



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-8-L15-8TW-X-RD-XX-XX-DIM-UNV 4000K_.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] 9-AUG-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-L15-8TW-x-RD-xx-xx-DIM-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11557
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	122
Total Luminaire Watts	94.8
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	14766	12562	13066
55	12205	10624	11374
65	10027	9207	10063
75	7695	7831	8483
85	5977	7304	7821

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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	3358.914	3358.914	3358.914	3358.914	3358.914
5	3378.378	3375.598	3381.159	3386.720	3389.500
10	3278.278	3283.839	3311.645	3333.889	3339.450
15	3122.567	3144.811	3194.861	3242.131	3261.595
20	2977.978	3022.467	3114.225	3200.422	3231.009
25	2699.922	2761.094	2891.780	3008.564	3053.053
30	2427.427	2513.625	2691.580	2855.633	2919.586
35	2196.641	2313.424	2541.430	2744.411	2825.047
40	1876.877	2010.344	2296.741	2541.430	2627.627
45	1598.821	1768.435	2107.663	2391.280	2496.941
50	1326.326	1507.062	1879.657	2185.519	2288.399
55	1081.637	1281.837	1673.896	1993.660	2099.321
60	859.192	1067.734	1473.696	1790.679	1893.560
65	664.553	892.559	1312.423	1632.188	1735.068
70	481.037	722.945	1137.248	1445.890	1534.868
75	322.545	567.234	964.854	1240.129	1315.204
80	202.981	456.012	842.509	1106.662	1176.176
85	97.320	361.473	731.287	975.976	1039.929
90	13.903	266.934	578.356	775.776	831.387
95	0.000	205.761	511.623	711.823	756.312
100	0.000	169.614	433.767	595.039	639.528
105	0.000	139.028	358.692	500.500	544.989
110	0.000	114.003	303.081	433.767	461.573
115	0.000	97.320	258.592	364.253	403.181
120	0.000	91.758	225.225	319.764	350.350
125	0.000	86.197	191.859	272.495	300.300
130	0.000	77.856	164.053	239.128	261.372
135	0.000	66.733	139.028	200.200	214.103
140	0.000	63.953	130.686	180.736	200.200
145	0.000	66.733	122.345	164.053	180.736
150	0.000	58.392	100.100	130.686	141.808
155	0.000	58.392	88.978	114.003	119.564
160	0.000	58.392	77.856	97.320	100.100
165	0.000	27.806	69.514	83.417	86.197
170	0.000	0.000	63.953	66.733	69.514
175	0.000	0.000	0.000	58.392	58.392
180	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : LLM-8-L15-8TW-X-RD-XX-XX-DIM-UNV 4000K_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1225.24	N.A.	10.60
0-30	2558.64	N.A.	22.10
0-40	4127.31	N.A.	35.70
0-60	7190.76	N.A.	62.20
0-80	9399.56	N.A.	81.30
0-90	10109.38	N.A.	87.50
10-90	9789.42	N.A.	84.70
20-40	2902.07	N.A.	25.10
20-50	4501.09	N.A.	38.90
40-70	4308.45	N.A.	37.30
60-80	2208.8	N.A.	19.10
70-80	963.81	N.A.	8.30
80-90	709.82	N.A.	6.10
90-110	829.80	N.A.	7.20
90-120	1061.98	N.A.	9.20
90-130	1220.73	N.A.	10.60
90-150	1391.22	N.A.	12.00
90-180	1447.38	N.A.	12.50
110-180	617.59	N.A.	5.30
0-180	11556.76	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	319.96
10-20	905.28
20-30	1333.4
30-40	1568.67
40-50	1599.02
50-60	1464.43
60-70	1245.00
70-80	963.81
80-90	709.82
90-100	489.52
100-110	340.27
110-120	232.18
120-130	158.75
130-140	102.57
140-150	67.91
150-160	37.41
160-170	16.23
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	171	171	171	171	165	165	165	165	153	153	153	143	143	143	133	133	133	129
1	153	144	137	131	147	139	133	127	130	124	119	121	116	112	112	109	106	101
2	138	125	114	105	132	120	110	102	112	104	97	104	98	92	97	92	87	83
3	125	109	96	86	120	105	94	84	98	88	80	92	84	77	86	79	73	69
4	115	96	83	73	110	93	81	71	87	77	68	81	73	65	76	69	62	59
5	105	86	72	62	101	83	71	61	78	67	59	73	64	56	69	61	54	51
6	97	77	64	54	93	75	62	53	70	60	51	66	57	50	62	54	48	44
7	90	70	57	48	86	68	56	47	64	53	45	60	51	44	57	49	42	39
8	84	64	51	43	81	62	50	42	59	48	41	55	46	39	52	44	38	35
9	78	59	46	38	75	57	46	38	54	44	37	51	42	35	48	40	34	31
10	73	54	42	35	71	53	42	34	50	40	33	47	38	32	45	37	31	28

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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	15.0	16.5	15.6	17.0	17.6	UGR Viewed Endwise			
	3H	16.2	17.5	16.8	18.1	18.7	20.2	21.6	20.7	22.2
	4H	16.6	17.8	17.1	18.4	19.0	22.8	24.1	23.4	24.7
	6H	16.8	18.0	17.4	18.5	19.2	24.1	25.3	24.7	25.9
	8H	16.8	18.0	17.4	18.6	19.2	25.5	26.6	26.1	27.2
	12H	16.9	17.9	17.5	18.5	19.2	26.2	27.3	26.8	27.9

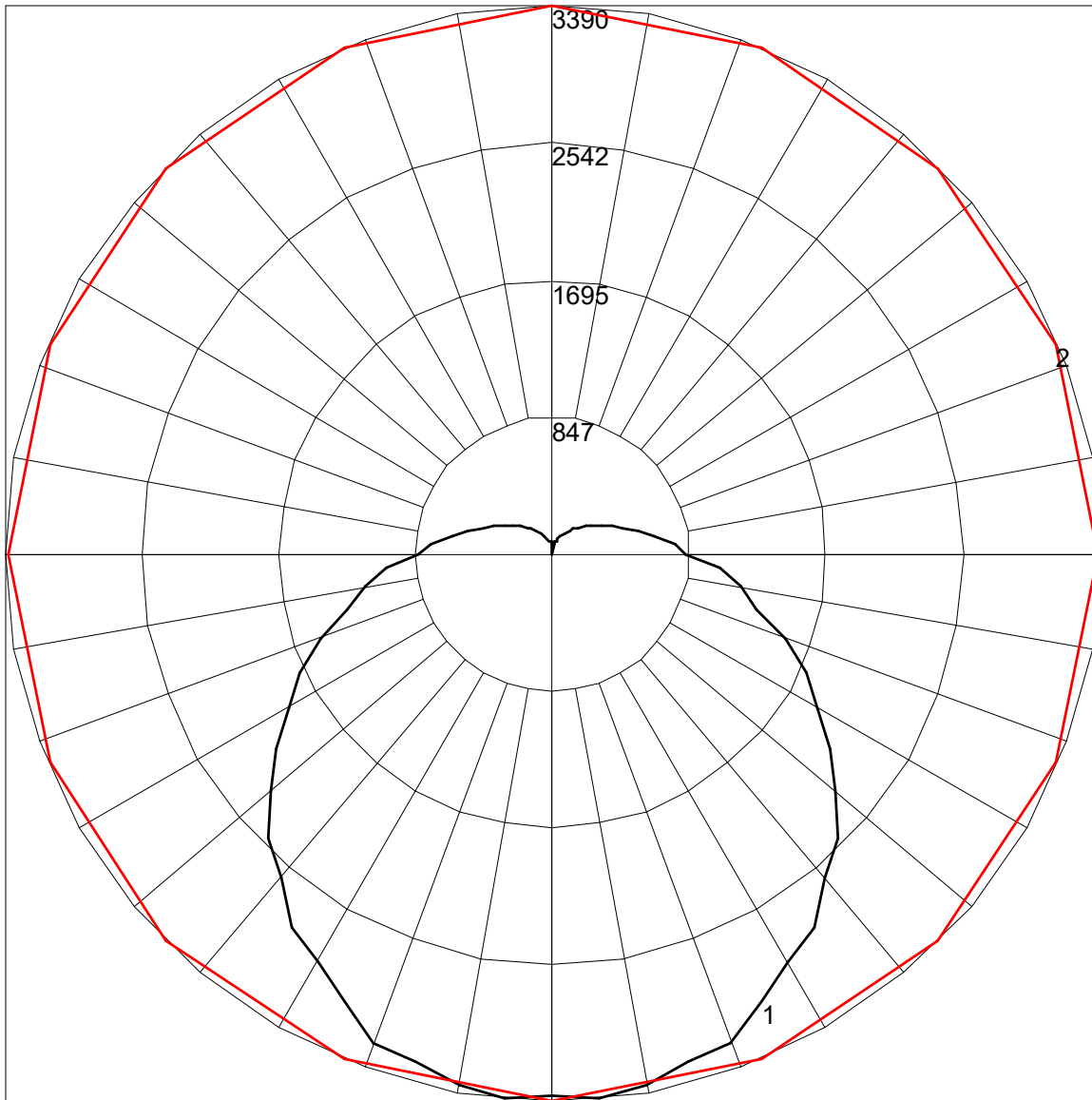
4H	2H	16.5	17.8	17.1	18.3	19.0	27.1	28.1	27.7	28.7
	3H	18.0	19.0	18.5	19.6	20.3	20.4	21.7	21.0	22.2
	4H	18.4	19.4	19.0	20.0	20.7	23.3	24.4	23.9	25.0
	6H	18.8	19.6	19.4	20.3	21.0	24.7	25.7	25.3	26.3
	8H	18.8	19.7	19.5	20.3	21.0	26.3	27.2	26.9	27.8
	12H	18.9	19.6	19.6	20.3	21.0	27.1	28.0	27.8	28.6

8H	4H	19.6	20.4	20.2	21.0	21.8	28.1	28.8	28.8	29.5
	6H	20.1	20.8	20.8	21.5	22.3	20.4	21.7	21.0	22.2
	8H	20.3	21.0	21.0	21.7	22.4	23.3	24.4	23.9	25.0
	12H	20.5	21.0	21.1	21.7	22.5	24.7	25.7	25.3	26.3

12H	4H	19.9	20.7	20.6	21.3	22.1	26.3	27.2	26.9	27.8
	6H	20.7	21.3	21.4	22.0	22.7	27.1	28.0	27.8	28.6
	8H	21.0	21.5	21.6	22.2	23.0	27.1	28.0	27.8	28.6

Maximum UGR = 30.7

POLAR GRAPH



Maximum Candela = 3389.5 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.)