



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L15-835-X-RD-XX-XX-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 17323.0

[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 ROUND LENS

[LUMCAT] LLM-2-L15-835-x-RD-xx-xx-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2920
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
Total Luminaire Watts	20.7
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.10
Spacing Criterion (90-270)	1.32
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.03 ft
Luminous Width (90-270)	0.21 ft
Luminous Height	0.17 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	13445	11798	12605
55	10860	9917	10973
65	8602	8532	9707
75	6136	7192	8183
85	3704	6622	7545

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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	848.739	848.739	848.739	848.739	848.739
5	853.657	852.955	854.360	855.765	856.468
10	828.364	829.769	836.795	842.416	843.821
15	789.018	794.639	807.286	819.230	824.148
20	752.483	763.725	786.910	808.691	816.420
25	682.223	697.680	730.703	760.212	771.453
30	613.369	635.149	680.115	721.569	737.729
35	555.053	584.562	642.175	693.465	713.840
40	474.254	507.979	580.346	642.175	663.956
45	403.994	446.853	532.570	604.235	630.934
50	335.140	380.808	474.957	552.242	578.239
55	273.311	323.898	422.964	503.763	530.462
60	217.103	269.798	372.377	452.473	478.470
65	167.921	225.534	331.627	412.425	438.422
70	121.550	182.676	287.363	365.351	387.834
75	81.501	143.330	243.802	313.359	332.329
80	51.290	115.226	212.887	279.634	297.199
85	24.591	91.338	184.783	246.612	262.772
90	3.513	67.449	146.141	196.025	210.077
95	0.000	51.992	129.278	179.865	191.107
100	0.000	42.859	109.605	150.356	161.598
105	0.000	35.130	90.635	126.468	137.709
110	0.000	28.807	76.583	109.605	116.631
115	0.000	24.591	65.342	92.040	101.877
120	0.000	23.186	56.910	80.799	88.527
125	0.000	21.781	48.479	68.855	75.881
130	0.000	19.673	41.453	60.423	66.044
135	0.000	16.862	35.130	50.587	54.100
140	0.000	16.160	33.022	45.669	50.587
145	0.000	16.862	30.914	41.453	45.669
150	0.000	14.755	25.294	33.022	35.833
155	0.000	14.755	22.483	28.807	30.212
160	0.000	14.755	19.673	24.591	25.294
165	0.000	7.026	17.565	21.078	21.781
170	0.000	0.000	16.160	16.862	17.565
175	0.000	0.000	0.000	14.755	14.755
180	0.000	0.000	0.000	0.000	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : LLM-2-L15-835-X-RD-XX-XX-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	309.60	N.A.	10.60
0-30	646.52	N.A.	22.10
0-40	1042.9	N.A.	35.70
0-60	1816.98	N.A.	62.20
0-80	2375.11	N.A.	81.30
0-90	2554.46	N.A.	87.50
10-90	2473.62	N.A.	84.70
20-40	733.30	N.A.	25.10
20-50	1137.35	N.A.	38.90
40-70	1088.67	N.A.	37.30
60-80	558.13	N.A.	19.10
70-80	243.54	N.A.	8.30
80-90	179.36	N.A.	6.10
90-110	209.67	N.A.	7.20
90-120	268.34	N.A.	9.20
90-130	308.46	N.A.	10.60
90-150	351.54	N.A.	12.00
90-180	365.73	N.A.	12.50
110-180	156.05	N.A.	5.30
0-180	2920.19	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	80.85
10-20	228.75
20-30	336.93
30-40	396.38
40-50	404.05
50-60	370.04
60-70	314.59
70-80	243.54
80-90	179.36
90-100	123.69
100-110	85.98
110-120	58.67
120-130	40.11
130-140	25.92
140-150	17.16
150-160	9.45
160-170	4.10
170-180	0.64

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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	293	293	293	293	282	282	282	282	263	263	263	245	245	245	228	228	228	221
1	262	248	235	224	252	239	228	217	222	213	204	207	199	193	193	187	181	174
2	237	214	195	179	227	206	189	175	192	178	166	179	168	157	167	158	149	142
3	215	187	165	148	206	181	161	144	168	152	138	157	143	131	147	135	125	118
4	197	165	142	125	188	160	138	122	149	131	117	140	124	112	131	118	107	100
5	181	147	124	107	173	143	121	105	134	115	101	125	109	97	118	104	93	87
6	167	133	110	93	160	129	107	91	121	102	88	113	97	85	107	93	82	76
7	155	120	98	82	148	117	96	81	110	91	78	103	87	75	97	83	73	67
8	144	110	88	73	138	106	86	72	100	82	70	95	79	67	90	76	65	60
9	134	100	80	66	129	98	78	65	92	75	63	88	72	61	83	69	59	54
10	126	93	73	59	121	90	71	59	86	69	57	81	66	55	77	63	53	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

X=2H	Y=2H	12.9	14.3	13.5	14.9	15.5	17.9	19.3	18.4	19.9	20.5
	3H	14.1	15.4	14.7	16.0	16.6	20.5	21.8	21.0	22.3	23.0
	4H	14.5	15.7	15.1	16.3	16.9	21.7	22.9	22.3	23.5	24.2
	6H	14.7	15.8	15.3	16.4	17.1	23.0	24.1	23.6	24.7	25.4
	8H	14.7	15.8	15.3	16.4	17.1	23.6	24.7	24.2	25.3	26.0
	12H	14.8	15.8	15.4	16.4	17.1	24.4	25.4	25.0	26.0	26.7

### UGR Viewed Endwise

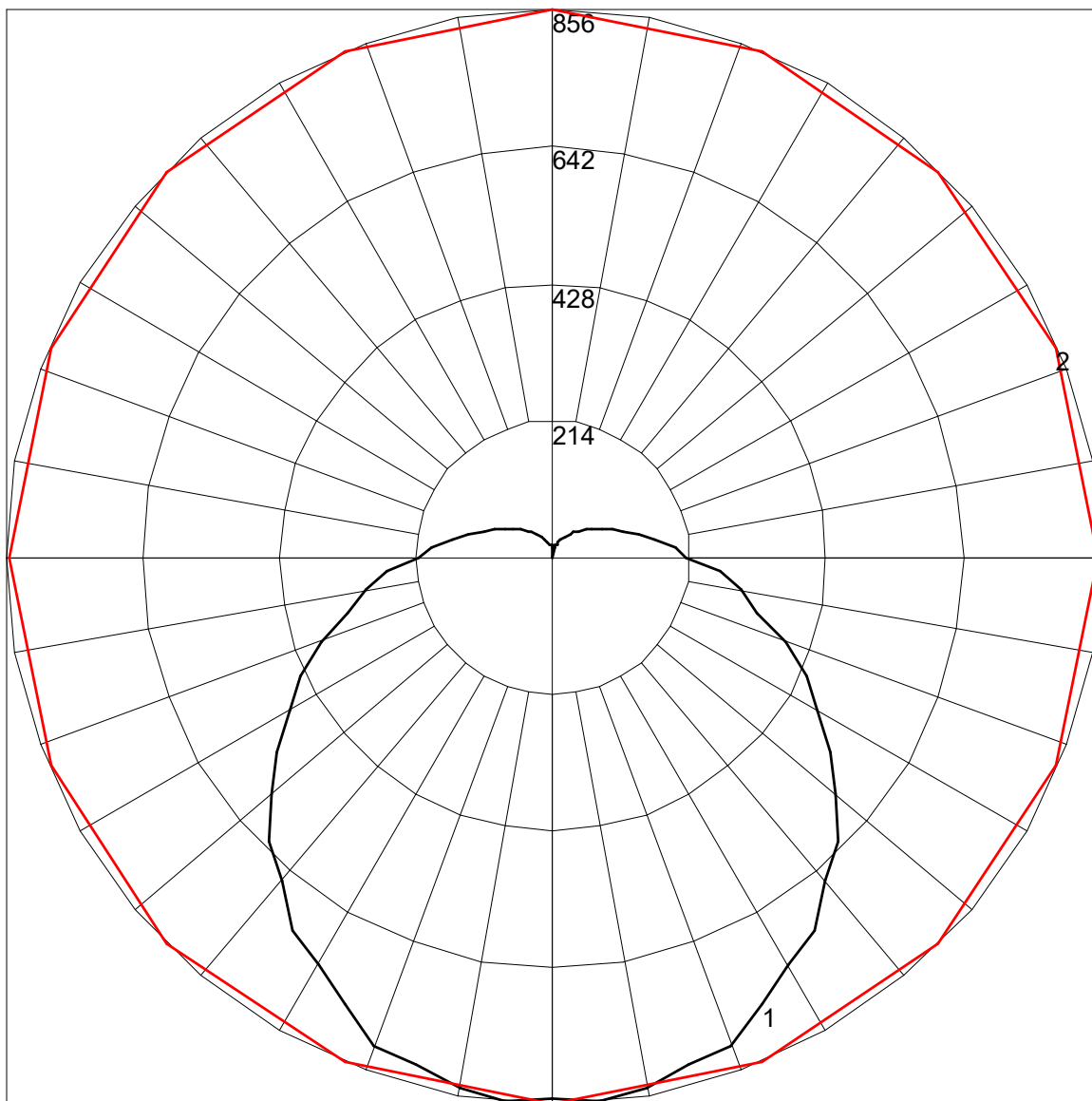
4H	2H	14.4	15.6	15.0	16.2	16.8	18.1	19.4	18.7	19.9	20.6
	3H	15.8	16.9	16.4	17.5	18.2	21.0	22.0	21.6	22.6	23.3
	4H	16.3	17.2	16.9	17.9	18.6	22.3	23.3	22.9	23.9	24.6
	6H	16.6	17.5	17.3	18.1	18.8	23.8	24.7	24.4	25.3	26.0
	8H	16.7	17.5	17.4	18.2	18.9	24.6	25.4	25.2	26.0	26.8
	12H	16.8	17.5	17.4	18.2	18.9	25.4	26.2	26.1	26.8	27.6

8H	4H	17.4	18.2	18.0	18.9	19.6	22.5	23.2	23.1	23.9	24.6
	6H	18.0	18.6	18.6	19.3	20.1	24.1	24.8	24.8	25.5	26.2
	8H	18.2	18.8	18.9	19.5	20.2	25.0	25.6	25.7	26.3	27.1
	12H	18.3	18.9	19.0	19.5	20.4	26.0	26.6	26.7	27.3	28.1

12H	4H	17.7	18.5	18.4	19.1	19.9	22.4	23.2	23.1	23.8	24.6
	6H	18.5	19.1	19.2	19.8	20.6	24.1	24.7	24.8	25.4	26.2
	8H	18.8	19.3	19.5	20.0	20.8	25.1	25.6	25.8	26.3	27.1

Maximum UGR = 28.1

POLAR GRAPH



Maximum Candela = 856.468 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.)