



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-8-L6-835-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] 8' DIRECT/INDIRECT SURFACE LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC SQUARE LENS

[LUMCAT] LLM-8-L6-835-S-SQ-xx-xx-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4728
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	163
Total Luminaire Watts	29
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)	7.75 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	6133	4547	4539
55	4918	3800	4063
65	3956	3281	3659
75	2974	2730	3026
85	2198	2373	2562

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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	1442.284	1442.284	1442.284	1442.284	1442.284
5	1448.081	1450.399	1455.037	1455.037	1458.515
10	1407.502	1413.299	1420.255	1424.893	1424.893
15	1335.620	1348.373	1357.648	1362.286	1364.604
20	1281.128	1299.678	1312.432	1321.707	1322.866
25	1153.595	1176.783	1195.333	1208.086	1212.724
30	1035.337	1066.641	1092.147	1115.335	1125.770
35	930.992	970.411	1010.990	1050.409	1066.641
40	789.546	840.559	902.007	961.136	986.643
45	666.650	729.258	815.053	903.166	939.108
50	546.074	621.434	724.620	833.603	876.500
55	438.250	522.886	649.260	775.633	824.328
60	345.499	435.931	573.899	709.548	759.402
65	264.341	361.730	515.929	657.375	704.910
70	190.140	292.167	449.844	584.334	627.231
75	126.374	227.241	379.121	498.539	534.480
80	76.520	180.865	326.949	437.091	467.235
85	37.101	136.808	275.935	373.324	397.671
90	5.797	90.433	208.691	284.051	301.442
95	0.000	85.795	199.415	265.501	279.413
100	0.000	79.998	178.546	233.038	244.632
105	0.000	75.360	161.155	207.531	216.806
110	0.000	68.404	146.083	186.662	198.256
115	0.000	62.607	132.171	168.112	178.546
120	0.000	60.288	120.577	158.837	166.952
125	0.000	55.651	108.983	141.446	151.880
130	0.000	51.013	98.548	129.852	137.968
135	0.000	46.376	88.114	113.620	124.055
140	0.000	45.216	83.476	107.823	115.939
145	0.000	46.376	77.679	103.186	108.983
150	0.000	38.260	63.767	81.157	88.114
155	0.000	38.260	57.970	73.042	76.520
160	0.000	31.304	47.535	59.129	62.607
165	0.000	27.825	42.898	47.535	49.854
170	0.000	0.000	32.463	40.579	41.738
175	0.000	0.000	15.072	28.985	28.985
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	521.38	N.A.	11.00
0-30	1072.04	N.A.	22.70
0-40	1698.68	N.A.	35.90
0-60	2903.29	N.A.	61.40
0-80	3786.36	N.A.	80.10
0-90	4056.31	N.A.	85.80
10-90	3918.95	N.A.	82.90
20-40	1177.29	N.A.	24.90
20-50	1804.25	N.A.	38.20
40-70	1703.11	N.A.	36.00
60-80	883.07	N.A.	18.70
70-80	384.58	N.A.	8.10
80-90	269.95	N.A.	5.70
90-110	333.11	N.A.	7.00
90-120	446.60	N.A.	9.40
90-130	532.84	N.A.	11.30
90-150	636.86	N.A.	13.50
90-180	671.99	N.A.	14.20
110-180	338.88	N.A.	7.20
0-180	4728.3	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	137.36
10-20	384.02
20-30	550.66
30-40	626.63
40-50	626.95
50-60	577.66
60-70	498.50
70-80	384.58
80-90	269.95
90-100	186.30
100-110	146.81
110-120	113.49
120-130	86.23
130-140	61.25
140-150	42.77
150-160	23.64
160-170	9.95
170-180	1.54

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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	113	113	113	113	109	109	109	109	101	101	101	93	93	93	87	87	87	84
1	101	96	91	87	97	92	88	84	85	82	79	79	76	74	74	71	69	66
2	91	83	76	70	88	80	73	68	74	69	64	69	64	61	64	60	57	54
3	83	72	64	58	80	70	62	56	65	59	53	60	55	51	56	52	48	45
4	76	64	55	49	73	62	54	48	58	51	45	54	48	43	50	45	41	39
5	70	57	48	42	67	55	47	41	52	45	39	48	42	38	45	40	36	33
6	65	52	43	36	62	50	42	36	47	40	34	44	38	33	41	36	32	29
7	60	47	38	32	57	45	37	32	43	36	30	40	34	29	38	32	28	26
8	56	43	34	29	54	41	34	28	39	32	27	37	31	26	35	29	25	23
9	52	39	31	26	50	38	31	25	36	29	25	34	28	24	32	27	23	21
10	49	36	29	23	47	35	28	23	33	27	22	31	26	22	30	25	21	19

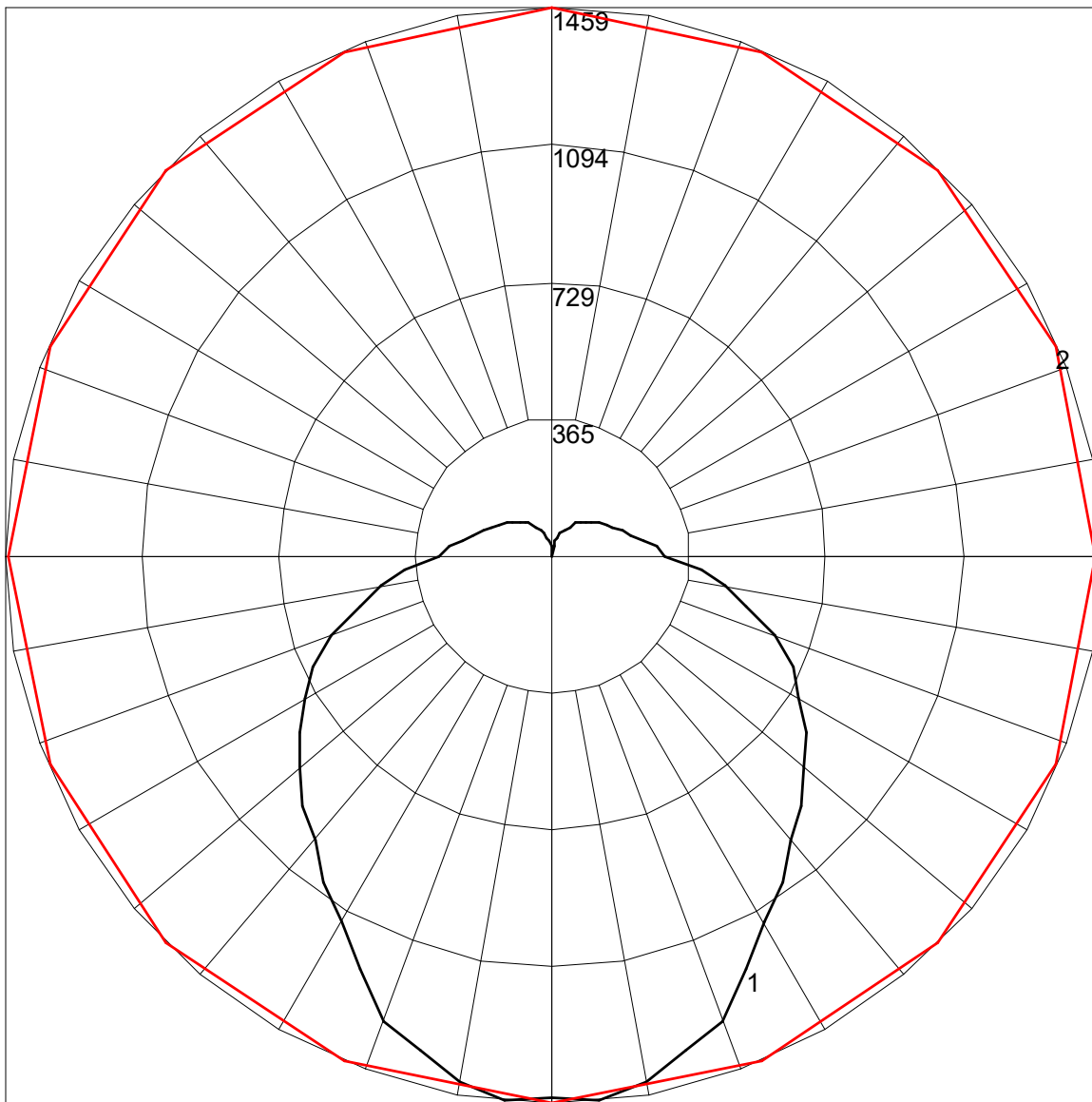
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UGR TABLE - CORRECTED

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					UGR Viewed Endwise				
X=2H	Y=2H	12.9	14.3	13.5	14.9	15.5	18.0	19.4	18.5	19.9	20.6
	3H	14.1	15.3	14.6	15.9	16.6	20.7	22.0	21.3	22.6	23.3
	4H	14.4	15.6	15.0	16.2	16.9	22.0	23.2	22.6	23.8	24.5
	6H	14.6	15.7	15.2	16.3	17.0	23.4	24.5	24.0	25.1	25.8
	8H	14.6	15.7	15.2	16.3	17.0	24.1	25.2	24.7	25.8	26.5
	12H	14.6	15.6	15.2	16.3	17.0	24.9	25.9	25.5	26.5	27.3
4H	2H	14.3	15.5	14.9	16.1	16.8	18.2	19.4	18.8	20.0	20.7
	3H	15.7	16.7	16.3	17.4	18.1	21.2	22.2	21.8	22.8	23.5
	4H	16.2	17.1	16.8	17.7	18.5	22.6	23.6	23.2	24.2	24.9
	6H	16.5	17.3	17.1	18.0	18.7	24.1	25.0	24.8	25.7	26.4
	8H	16.5	17.3	17.2	18.0	18.8	25.0	25.7	25.6	26.4	27.2
	12H	16.6	17.3	17.3	18.0	18.8	25.8	26.6	26.5	27.3	28.0
8H	4H	17.3	18.1	17.9	18.7	19.5	22.7	23.5	23.4	24.2	24.9
	6H	17.8	18.5	18.5	19.2	20.0	24.4	25.1	25.1	25.8	26.5
	8H	18.0	18.6	18.7	19.3	20.1	25.3	25.9	26.0	26.6	27.4
	12H	18.1	18.6	18.8	19.3	20.2	26.4	26.9	27.1	27.6	28.5
12H	4H	17.6	18.3	18.3	19.0	19.8	22.7	23.4	23.4	24.1	24.9
	6H	18.3	18.9	19.0	19.6	20.4	24.4	25.0	25.1	25.7	26.5
	8H	18.6	19.1	19.3	19.8	20.7	25.4	25.9	26.1	26.6	27.5

Maximum UGR = 28.5

POLAR GRAPH



Maximum Candela = 1458.515 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.)