



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L10-8TW-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

[ISSUEDATE] 9-AUG-2021

[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 2' DIRECT/INDIRECT SURFACE LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC ROUND LENS

[LUMCAT] LLM-2-L10-8TW-x-RD-xx-xx-DIM-UNV 4000k

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2034
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
Total Luminaire Watts	17
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)	2.03 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	9365	8218	8780
55	7565	6908	7643
65	5992	5943	6762
75	4274	5010	5700
85	2580	4613	5256

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L10-8TW-X-RD-XX-XX-DIM-UNV 4000K\_.IES

## CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	591.211	591.211	591.211	591.211	591.211
5	594.637	594.147	595.126	596.105	596.594
10	577.018	577.997	582.891	586.806	587.785
15	549.611	553.526	562.335	570.655	574.081
20	524.161	531.992	548.142	563.314	568.698
25	475.220	485.987	508.989	529.545	537.375
30	427.257	442.429	473.752	502.627	513.883
35	386.636	407.191	447.323	483.050	497.243
40	330.354	353.845	404.255	447.323	462.495
45	281.412	311.267	370.975	420.895	439.493
50	233.450	265.262	330.843	384.678	402.787
55	190.382	225.619	294.627	350.909	369.507
60	151.229	187.935	259.389	315.182	333.290
65	116.970	157.102	231.003	287.285	305.394
70	84.668	127.247	200.170	254.495	270.156
75	56.772	99.840	169.826	218.278	231.492
80	35.727	80.264	148.292	194.786	207.022
85	17.129	63.624	128.716	171.784	183.040
90	2.447	46.984	101.798	136.546	146.334
95	0.000	36.217	90.052	125.290	133.120
100	0.000	29.854	76.348	104.734	112.565
105	0.000	24.471	63.134	88.094	95.925
110	0.000	20.066	53.346	76.348	81.243
115	0.000	17.129	45.515	64.113	70.965
120	0.000	16.151	39.642	56.282	61.666
125	0.000	15.172	33.769	47.962	52.857
130	0.000	13.704	28.875	42.090	46.005
135	0.000	11.746	24.471	35.238	37.685
140	0.000	11.256	23.002	31.812	35.238
145	0.000	11.746	21.534	28.875	31.812
150	0.000	10.278	17.619	23.002	24.960
155	0.000	10.278	15.661	20.066	21.045
160	0.000	10.278	13.704	17.129	17.619
165	0.000	4.894	12.235	14.682	15.172
170	0.000	0.000	11.256	11.746	12.235
175	0.000	0.000	0.000	10.278	10.278
180	0.000	0.000	0.000	0.000	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : LLM-2-L10-8TW-X-RD-XX-XX-DIM-UNV 4000K\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	215.66	N.A.	10.60
0-30	450.35	N.A.	22.10
0-40	726.46	N.A.	35.70
0-60	1265.66	N.A.	62.20
0-80	1654.44	N.A.	81.30
0-90	1779.38	N.A.	87.50
10-90	1723.06	N.A.	84.70
20-40	510.80	N.A.	25.10
20-50	792.25	N.A.	38.90
40-70	758.34	N.A.	37.30
60-80	388.78	N.A.	19.10
70-80	169.64	N.A.	8.30
80-90	124.94	N.A.	6.10
90-110	146.05	N.A.	7.20
90-120	186.92	N.A.	9.20
90-130	214.86	N.A.	10.60
90-150	244.87	N.A.	12.00
90-180	254.76	N.A.	12.50
110-180	108.70	N.A.	5.30
0-180	2034.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	56.32
10-20	159.34
20-30	234.69
30-40	276.11
40-50	281.45
50-60	257.76
60-70	219.13
70-80	169.64
80-90	124.94
90-100	86.16
100-110	59.89
110-120	40.87
120-130	27.94
130-140	18.05
140-150	11.95
150-160	6.58
160-170	2.86
170-180	0.44

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L10-8TW-X-RD-XX-XX-DIM-UNV 4000K\_.IES

## 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	120	120	120	120	115	115	115	115	107	107	107	100	100	100	93	93	93	90
1	107	101	96	91	103	98	93	89	91	87	84	85	82	79	79	76	74	71
2	97	87	80	73	93	84	77	71	79	73	68	73	68	64	68	64	61	58
3	88	76	68	60	84	74	66	59	69	62	56	64	59	54	60	55	51	48
4	80	68	58	51	77	65	57	50	61	54	48	57	51	46	53	48	44	41
5	74	60	51	44	71	58	49	43	55	47	41	51	45	40	48	42	38	35
6	68	54	45	38	65	53	44	37	49	42	36	46	40	35	44	38	33	31
7	63	49	40	34	61	48	39	33	45	37	32	42	36	31	40	34	30	27
8	59	45	36	30	56	43	35	29	41	34	28	39	32	28	37	31	27	24
9	55	41	33	27	53	40	32	26	38	31	26	36	29	25	34	28	24	22
10	51	38	30	24	50	37	29	24	35	28	23	33	27	23	31	26	22	20

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-L10-8TW-X-RD-XX-XX-DIM-UNV 4000K\_.IES

## 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	14.8	16.3	15.4	16.8	17.4	19.8	21.3	20.4	21.8	22.4
	3H	16.0	17.3	16.6	17.9	18.5	22.4	23.7	22.9	24.3	24.9
	4H	16.4	17.6	17.0	18.2	18.9	23.6	24.9	24.2	25.4	26.1
	6H	16.6	17.8	17.2	18.4	19.0	24.9	26.1	25.5	26.6	27.3
	8H	16.7	17.8	17.3	18.4	19.0	25.6	26.7	26.1	27.3	27.9
	12H	16.7	17.8	17.3	18.3	19.0	26.3	27.3	26.9	27.9	28.6

### UGR Viewed Endwise

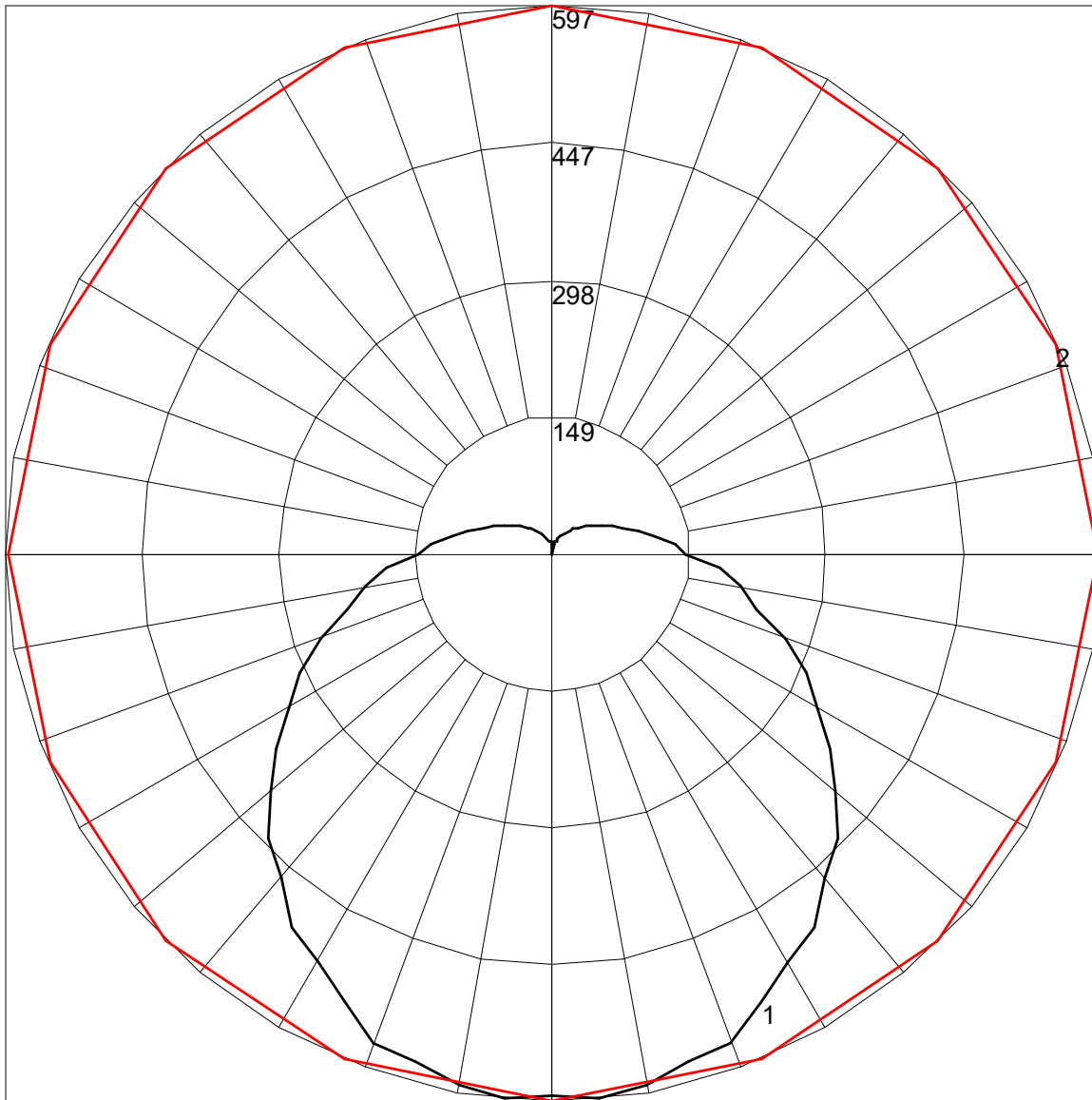
4H	2H	16.3	17.5	16.9	18.1	18.8	20.1	21.3	20.6	21.9	22.5
	3H	17.7	18.8	18.3	19.4	20.1	22.9	23.9	23.5	24.5	25.2
	4H	18.2	19.2	18.8	19.8	20.5	24.2	25.2	24.8	25.8	26.5
	6H	18.5	19.4	19.2	20.0	20.8	25.7	26.6	26.4	27.2	28.0
	8H	18.6	19.5	19.3	20.1	20.8	26.5	27.3	27.1	28.0	28.7
	12H	18.7	19.4	19.3	20.1	20.8	27.4	28.1	28.0	28.8	29.5

8H	4H	19.3	20.1	20.0	20.8	21.5	24.4	25.2	25.0	25.8	26.6
	6H	19.9	20.6	20.5	21.3	22.0	26.0	26.7	26.7	27.4	28.1
	8H	20.1	20.7	20.8	21.4	22.2	26.9	27.6	27.6	28.3	29.0
	12H	20.2	20.8	20.9	21.5	22.3	28.0	28.5	28.6	29.2	30.0

12H	4H	19.7	20.4	20.3	21.1	21.8	24.4	25.1	25.0	25.8	26.5
	6H	20.4	21.0	21.1	21.7	22.5	26.1	26.7	26.7	27.3	28.1
	8H	20.7	21.3	21.4	22.0	22.8	27.0	27.6	27.7	28.3	29.1

Maximum UGR = 30.0

POLAR GRAPH



Maximum Candela = 596.594 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.)