



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-P9-835-X-SQ-XX-XX-POE\_.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] 11-AUG-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-P9-835-S-SQ-xx-xx-PoE

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1784
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	155
Total Luminaire Watts	11.5
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	8368	6450	6637
55	6530	5356	5941
65	5033	4591	5349
75	3478	3787	4424
85	1948	3253	3746

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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>
<b>0</b>	544.212	544.212	544.212	544.212	544.212
<b>5</b>	546.399	547.274	549.024	549.024	550.336
<b>10</b>	531.088	533.275	535.900	537.650	537.650
<b>15</b>	503.965	508.777	512.277	514.026	514.901
<b>20</b>	483.404	490.403	495.215	498.715	499.152
<b>25</b>	435.282	444.031	451.031	455.843	457.593
<b>30</b>	390.660	402.472	412.096	420.845	424.783
<b>35</b>	351.288	366.162	381.473	396.347	402.472
<b>40</b>	297.917	317.165	340.351	362.662	372.286
<b>45</b>	251.545	275.168	307.541	340.789	354.350
<b>50</b>	206.048	234.484	273.418	314.540	330.727
<b>55</b>	165.363	197.299	244.983	292.667	311.041
<b>60</b>	130.366	164.488	216.547	267.731	286.542
<b>65</b>	99.743	136.490	194.674	248.045	265.981
<b>70</b>	71.745	110.242	169.738	220.485	236.671
<b>75</b>	47.684	85.744	143.052	188.112	201.673
<b>80</b>	28.873	68.245	123.366	164.926	176.300
<b>85</b>	13.999	51.621	104.118	140.865	150.052
<b>90</b>	2.187	34.123	78.744	107.180	113.742
<b>95</b>	0.000	32.373	75.245	100.180	105.430
<b>100</b>	0.000	30.185	67.370	87.931	92.306
<b>105</b>	0.000	28.436	60.808	78.307	81.807
<b>110</b>	0.000	25.811	55.121	70.433	74.807
<b>115</b>	0.000	23.623	49.872	63.433	67.370
<b>120</b>	0.000	22.748	45.497	59.933	62.996
<b>125</b>	0.000	20.999	41.122	53.371	57.308
<b>130</b>	0.000	19.249	37.185	48.997	52.059
<b>135</b>	0.000	17.499	33.248	42.872	46.809
<b>140</b>	0.000	17.061	31.498	40.685	43.747
<b>145</b>	0.000	17.499	29.310	38.935	41.122
<b>150</b>	0.000	14.436	24.061	30.623	33.248
<b>155</b>	0.000	14.436	21.873	27.561	28.873
<b>160</b>	0.000	11.812	17.936	22.311	23.623
<b>165</b>	0.000	10.499	16.186	17.936	18.811
<b>170</b>	0.000	0.000	12.249	15.311	15.749
<b>175</b>	0.000	0.000	5.687	10.937	10.937
<b>180</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	196.73	N.A.	11.00
0-30	404.51	N.A.	22.70
0-40	640.96	N.A.	35.90
0-60	1095.49	N.A.	61.40
0-80	1428.69	N.A.	80.10
0-90	1530.55	N.A.	85.80
10-90	1478.72	N.A.	82.90
20-40	444.22	N.A.	24.90
20-50	680.79	N.A.	38.20
40-70	642.63	N.A.	36.00
60-80	333.21	N.A.	18.70
70-80	145.11	N.A.	8.10
80-90	101.86	N.A.	5.70
90-110	125.69	N.A.	7.00
90-120	168.51	N.A.	9.40
90-130	201.05	N.A.	11.30
90-150	240.30	N.A.	13.50
90-180	253.56	N.A.	14.20
110-180	127.87	N.A.	7.20
0-180	1784.11	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	51.83
10-20	144.90
20-30	207.78
30-40	236.45
40-50	236.57
50-60	217.97
60-70	188.10
70-80	145.11
80-90	101.86
90-100	70.30
100-110	55.40
110-120	42.82
120-130	32.54
130-140	23.11
140-150	16.14
150-160	8.92
160-170	3.76
170-180	0.58

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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	114	114	114	114	110	110	110	110	102	102	102	95	95	95	88	88	88	85
1	102	97	92	88	98	93	89	85	87	83	80	80	77	75	74	72	70	67
2	93	84	77	71	89	81	74	69	75	70	65	70	65	61	65	61	58	55
3	84	73	65	58	81	71	63	57	66	59	54	61	56	51	57	53	49	46
4	77	65	56	49	74	63	54	48	58	51	46	54	49	44	51	46	42	39
5	71	58	49	42	68	56	48	41	52	45	40	49	43	38	46	41	36	34
6	66	52	43	37	63	51	42	36	47	40	35	44	38	33	42	36	32	30
7	61	47	39	33	58	46	38	32	43	36	31	40	34	30	38	33	29	26
8	57	43	35	29	54	42	34	29	39	33	28	37	31	27	35	30	26	24
9	53	40	32	26	51	39	31	26	36	30	25	34	28	24	32	27	23	21
10	50	37	29	24	48	36	28	23	34	27	23	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

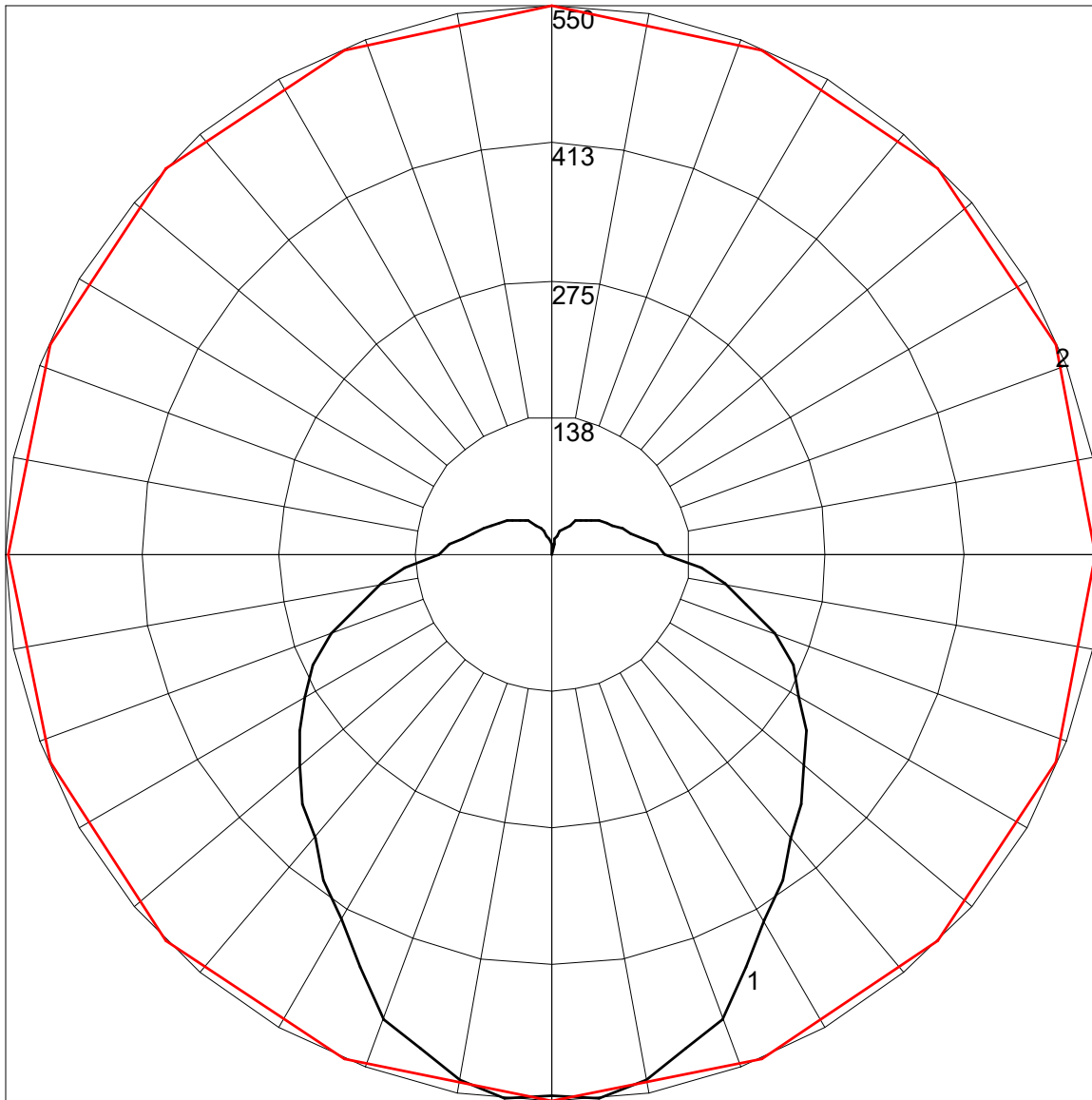
X=2H	Y=2H	14.1	15.5	14.7	16.0	16.7	18.9	20.3	19.5	20.9	21.5
	3H	15.2	16.5	15.8	17.1	17.7	21.6	22.9	22.2	23.5	24.2
	4H	15.6	16.7	16.2	17.3	18.0	22.9	24.0	23.5	24.6	25.3
	6H	15.7	16.9	16.3	17.5	18.2	24.1	25.2	24.7	25.8	26.5
	8H	15.8	16.8	16.4	17.5	18.2	24.7	25.8	25.4	26.4	27.1
	12H	15.8	16.8	16.4	17.4	18.2	25.4	26.4	26.0	27.0	27.8

UGR Viewed Endwise

4H	2H	15.4	16.6	16.0	17.2	17.9	19.2	20.4	19.8	21.0	21.7
	3H	16.8	17.9	17.5	18.5	19.2	22.1	23.1	22.7	23.7	24.4
	4H	17.3	18.2	17.9	18.9	19.6	23.5	24.4	24.1	25.0	25.8
	6H	17.6	18.4	18.2	19.1	19.8	24.9	25.7	25.5	26.4	27.1
	8H	17.7	18.5	18.3	19.1	19.9	25.6	26.4	26.3	27.1	27.8
	12H	17.7	18.4	18.4	19.1	19.9	26.4	27.1	27.1	27.8	28.6
8H	4H	18.4	19.2	19.0	19.8	20.6	23.6	24.3	24.2	25.0	25.8
	6H	18.9	19.6	19.6	20.3	21.0	25.2	25.8	25.8	26.5	27.3
	8H	19.1	19.7	19.8	20.4	21.2	26.0	26.6	26.7	27.3	28.1
	12H	19.2	19.7	19.9	20.4	21.3	27.0	27.5	27.7	28.2	29.0
12H	4H	18.7	19.4	19.4	20.1	20.9	23.5	24.3	24.2	24.9	25.7
	6H	19.4	20.0	20.1	20.7	21.5	25.2	25.8	25.9	26.5	27.3
	8H	19.7	20.2	20.4	20.9	21.7	26.1	26.6	26.8	27.3	28.2

Maximum UGR = 29.0

POLAR GRAPH



Maximum Candela = 550.336 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.)