



IES INDOOR REPORT

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

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11793
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	94.8
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	15296	11340	11321
55	12265	9478	10134
65	9866	8183	9125
75	7417	6809	7547
85	5482	5919	6390

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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	3597.167	3597.167	3597.167	3597.167	3597.167
5	3611.625	3617.408	3628.974	3628.974	3637.649
10	3510.418	3524.876	3542.226	3553.792	3553.792
15	3331.138	3362.946	3386.079	3397.645	3403.429
20	3195.232	3241.498	3273.306	3296.439	3299.330
25	2877.155	2934.987	2981.253	3013.061	3024.627
30	2582.210	2660.284	2723.899	2781.732	2807.756
35	2321.965	2420.280	2521.487	2619.801	2660.284
40	1969.188	2096.419	2249.675	2397.147	2460.763
45	1662.677	1818.825	2032.804	2252.567	2342.207
50	1361.950	1549.905	1807.258	2079.070	2186.059
55	1093.030	1304.117	1619.303	1934.489	2055.937
60	861.701	1087.246	1431.348	1769.667	1894.007
65	659.288	902.183	1286.768	1639.545	1758.101
70	474.225	728.686	1121.946	1457.373	1564.363
75	315.186	566.756	945.557	1243.394	1333.034
80	190.846	451.092	815.435	1090.138	1165.320
85	92.532	341.210	688.204	931.099	991.823
90	14.458	225.546	520.490	708.445	751.819
95	0.000	213.979	497.357	662.179	696.879
100	0.000	199.521	445.308	581.214	610.130
105	0.000	187.955	401.934	517.599	540.732
110	0.000	170.605	364.343	465.550	494.466
115	0.000	156.147	329.644	419.284	445.308
120	0.000	150.364	300.728	396.151	416.392
125	0.000	138.797	271.812	352.777	378.801
130	0.000	127.231	245.787	323.861	344.102
135	0.000	115.665	219.763	283.378	309.403
140	0.000	112.773	208.196	268.920	289.161
145	0.000	115.665	193.738	257.354	271.812
150	0.000	95.423	159.039	202.413	219.763
155	0.000	95.423	144.581	182.172	190.846
160	0.000	78.074	118.556	147.472	156.147
165	0.000	69.399	106.990	118.556	124.339
170	0.000	0.000	80.965	101.206	104.098
175	0.000	0.000	37.591	72.290	72.290
180	0.000	0.000	0.000	0.000	0.000

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

Zone	Lumens	%Lamp	%Fixt
0-20	1300.37	N.A.	11.00
0-30	2673.75	N.A.	22.70
0-40	4236.63	N.A.	35.90
0-60	7241.03	N.A.	61.40
0-80	9443.48	N.A.	80.10
0-90	10116.74	N.A.	85.80
10-90	9774.15	N.A.	82.90
20-40	2936.25	N.A.	24.90
20-50	4499.93	N.A.	38.20
40-70	4247.68	N.A.	36.00
60-80	2202.45	N.A.	18.70
70-80	959.17	N.A.	8.10
80-90	673.27	N.A.	5.70
90-110	830.80	N.A.	7.00
90-120	1113.86	N.A.	9.40
90-130	1328.93	N.A.	11.30
90-150	1588.38	N.A.	13.50
90-180	1675.99	N.A.	14.20
110-180	845.19	N.A.	7.20
0-180	11792.74	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	342.59
10-20	957.78
20-30	1373.38
30-40	1562.87
40-50	1563.67
50-60	1440.72
60-70	1243.29
70-80	959.17
80-90	673.27
90-100	464.64
100-110	366.16
110-120	283.05
120-130	215.07
130-140	152.77
140-150	106.68
150-160	58.95
160-170	24.83
170-180	3.84

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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	170	170	170	170	164	164	164	164	152	152	152	141	141	141	131	131	131	126
1	152	144	137	131	146	139	132	127	129	124	119	119	115	111	111	108	104	100
2	138	125	114	105	132	120	110	102	112	104	97	104	97	91	96	91	86	82
3	125	109	97	87	120	105	94	85	98	88	80	91	83	76	85	78	73	68
4	115	97	83	73	110	93	81	72	87	77	68	81	72	65	76	68	62	58
5	106	86	73	63	101	83	71	62	78	67	59	73	64	57	68	60	54	50
6	97	78	64	55	93	75	63	54	70	60	52	66	57	50	62	54	48	44
7	90	71	58	49	87	68	56	48	64	54	46	60	51	44	57	49	42	39
8	84	64	52	43	81	62	51	43	59	48	41	55	46	40	52	44	38	35
9	79	59	47	39	76	57	46	38	54	44	37	51	42	36	48	40	35	32
10	74	55	43	35	71	53	42	35	50	40	34	47	39	33	45	37	31	29

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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

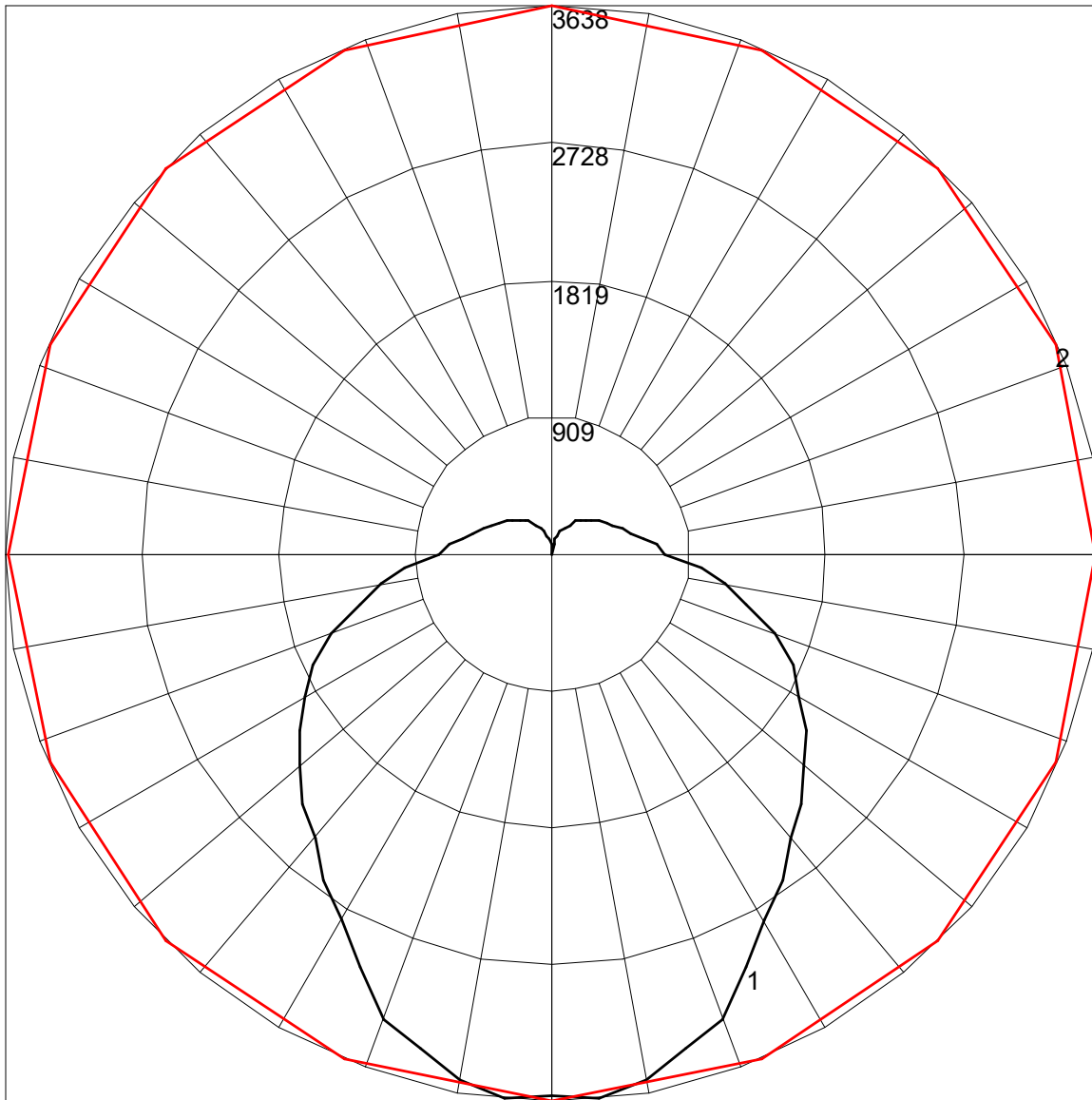
X=2H	Y=2H	14.6	16.0	15.2	16.6	17.2	19.7	21.1	20.2	21.6	22.3
	3H	15.8	17.0	16.3	17.6	18.3	22.4	23.7	23.0	24.3	25.0
	4H	16.1	17.3	16.7	17.9	18.6	23.7	24.9	24.3	25.5	26.2
	6H	16.3	17.4	16.9	18.0	18.7	25.1	26.2	25.7	26.8	27.5
	8H	16.3	17.4	16.9	18.0	18.7	25.8	26.9	26.4	27.5	28.2
	12H	16.3	17.3	16.9	18.0	18.7	26.6	27.6	27.2	28.2	29.0

UGR Viewed Endwise

4H	2H	16.0	17.2	16.6	17.8	18.5	19.9	21.1	20.5	21.7	22.4
	3H	17.4	18.4	18.0	19.1	19.8	22.9	23.9	23.5	24.5	25.2
	4H	17.9	18.8	18.5	19.4	20.2	24.3	25.3	24.9	25.9	26.6
	6H	18.2	19.0	18.8	19.7	20.4	25.8	26.7	26.5	27.4	28.1
	8H	18.2	19.0	18.9	19.7	20.5	26.7	27.4	27.3	28.1	28.9
	12H	18.3	19.0	19.0	19.7	20.5	27.5	28.3	28.2	29.0	29.7
8H	4H	19.0	19.8	19.6	20.4	21.2	24.4	25.2	25.1	25.9	26.6
	6H	19.5	20.2	20.2	20.9	21.7	26.1	26.8	26.8	27.5	28.2
	8H	19.7	20.3	20.4	21.0	21.8	27.0	27.6	27.7	28.3	29.1
	12H	19.8	20.3	20.5	21.0	21.9	28.1	28.6	28.8	29.3	30.2
12H	4H	19.3	20.0	20.0	20.7	21.5	24.4	25.1	25.1	25.8	26.6
	6H	20.0	20.6	20.7	21.3	22.1	26.1	26.7	26.8	27.4	28.2
	8H	20.3	20.8	21.0	21.5	22.4	27.1	27.6	27.8	28.3	29.2

Maximum UGR = 30.2

POLAR GRAPH



Maximum Candela = 3637.649 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.)