



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L10-830-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  
 [ISSUEDATE] 05-22-2023  
 [MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2' DIRECT/INDIRECT SURFACE LUMINAIRE  
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC ROUND LENS  
 [LUMCAT]LLM-2-L10-830-x-RD-xx-xx-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1960
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	146
Total Luminaire Watts	13.4
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	9026	7920	8462
55	7290	6657	7366
65	5775	5728	6516
75	4119	4828	5493
85	2486	4445	5065

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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	569.760	569.760	569.760	569.760	569.760
5	573.061	572.590	573.533	574.476	574.948
10	556.082	557.025	561.742	565.515	566.458
15	529.669	533.442	541.932	549.950	553.252
20	505.143	512.689	528.254	542.875	548.064
25	457.977	468.354	490.522	510.331	517.878
30	411.755	426.376	456.562	484.390	495.238
35	372.608	392.417	431.093	465.524	479.202
40	318.367	341.007	389.587	431.093	445.714
45	271.202	299.973	357.515	405.624	423.547
50	224.980	255.637	318.839	370.721	388.172
55	183.474	217.433	283.937	338.177	356.100
60	145.742	181.116	249.977	303.746	321.197
65	112.726	151.401	222.621	276.862	294.313
70	81.596	122.630	192.907	245.261	260.354
75	54.712	96.218	163.664	210.358	223.093
80	34.431	77.351	142.912	187.719	199.510
85	16.508	61.315	124.045	165.551	176.399
90	2.358	45.279	98.104	131.592	141.025
95	0.000	34.902	86.785	120.744	128.290
100	0.000	28.771	73.578	100.934	108.481
105	0.000	23.583	60.844	84.898	92.444
110	0.000	19.338	51.410	73.578	78.295
115	0.000	16.508	43.864	61.787	68.390
120	0.000	15.565	38.204	54.240	59.429
125	0.000	14.621	32.544	46.222	50.939
130	0.000	13.206	27.828	40.562	44.336
135	0.000	11.320	23.583	33.959	36.317
140	0.000	10.848	22.168	30.658	33.959
145	0.000	11.320	20.753	27.828	30.658
150	0.000	9.905	16.980	22.168	24.054
155	0.000	9.905	15.093	19.338	20.281
160	0.000	9.905	13.206	16.508	16.980
165	0.000	4.717	11.791	14.150	14.621
170	0.000	0.000	10.848	11.320	11.791
175	0.000	0.000	0.000	9.905	9.905
180	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	207.83	N.A.	10.60
0-30	434.01	N.A.	22.10
0-40	700.10	N.A.	35.70
0-60	1219.74	N.A.	62.20
0-80	1594.41	N.A.	81.30
0-90	1714.82	N.A.	87.50
10-90	1660.54	N.A.	84.70
20-40	492.27	N.A.	25.10
20-50	763.50	N.A.	38.90
40-70	730.83	N.A.	37.30
60-80	374.67	N.A.	19.10
70-80	163.49	N.A.	8.30
80-90	120.40	N.A.	6.10
90-110	140.76	N.A.	7.20
90-120	180.14	N.A.	9.20
90-130	207.07	N.A.	10.60
90-150	235.99	N.A.	12.00
90-180	245.51	N.A.	12.50
110-180	104.76	N.A.	5.30
0-180	1960.33	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	54.27
10-20	153.56
20-30	226.18
30-40	266.09
40-50	271.24
50-60	248.41
60-70	211.18
70-80	163.49
80-90	120.40
90-100	83.04
100-110	57.72
110-120	39.38
120-130	26.93
130-140	17.40
140-150	11.52
150-160	6.35
160-170	2.75
170-180	0.43

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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	116	116	116	116	112	112	112	112	104	104	104	97	97	97	91	91	91	87
1	104	98	93	89	100	95	90	86	88	84	81	82	79	76	76	74	72	69
2	94	85	77	71	90	82	75	69	76	71	66	71	66	62	66	63	59	56
3	85	74	66	59	82	72	64	57	67	60	55	62	57	52	58	54	50	47
4	78	66	56	49	75	63	55	48	59	52	46	55	49	44	52	47	43	40
5	72	58	49	42	69	57	48	42	53	46	40	50	43	38	47	41	37	34
6	66	53	43	37	63	51	42	36	48	40	35	45	39	34	42	37	32	30
7	61	48	39	33	59	46	38	32	44	36	31	41	35	30	39	33	29	27
8	57	43	35	29	55	42	34	29	40	33	28	38	31	27	36	30	26	24
9	53	40	32	26	51	39	31	26	37	30	25	35	29	24	33	27	23	21
10	50	37	29	24	48	36	28	23	34	27	23	32	26	22	31	25	21	19

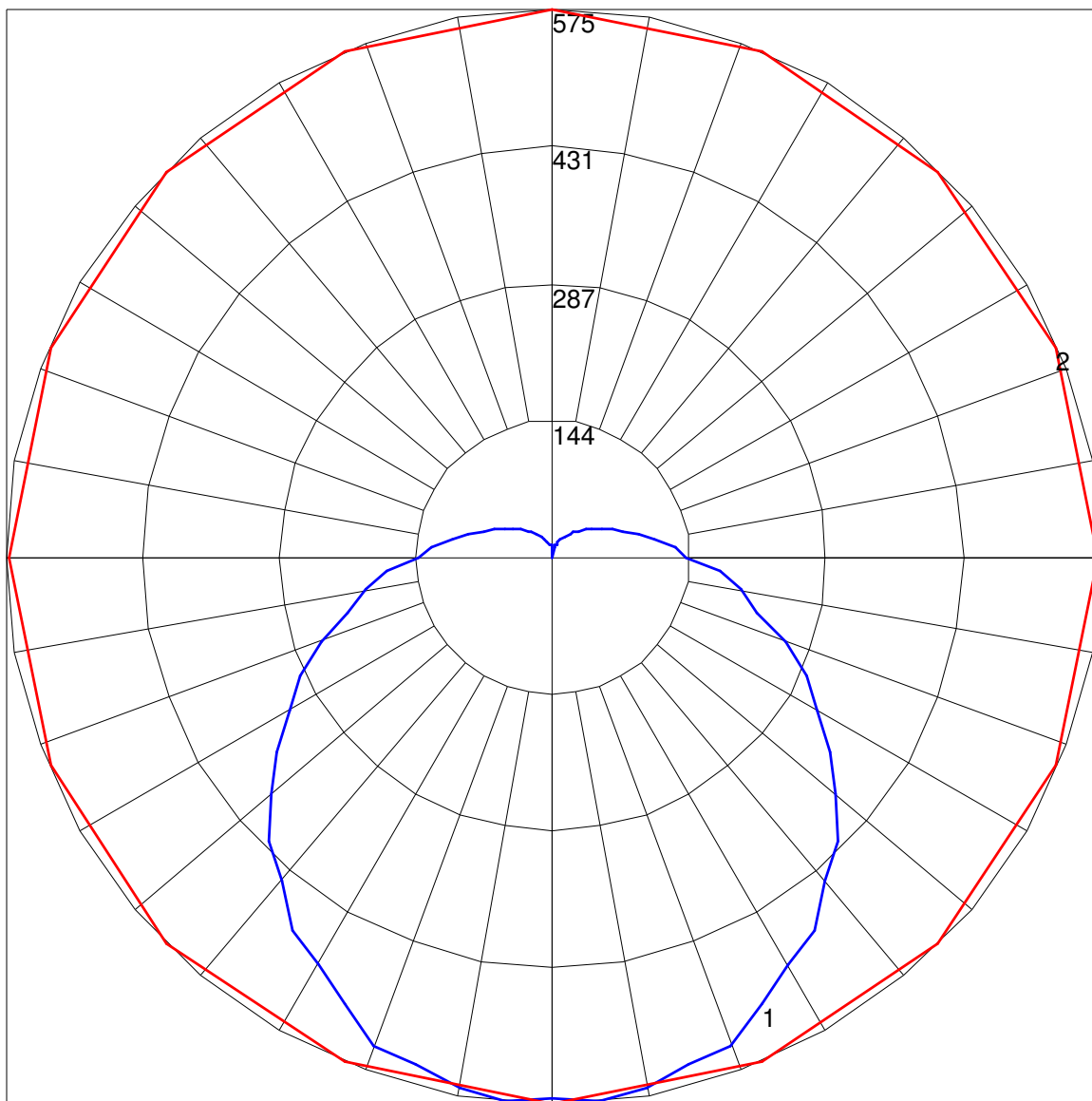
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**UGR TABLE - CORRECTED**

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	14.8	16.2	15.3	16.7	17.3	19.7	21.2	20.3	21.7	22.3
	3H	15.9	17.2	16.5	17.8	18.4	22.3	23.6	22.8	24.2	24.8
	4H	16.3	17.5	16.9	18.1	18.8	23.5	24.8	24.1	25.3	26.0
	6H	16.5	17.7	17.1	18.3	18.9	24.8	26.0	25.4	26.5	27.2
	8H	16.6	17.7	17.2	18.3	18.9	25.5	26.6	26.0	27.2	27.8
	12H	16.6	17.7	17.2	18.3	18.9	26.2	27.2	26.8	27.8	28.5
4H	2H	16.2	17.4	16.8	18.0	18.7	20.0	21.2	20.5	21.8	22.4
	3H	17.6	18.7	18.2	19.3	20.0	22.8	23.8	23.4	24.4	25.1
	4H	18.1	19.1	18.7	19.7	20.4	24.1	25.1	24.7	25.7	26.4
	6H	18.4	19.3	19.1	19.9	20.7	25.6	26.5	26.3	27.1	27.9
	8H	18.5	19.4	19.2	20.0	20.7	26.4	27.2	27.0	27.9	28.6
	12H	18.6	19.3	19.2	20.0	20.7	27.3	28.0	27.9	28.7	29.4
8H	4H	19.2	20.0	19.9	20.7	21.4	24.3	25.1	24.9	25.7	26.5
	6H	19.8	20.5	20.4	21.2	21.9	25.9	26.6	26.6	27.3	28.0
	8H	20.0	20.6	20.7	21.3	22.1	26.8	27.5	27.5	28.2	28.9
	12H	20.1	20.7	20.8	21.4	22.2	27.9	28.4	28.5	29.1	29.9
12H	4H	19.6	20.3	20.2	21.0	21.7	24.3	25.0	24.9	25.7	26.4
	6H	20.3	20.9	21.0	21.6	22.4	26.0	26.6	26.6	27.2	28.0
	8H	20.6	21.2	21.3	21.9	22.7	26.9	27.5	27.6	28.2	29.0

Maximum UGR = 29.9

POLAR GRAPH



Maximum Candela = 574.948 Located At Horizontal Angle = 90, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)