



IES INDOOR REPORT

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

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC ROUND LENS

[LUMCAT] LLM-8-L6-835-x-RD-xx-xx-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4633
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	160
Total Luminaire Watts	29
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)	7.75 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	5920	5036	5239
55	4893	4259	4560
65	4020	3691	4034
75	3085	3140	3401
85	2396	2928	3136

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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	1346.647	1346.647	1346.647	1346.647	1346.647
5	1354.450	1353.336	1355.565	1357.795	1358.909
10	1314.319	1316.548	1327.696	1336.614	1338.844
15	1251.891	1260.809	1280.875	1299.826	1307.630
20	1193.923	1211.759	1248.547	1283.105	1295.367
25	1082.446	1106.971	1159.365	1206.185	1224.022
30	973.198	1007.756	1079.101	1144.873	1170.513
35	880.671	927.492	1018.903	1100.282	1132.610
40	752.472	805.982	920.803	1018.903	1053.461
45	640.995	708.996	844.999	958.706	1001.067
50	531.747	604.208	753.587	876.212	917.459
55	433.647	513.911	671.094	799.293	841.654
60	344.465	428.073	590.830	717.914	759.161
65	266.431	357.842	526.173	654.372	695.619
70	192.856	289.841	455.943	579.682	615.355
75	129.314	227.414	386.827	497.189	527.288
80	81.379	182.823	337.777	443.680	471.549
85	39.017	144.921	293.186	391.286	416.925
90	5.574	107.018	231.873	311.022	333.317
95	0.000	82.493	205.118	285.382	303.219
100	0.000	68.001	173.905	238.562	256.398
105	0.000	55.739	143.806	200.659	218.496
110	0.000	45.706	121.510	173.905	185.052
115	0.000	39.017	103.674	146.035	161.642
120	0.000	36.788	90.297	128.199	140.462
125	0.000	34.558	76.919	109.248	120.396
130	0.000	31.214	65.772	95.871	104.789
135	0.000	26.755	55.739	80.264	85.838
140	0.000	25.640	52.394	72.460	80.264
145	0.000	26.755	49.050	65.772	72.460
150	0.000	23.410	40.132	52.394	56.853
155	0.000	23.410	35.673	45.706	47.935
160	0.000	23.410	31.214	39.017	40.132
165	0.000	11.148	27.869	33.443	34.558
170	0.000	0.000	25.640	26.755	27.869
175	0.000	0.000	0.000	23.410	23.410
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	491.22	N.A.	10.60
0-30	1025.8	N.A.	22.10
0-40	1654.71	N.A.	35.70
0-60	2882.9	N.A.	62.20
0-80	3768.45	N.A.	81.30
0-90	4053.03	N.A.	87.50
10-90	3924.75	N.A.	84.70
20-40	1163.49	N.A.	25.10
20-50	1804.57	N.A.	38.90
40-70	1727.33	N.A.	37.30
60-80	885.55	N.A.	19.10
70-80	386.41	N.A.	8.30
80-90	284.58	N.A.	6.10
90-110	332.68	N.A.	7.20
90-120	425.77	N.A.	9.20
90-130	489.41	N.A.	10.60
90-150	557.76	N.A.	12.00
90-180	580.28	N.A.	12.50
110-180	247.60	N.A.	5.30
0-180	4633.31	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	128.28
10-20	362.94
20-30	534.58
30-40	628.91
40-50	641.08
50-60	587.12
60-70	499.14
70-80	386.41
80-90	284.58
90-100	196.26
100-110	136.42
110-120	93.09
120-130	63.65
130-140	41.12
140-150	27.23
150-160	15.00
160-170	6.51
170-180	1.01

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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	115	115	115	115	111	111	111	111	103	103	103	96	96	96	90	90	90	87
1	103	97	92	88	99	94	89	85	87	84	80	81	78	76	76	73	71	68
2	93	84	77	71	89	81	74	69	76	70	65	70	66	62	66	62	59	56
3	85	74	65	58	81	71	63	57	66	60	54	62	56	52	58	53	49	47
4	77	65	56	49	74	63	54	48	59	52	46	55	49	44	51	46	42	40
5	71	58	49	42	68	56	48	41	53	45	40	49	43	38	46	41	37	34
6	66	52	43	37	63	51	42	36	47	40	35	45	38	33	42	36	32	30
7	61	47	38	32	58	46	38	32	43	36	31	41	34	30	38	33	29	26
8	57	43	35	29	54	42	34	28	40	32	27	37	31	26	35	30	26	24
9	53	40	31	26	51	38	31	25	36	29	25	34	28	24	33	27	23	21
10	50	36	29	23	48	35	28	23	34	27	22	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	13.2	14.7	13.8	15.2	15.8	18.4	19.8	18.9	20.4	21.0
	3H	14.4	15.7	15.0	16.3	16.9	21.0	22.3	21.6	22.9	23.5
	4H	14.8	16.0	15.3	16.6	17.2	22.3	23.5	22.9	24.1	24.8
	6H	15.0	16.2	15.6	16.7	17.4	23.7	24.8	24.3	25.4	26.1
	8H	15.0	16.2	15.6	16.8	17.4	24.4	25.5	25.0	26.1	26.8
	12H	15.1	16.1	15.7	16.7	17.4	25.3	26.3	25.9	26.9	27.6

UGR Viewed Endwise

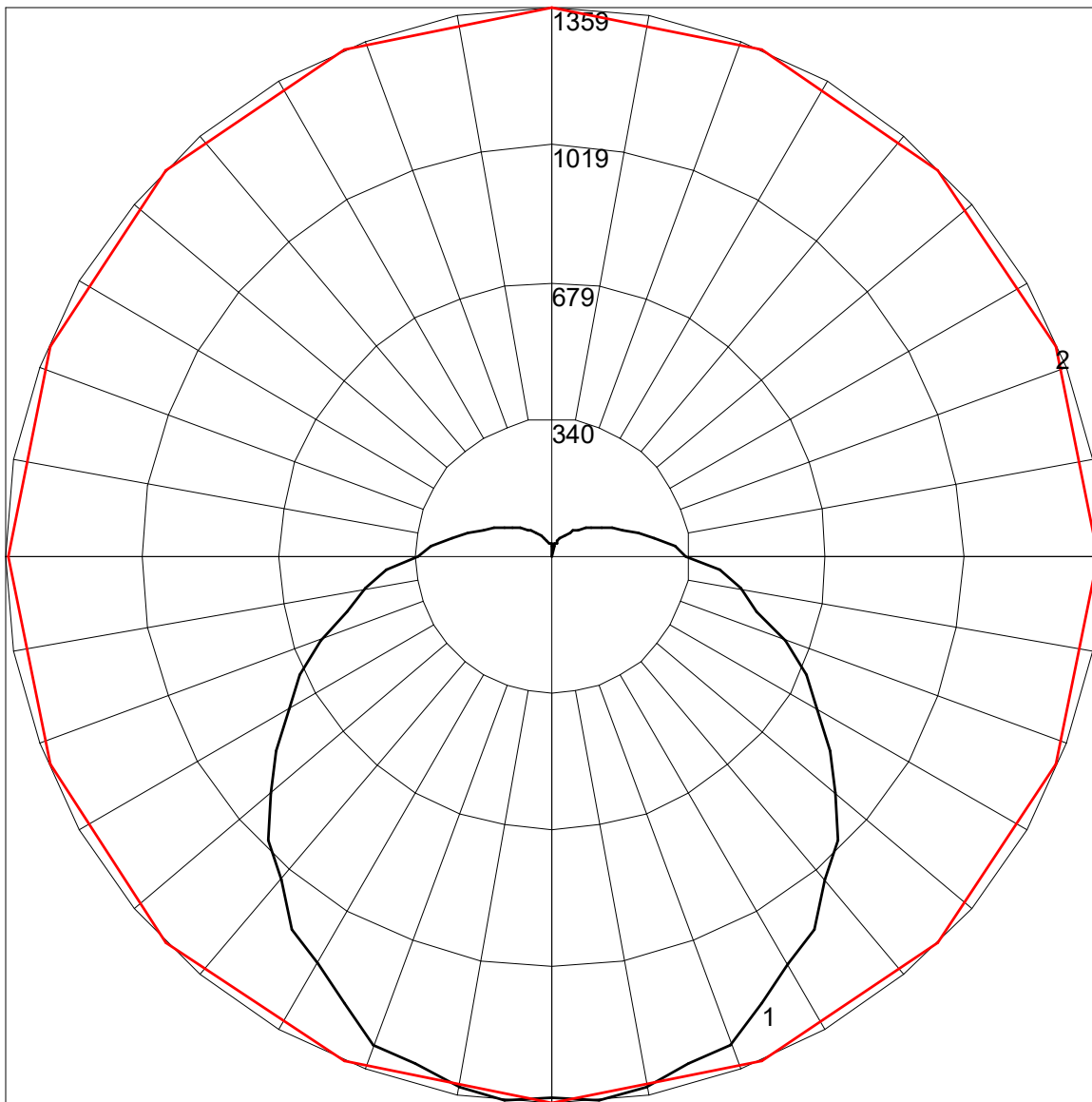
4H	2H	14.7	16.0	15.3	16.5	17.2	18.6	19.9	19.2	20.4	21.1
	3H	16.2	17.2	16.7	17.8	18.5	21.5	22.6	22.1	23.2	23.8
	4H	16.6	17.6	17.2	18.2	18.9	22.9	23.9	23.5	24.5	25.2
	6H	17.0	17.8	17.6	18.5	19.2	24.5	25.4	25.1	26.0	26.7
	8H	17.1	17.9	17.7	18.5	19.2	25.3	26.2	26.0	26.8	27.5
	12H	17.1	17.8	17.8	18.5	19.2	26.3	27.0	27.0	27.7	28.4

8H	4H	17.8	18.6	18.4	19.2	20.0	23.0	23.9	23.7	24.5	25.2
	6H	18.3	19.0	19.0	19.7	20.5	24.8	25.5	25.4	26.1	26.9
	8H	18.6	19.2	19.2	19.9	20.6	25.7	26.4	26.4	27.1	27.8
	12H	18.7	19.2	19.3	19.9	20.7	26.9	27.4	27.5	28.1	28.9

12H	4H	18.1	18.9	18.8	19.6	20.3	23.0	23.8	23.7	24.4	25.2
	6H	18.9	19.5	19.6	20.2	20.9	24.8	25.4	25.5	26.1	26.9
	8H	19.2	19.7	19.8	20.4	21.2	25.8	26.4	26.5	27.1	27.9

Maximum UGR = 28.9

POLAR GRAPH



Maximum Candela = 1358.909 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.)