



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L10-835-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-L10-835-x-RD-xx-xx-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1921
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	144
Total Luminaire Watts	13.3
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	8845	7762	8292
55	7144	6524	7219
65	5659	5613	6386
75	4037	4731	5383
85	2436	4357	4964

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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	558.366	558.366	558.366	558.366	558.366
5	561.601	561.139	562.063	562.988	563.450
10	544.961	545.886	550.508	554.206	555.130
15	519.077	522.774	531.094	538.952	542.188
20	495.041	502.437	517.690	532.019	537.103
25	448.819	458.988	480.712	500.126	507.521
30	403.521	417.850	447.432	474.703	485.334
35	365.156	384.570	422.472	456.214	469.619
40	312.001	334.187	381.796	422.472	436.801
45	265.778	293.974	350.365	397.512	415.076
50	220.480	250.525	312.463	363.307	380.410
55	179.805	213.085	278.258	331.414	348.979
60	142.827	177.494	244.978	297.672	314.774
65	110.471	148.374	218.169	271.325	288.427
70	79.965	120.178	189.049	240.356	255.147
75	53.618	94.294	160.391	206.152	218.632
80	33.742	75.805	140.054	183.965	195.520
85	16.178	60.089	121.565	162.240	172.871
90	2.311	44.373	96.142	128.960	138.205
95	0.000	34.205	85.049	118.329	125.725
100	0.000	28.196	72.107	98.916	106.311
105	0.000	23.111	59.627	83.200	90.596
110	0.000	18.951	50.382	72.107	76.729
115	0.000	16.178	42.987	60.551	67.022
120	0.000	15.253	37.440	53.156	58.240
125	0.000	14.329	31.893	45.298	49.920
130	0.000	12.942	27.271	39.751	43.449
135	0.000	11.093	23.111	33.280	35.591
140	0.000	10.631	21.724	30.045	33.280
145	0.000	11.093	20.338	27.271	30.045
150	0.000	9.707	16.640	21.724	23.573
155	0.000	9.707	14.791	18.951	19.876
160	0.000	9.707	12.942	16.178	16.640
165	0.000	4.622	11.556	13.867	14.329
170	0.000	0.000	10.631	11.093	11.556
175	0.000	0.000	0.000	9.707	9.707
180	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	203.68	N.A.	10.60
0-30	425.33	N.A.	22.10
0-40	686.10	N.A.	35.70
0-60	1195.35	N.A.	62.20
0-80	1562.53	N.A.	81.30
0-90	1680.52	N.A.	87.50
10-90	1627.33	N.A.	84.70
20-40	482.42	N.A.	25.10
20-50	748.23	N.A.	38.90
40-70	716.21	N.A.	37.30
60-80	367.18	N.A.	19.10
70-80	160.22	N.A.	8.30
80-90	118.00	N.A.	6.10
90-110	137.94	N.A.	7.20
90-120	176.54	N.A.	9.20
90-130	202.93	N.A.	10.60
90-150	231.27	N.A.	12.00
90-180	240.60	N.A.	12.50
110-180	102.66	N.A.	5.30
0-180	1921.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	53.19
10-20	150.49
20-30	221.66
30-40	260.77
40-50	265.81
50-60	243.44
60-70	206.96
70-80	160.22
80-90	118.00
90-100	81.38
100-110	56.57
110-120	38.60
120-130	26.39
130-140	17.05
140-150	11.29
150-160	6.22
160-170	2.70
170-180	0.42

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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	193	193	193	193	186	186	186	186	173	173	173	161	161	161	150	150	150	145
1	172	163	155	147	165	157	150	143	146	140	135	136	131	127	127	123	119	114
2	156	141	128	118	149	136	125	115	126	117	109	118	110	104	110	104	98	93
3	142	123	109	97	136	119	106	95	111	100	91	103	94	86	97	89	82	78
4	129	109	94	82	124	105	91	80	98	86	77	92	82	74	86	78	71	66
5	119	97	82	70	114	94	80	69	88	76	66	82	72	64	77	68	61	57
6	110	87	72	61	105	85	70	60	79	67	58	75	64	56	70	61	54	50
7	102	79	64	54	98	77	63	53	72	60	51	68	57	50	64	55	48	44
8	95	72	58	48	91	70	57	47	66	54	46	62	52	44	59	50	43	39
9	88	66	52	43	85	64	51	43	61	49	41	58	47	40	55	45	39	35
10	83	61	48	39	80	59	47	39	56	45	37	53	43	36	51	42	35	32

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## UGR TABLE - CORRECTED

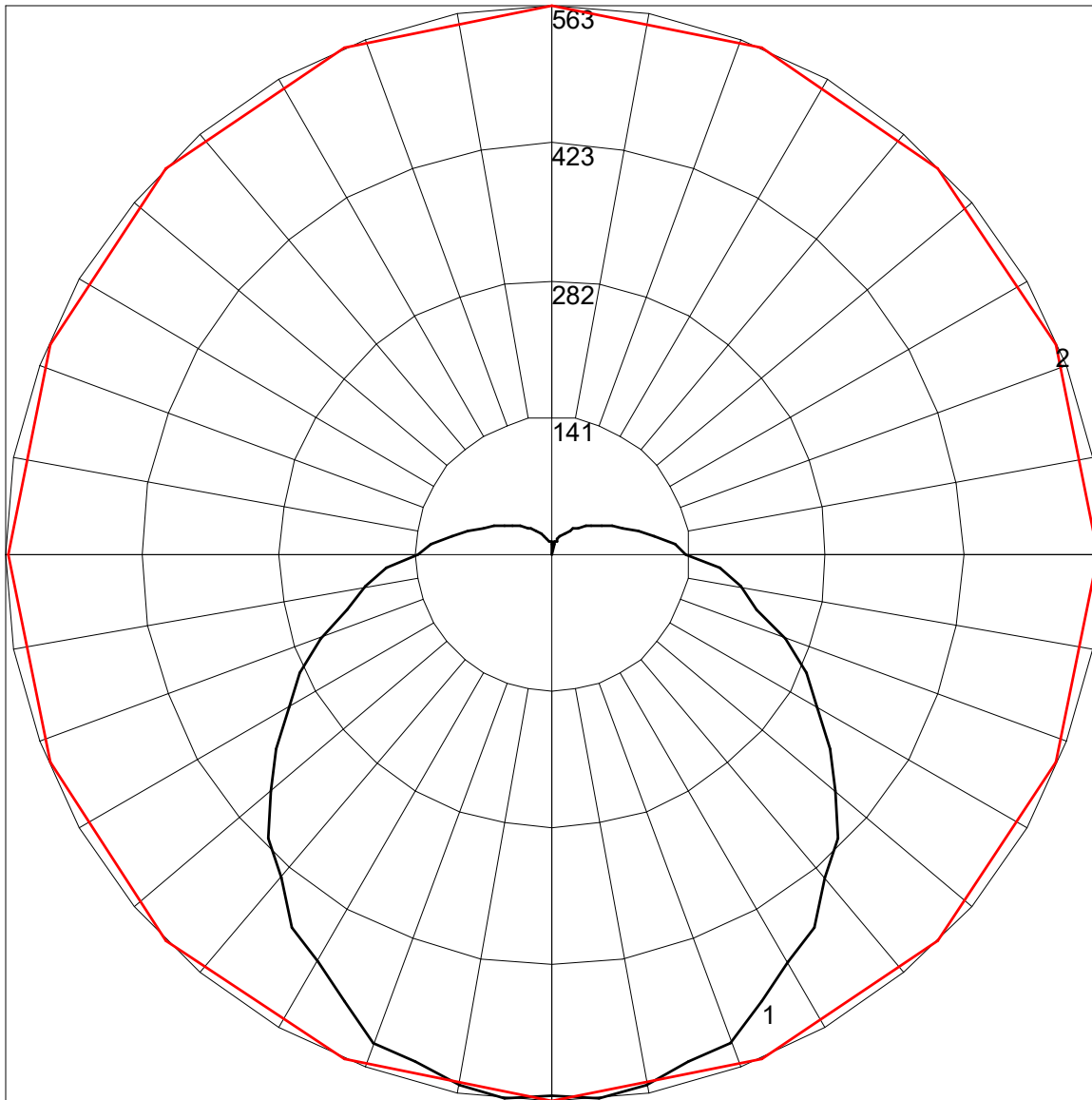
### Reflectances

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	12.9	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
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 = 563.45 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.)