



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-8-L20-835-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-L20-835-x-RD-xx-xx-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	15412
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	142
Total Luminaire Watts	108.9
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	19691	16752	17425
55	16276	14168	15169
65	13372	12278	13419
75	10262	10444	11312
85	7971	9741	10431

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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	4479.425	4479.425	4479.425	4479.425	4479.425
5	4505.382	4501.673	4509.090	4516.506	4520.214
10	4371.889	4379.305	4416.386	4446.051	4453.468
15	4164.233	4193.898	4260.645	4323.683	4349.640
20	3971.410	4030.741	4153.109	4268.061	4308.851
25	3600.597	3682.176	3856.458	4012.200	4071.530
30	3237.200	3352.152	3589.473	3808.253	3893.540
35	2929.425	3085.167	3389.234	3659.927	3767.463
40	2502.990	2680.980	3062.918	3389.234	3504.186
45	2132.176	2358.373	2810.765	3188.994	3329.903
50	1768.779	2009.808	2506.698	2914.593	3051.793
55	1442.464	1709.449	2232.296	2658.731	2799.640
60	1145.813	1423.923	1965.310	2388.038	2525.239
65	886.244	1190.311	1750.239	2176.674	2313.875
70	641.507	964.115	1516.626	1928.229	2046.889
75	430.143	756.459	1286.722	1653.827	1753.947
80	270.694	608.134	1123.564	1475.837	1568.540
85	129.785	482.057	975.239	1301.555	1386.842
90	18.541	355.981	771.292	1034.569	1108.732
95	0.000	274.402	682.296	949.282	1008.612
100	0.000	226.196	578.469	793.540	852.871
105	0.000	185.407	478.349	667.464	726.794
110	0.000	152.033	404.186	578.469	615.550
115	0.000	129.785	344.856	485.765	537.679
120	0.000	122.368	300.359	426.435	467.225
125	0.000	114.952	255.861	363.397	400.478
130	0.000	103.828	218.780	318.899	348.565
135	0.000	88.995	185.407	266.986	285.526
140	0.000	85.287	174.282	241.029	266.986
145	0.000	88.995	163.158	218.780	241.029
150	0.000	77.871	133.493	174.282	189.115
155	0.000	77.871	118.660	152.033	159.450
160	0.000	77.871	103.828	129.785	133.493
165	0.000	37.081	92.703	111.244	114.952
170	0.000	0.000	85.287	88.995	92.703
175	0.000	0.000	0.000	77.871	77.871
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1633.97	N.A.	10.60
0-30	3412.18	N.A.	22.10
0-40	5504.15	N.A.	35.70
0-60	9589.55	N.A.	62.20
0-80	12535.19	N.A.	81.30
0-90	13481.8	N.A.	87.50
10-90	13055.11	N.A.	84.70
20-40	3870.18	N.A.	25.10
20-50	6002.62	N.A.	38.90
40-70	5745.72	N.A.	37.30
60-80	2945.64	N.A.	19.10
70-80	1285.32	N.A.	8.30
80-90	946.61	N.A.	6.10
90-110	1106.61	N.A.	7.20
90-120	1416.25	N.A.	9.20
90-130	1627.96	N.A.	10.60
90-150	1855.32	N.A.	12.00
90-180	1930.22	N.A.	12.50
110-180	823.61	N.A.	5.30
0-180	15412.02	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	426.69
10-20	1207.28
20-30	1778.21
30-40	2091.97
40-50	2132.45
50-60	1952.96
60-70	1660.32
70-80	1285.32
80-90	946.61
90-100	652.82
100-110	453.79
110-120	309.64
120-130	211.71
130-140	136.79
140-150	90.57
150-160	49.89
160-170	21.64
170-180	3.37

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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	386	386	386	386	372	372	372	372	346	346	346	323	323	323	301	301	301	291
1	345	327	310	295	332	315	300	286	293	281	270	273	263	254	254	247	239	229
2	312	282	257	237	299	272	250	231	254	235	219	236	221	208	220	208	197	187
3	284	247	218	195	272	238	212	191	222	200	182	207	189	173	194	178	165	156
4	260	218	188	164	248	211	183	161	197	173	154	184	164	148	172	155	141	133
5	238	194	164	141	228	188	160	138	176	152	133	165	144	128	155	137	123	114
6	220	175	145	123	211	170	141	121	159	135	116	150	128	112	141	122	108	100
7	204	158	129	108	196	154	126	106	145	121	103	136	115	99	129	110	96	88
8	190	145	116	96	182	140	114	95	133	109	92	125	104	89	118	100	86	79
9	177	133	105	87	170	129	103	85	122	99	83	115	95	80	109	91	78	71
10	166	122	96	78	160	119	94	77	113	90	75	107	87	73	102	84	71	64

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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

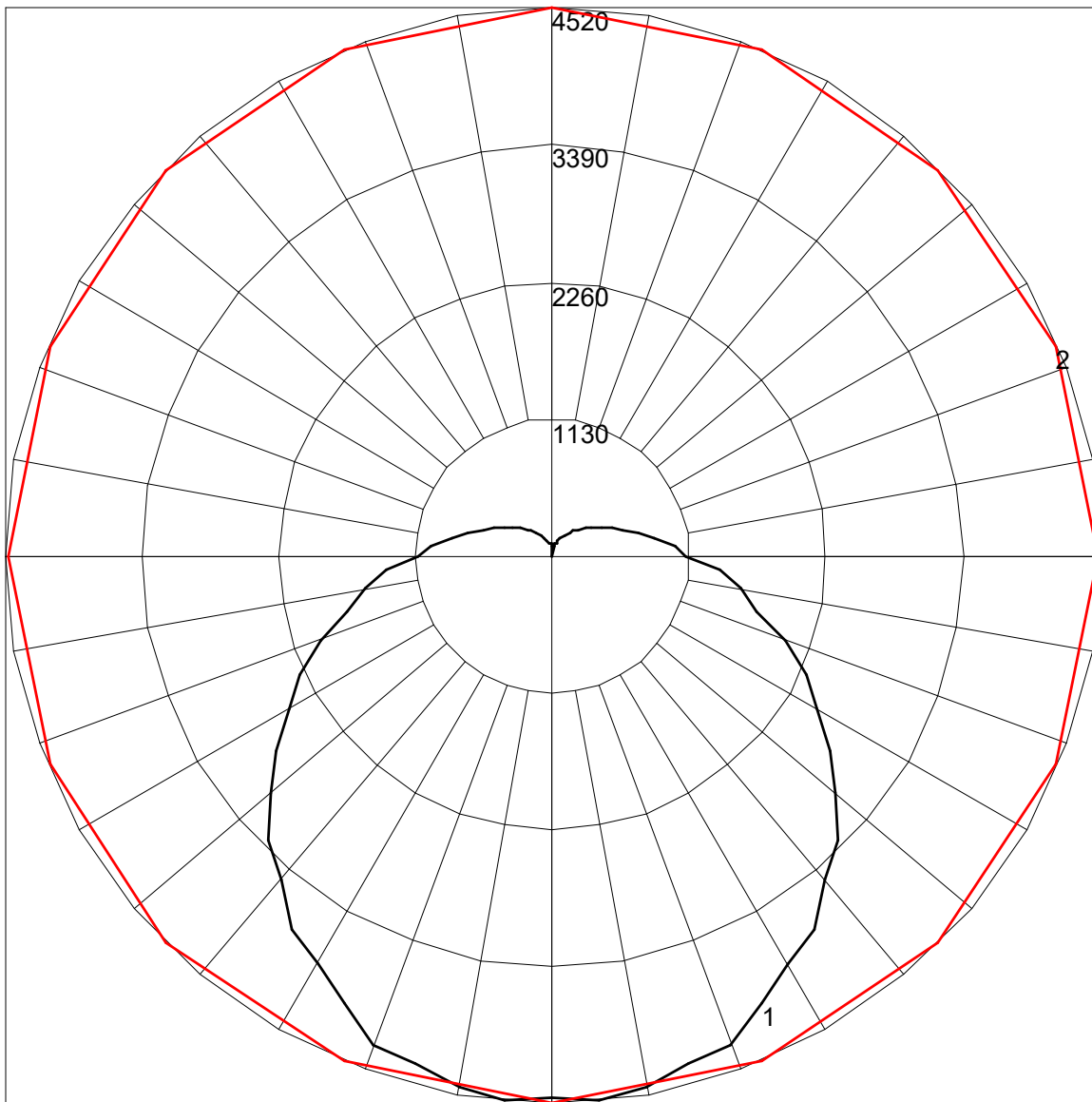
4H	2H	14.6	15.9	15.2	16.4	17.1	18.5	19.8	19.1	20.3	21.0
	3H	16.1	17.1	16.6	17.7	18.4	21.4	22.5	22.0	23.1	23.7
	4H	16.5	17.5	17.1	18.1	18.8	22.8	23.8	23.4	24.4	25.1
	6H	16.9	17.7	17.5	18.4	19.1	24.4	25.3	25.0	25.9	26.6
	8H	17.0	17.8	17.6	18.4	19.1	25.2	26.1	25.9	26.7	27.4
	12H	17.0	17.7	17.7	18.4	19.1	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 = 4520.214 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.)