	109	97	117	103	93	86
6	167	133	111	94	160	129	108	92	121	102	89	113	97	85	106	92	82	76
7	155	121	99	83	148	117	96	82	110	92	79	103	87	76	97	83	73	67
8	144	110	89	74	138	107	87	73	101	83	70	95	79	68	89	76	65	60
9	135	101	81	67	129	98	79	66	93	76	63	88	72	61	83	69	59	54
10	126	93	74	61	122	91	72	60	86	69	58	81	66	56	77	64	54	49

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## UGR TABLE - CORRECTED

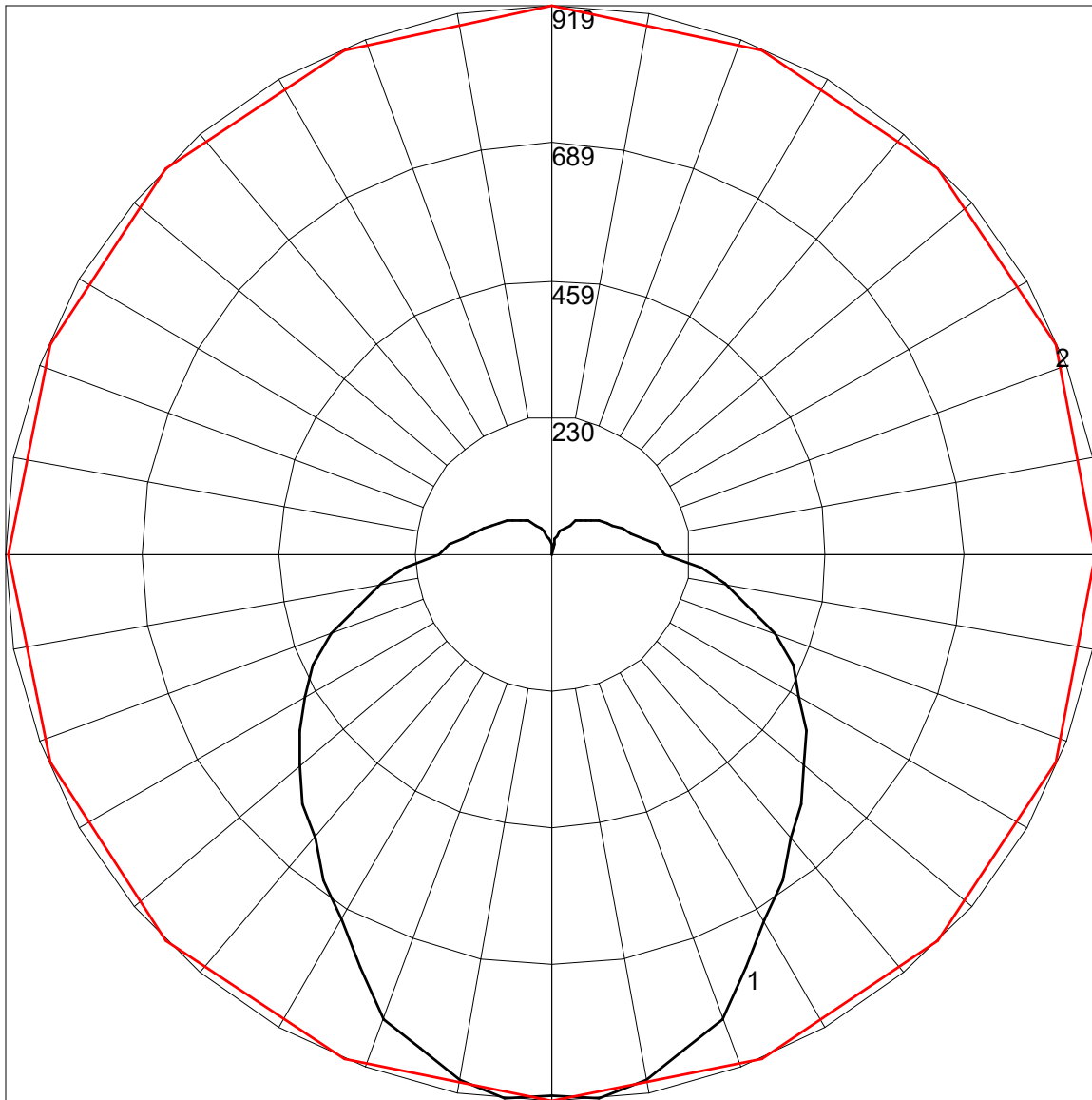
### Reflectances

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 = 918.975 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.)