



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-8-L15-835-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-L15-835-x-RD-xx-xx-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11520
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	150
Total Luminaire Watts	76.6
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	14718	12521	13024
55	12166	10590	11338
65	9995	9177	10030
75	7670	7806	8455
85	5958	7281	7796

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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	3348.159	3348.159	3348.159	3348.159	3348.159
5	3367.561	3364.789	3370.333	3375.876	3378.648
10	3267.781	3273.325	3301.041	3323.214	3328.758
15	3112.569	3134.742	3184.632	3231.750	3251.151
20	2968.443	3012.789	3104.254	3190.175	3220.663
25	2691.277	2752.253	2882.521	2998.931	3043.277
30	2419.655	2505.576	2682.962	2846.490	2910.238
35	2189.608	2306.017	2533.293	2735.624	2816.002
40	1870.867	2003.907	2289.387	2533.293	2619.214
45	1593.702	1762.773	2100.915	2383.623	2488.946
50	1322.079	1502.237	1873.639	2178.521	2281.072
55	1078.174	1277.733	1668.536	1987.277	2092.600
60	856.441	1064.316	1468.977	1784.946	1887.497
65	662.426	889.701	1308.221	1626.962	1729.513
70	479.496	720.630	1133.607	1441.261	1529.954
75	321.512	565.418	961.764	1236.158	1310.993
80	202.331	454.551	839.811	1103.119	1172.410
85	97.008	360.315	728.945	972.851	1036.599
90	13.858	266.079	576.504	773.292	828.725
95	0.000	205.102	509.985	709.544	753.890
100	0.000	169.071	432.378	593.134	637.481
105	0.000	138.583	357.544	498.898	543.244
110	0.000	113.638	302.110	432.378	460.095
115	0.000	97.008	257.764	363.087	401.890
120	0.000	91.465	224.504	318.740	349.229
125	0.000	85.921	191.244	271.622	299.339
130	0.000	77.606	163.528	238.362	260.536
135	0.000	66.520	138.583	199.559	213.417
140	0.000	63.748	130.268	180.158	199.559
145	0.000	66.520	121.953	163.528	180.158
150	0.000	58.205	99.780	130.268	141.354
155	0.000	58.205	88.693	113.638	119.181
160	0.000	58.205	77.606	97.008	99.780
165	0.000	27.717	69.291	83.150	85.921
170	0.000	0.000	63.748	66.520	69.291
175	0.000	0.000	0.000	58.205	58.205
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1221.32	N.A.	10.60
0-30	2550.44	N.A.	22.10
0-40	4114.09	N.A.	35.70
0-60	7167.74	N.A.	62.20
0-80	9369.47	N.A.	81.30
0-90	10077.01	N.A.	87.50
10-90	9758.08	N.A.	84.70
20-40	2892.77	N.A.	25.10
20-50	4486.68	N.A.	38.90
40-70	4294.66	N.A.	37.30
60-80	2201.73	N.A.	19.10
70-80	960.72	N.A.	8.30
80-90	707.54	N.A.	6.10
90-110	827.14	N.A.	7.20
90-120	1058.58	N.A.	9.20
90-130	1216.82	N.A.	10.60
90-150	1386.76	N.A.	12.00
90-180	1442.75	N.A.	12.50
110-180	615.61	N.A.	5.30
0-180	11519.76	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	318.93
10-20	902.38
20-30	1329.13
30-40	1563.65
40-50	1593.9
50-60	1459.74
60-70	1241.01
70-80	960.72
80-90	707.54
90-100	487.95
100-110	339.19
110-120	231.44
120-130	158.24
130-140	102.25
140-150	67.70
150-160	37.29
160-170	16.18
170-180	2.52

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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	289	289	289	289	278	278	278	278	259	259	259	241	241	241	225	225	225	218
1	258	244	232	221	248	236	224	214	219	210	202	204	197	190	190	184	179	171
2	233	211	192	177	224	204	187	172	189	176	164	177	165	155	165	155	147	140
3	212	184	163	146	203	178	158	142	166	150	136	155	141	130	145	133	124	117
4	194	163	140	123	186	158	137	120	147	129	115	138	123	110	129	116	106	99
5	178	145	122	105	171	141	119	103	132	114	99	124	108	96	116	102	92	85
6	165	131	108	92	158	127	106	90	119	101	87	112	96	84	105	91	81	75
7	152	118	96	81	146	115	94	80	108	90	77	102	86	74	96	82	72	66
8	142	108	87	72	136	105	85	71	99	81	69	94	78	66	88	75	64	59
9	133	99	79	65	127	96	77	64	91	74	62	86	71	60	82	68	58	53
10	124	91	72	59	120	89	70	58	84	68	56	80	65	54	76	62	53	48

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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	13.1	14.6	13.7	15.1	15.7	18.3	19.7	18.8	20.3	20.9
	3H	14.3	15.6	14.9	16.2	16.8	20.9	22.2	21.5	22.8	23.4
	4H	14.7	15.9	15.2	16.5	17.1	22.2	23.4	22.8	24.0	24.7
	6H	14.9	16.1	15.5	16.6	17.3	23.6	24.7	24.2	25.3	26.0
	8H	14.9	16.1	15.5	16.7	17.3	24.3	25.4	24.9	26.0	26.7
	12H	15.0	16.0	15.6	16.6	17.3	25.2	26.2	25.8	26.8	27.5

UGR Viewed Endwise

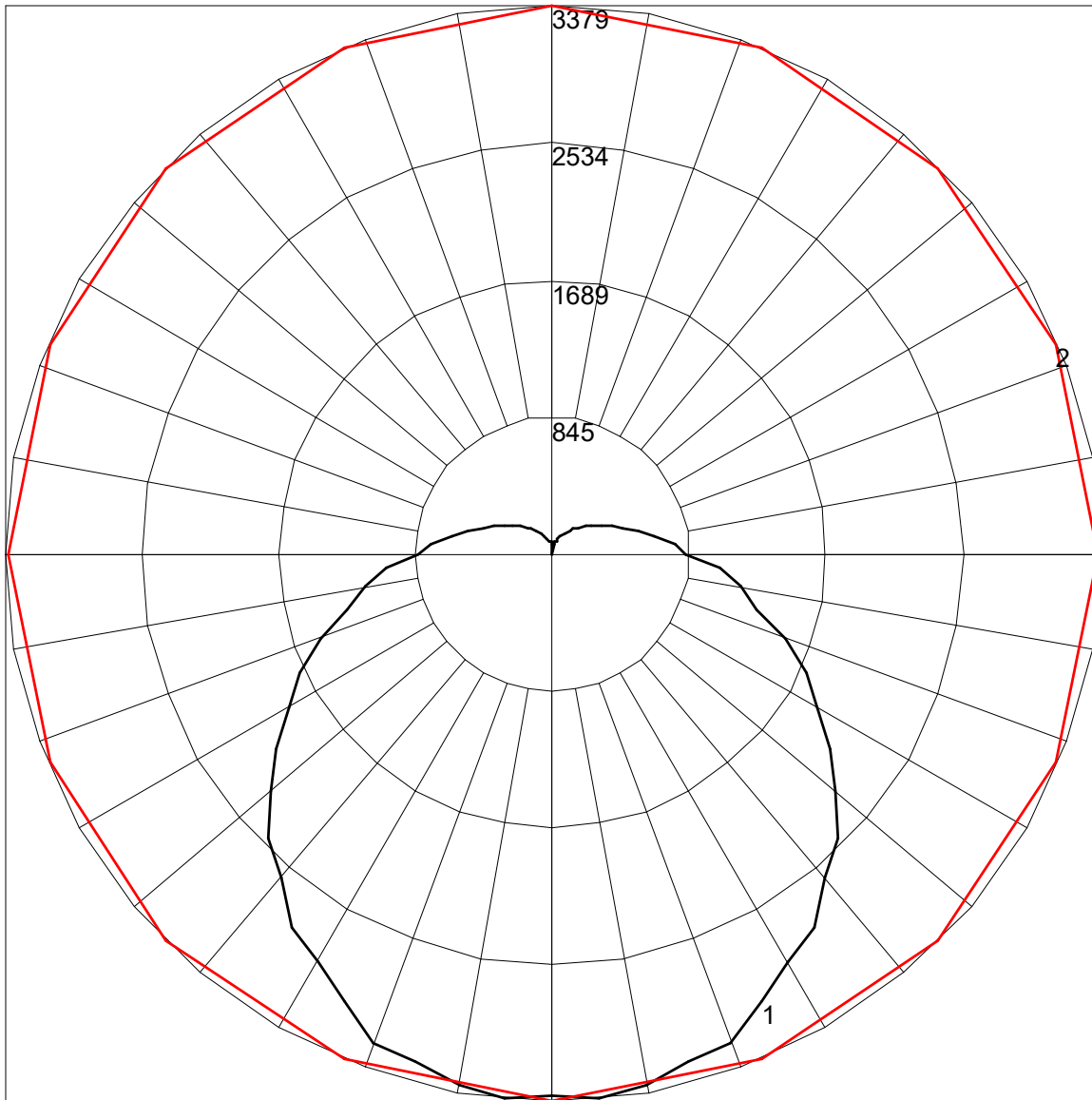
4H	2H	14.6	15.9	15.2	16.4	17.1	18.5	19.8	19.1	20.3	21.0
	3H	16.1	17.1	16.6	17.7	18.4	21.4	22.5	22.0	23.1	23.7
	4H	16.5	17.5	17.1	18.1	18.8	22.8	23.8	23.4	24.4	25.1
	6H	16.9	17.7	17.5	18.4	19.1	24.4	25.3	25.0	25.9	26.6
	8H	17.0	17.8	17.6	18.4	19.1	25.2	26.1	25.9	26.7	27.4
	12H	17.0	17.7	17.7	18.4	19.1	26.2	26.9	26.9	27.6	28.3

8H	4H	17.7	18.5	18.3	19.1	19.9	22.9	23.8	23.6	24.4	25.1
	6H	18.2	18.9	18.9	19.6	20.4	24.7	25.4	25.3	26.0	26.8
	8H	18.5	19.1	19.1	19.8	20.5	25.6	26.3	26.3	27.0	27.7
	12H	18.6	19.1	19.2	19.8	20.6	26.8	27.3	27.4	28.0	28.8

12H	4H	18.0	18.8	18.7	19.5	20.2	22.9	23.7	23.6	24.3	25.1
	6H	18.8	19.4	19.5	20.1	20.8	24.7	25.3	25.4	26.0	26.8
	8H	19.1	19.6	19.7	20.3	21.1	25.7	26.3	26.4	27.0	27.8

Maximum UGR = 28.8

POLAR GRAPH



Maximum Candela = 3378.648 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.)