



IES INDOOR REPORT

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

[ISSUEDATE] 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-L10-8TW-S-SQ-xx-xx-DIM-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8021
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	63.9
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	10403	7713	7700
55	8342	6446	6893
65	6710	5565	6206
75	5044	4631	5133
85	3728	4025	4346

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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	2446.513	2446.513	2446.513	2446.513	2446.513
5	2456.346	2460.279	2468.146	2468.146	2474.046
10	2387.513	2397.346	2409.146	2417.013	2417.013
15	2265.581	2287.214	2302.947	2310.814	2314.747
20	2173.148	2204.615	2226.248	2241.981	2243.948
25	1956.817	1996.150	2027.616	2049.249	2057.116
30	1756.218	1809.318	1852.584	1891.917	1909.617
35	1579.220	1646.086	1714.919	1781.785	1809.318
40	1339.289	1425.821	1530.054	1630.353	1673.619
45	1130.824	1237.023	1382.555	1532.020	1592.987
50	926.292	1054.124	1229.156	1414.021	1486.787
55	743.394	886.959	1101.324	1315.689	1398.288
60	586.062	739.460	973.492	1203.590	1288.156
65	448.396	613.595	875.159	1115.091	1195.723
70	322.531	495.596	763.060	991.192	1063.958
75	214.365	385.463	643.095	845.660	906.626
80	129.799	306.797	554.595	741.427	792.560
85	62.933	232.065	468.063	633.261	674.561
90	9.833	153.399	353.997	481.829	511.329
95	0.000	145.532	338.264	450.363	473.963
100	0.000	135.699	302.864	395.297	414.963
105	0.000	127.832	273.364	352.030	367.764
110	0.000	116.032	247.798	316.631	336.297
115	0.000	106.199	224.198	285.164	302.864
120	0.000	102.266	204.532	269.431	283.198
125	0.000	94.399	184.865	239.931	257.631
130	0.000	86.533	167.165	220.265	234.031
135	0.000	78.666	149.465	192.732	210.432
140	0.000	76.699	141.599	182.898	196.665
145	0.000	78.666	131.766	175.032	184.865
150	0.000	64.899	108.166	137.666	149.465
155	0.000	64.899	98.333	123.899	129.799
160	0.000	53.100	80.633	100.299	106.199
165	0.000	47.200	72.766	80.633	84.566
170	0.000	0.000	55.066	68.833	70.799
175	0.000	0.000	25.566	49.166	49.166
180	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : LLM-8-L10-8TW-X-SQ-XX-XX-DIM-UNV 4000K_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	884.41	N.A.	11.00
0-30	1818.48	N.A.	22.70
0-40	2881.42	N.A.	35.90
0-60	4924.78	N.A.	61.40
0-80	6422.72	N.A.	80.10
0-90	6880.62	N.A.	85.80
10-90	6647.62	N.A.	82.90
20-40	1997.01	N.A.	24.90
20-50	3060.5	N.A.	38.20
40-70	2888.94	N.A.	36.00
60-80	1497.94	N.A.	18.70
70-80	652.35	N.A.	8.10
80-90	457.90	N.A.	5.70
90-110	565.05	N.A.	7.00
90-120	757.56	N.A.	9.40
90-130	903.84	N.A.	11.30
90-150	1080.29	N.A.	13.50
90-180	1139.88	N.A.	14.20
110-180	574.83	N.A.	7.20
0-180	8020.5	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	233.00
10-20	651.41
20-30	934.07
30-40	1062.95
40-50	1063.49
50-60	979.87
60-70	845.59
70-80	652.35
80-90	457.90
90-100	316.01
100-110	249.03
110-120	192.51
120-130	146.28
130-140	103.90
140-150	72.55
150-160	40.09
160-170	16.88
170-180	2.61

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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	119	119	119	119	114	114	114	114	106	106	106	98	98	98	91	91	91	88
1	107	101	96	91	102	97	93	88	90	86	83	84	81	78	77	75	73	70
2	96	87	80	73	92	84	77	71	78	72	67	72	68	64	67	64	60	57
3	88	76	68	61	84	74	66	59	68	62	56	64	58	53	59	55	51	48
4	80	68	58	51	77	65	57	50	61	54	48	57	51	46	53	48	43	41
5	74	60	51	44	71	58	50	43	54	47	41	51	45	40	48	42	38	35
6	68	54	45	38	65	53	44	38	49	42	36	46	40	35	43	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	44	35	30	41	34	29	39	32	28	36	31	27	25
9	55	41	33	27	53	40	32	27	38	31	26	36	29	25	34	28	24	22
10	52	38	30	25	50	37	29	24	35	28	24	33	27	23	31	26	22	20

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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

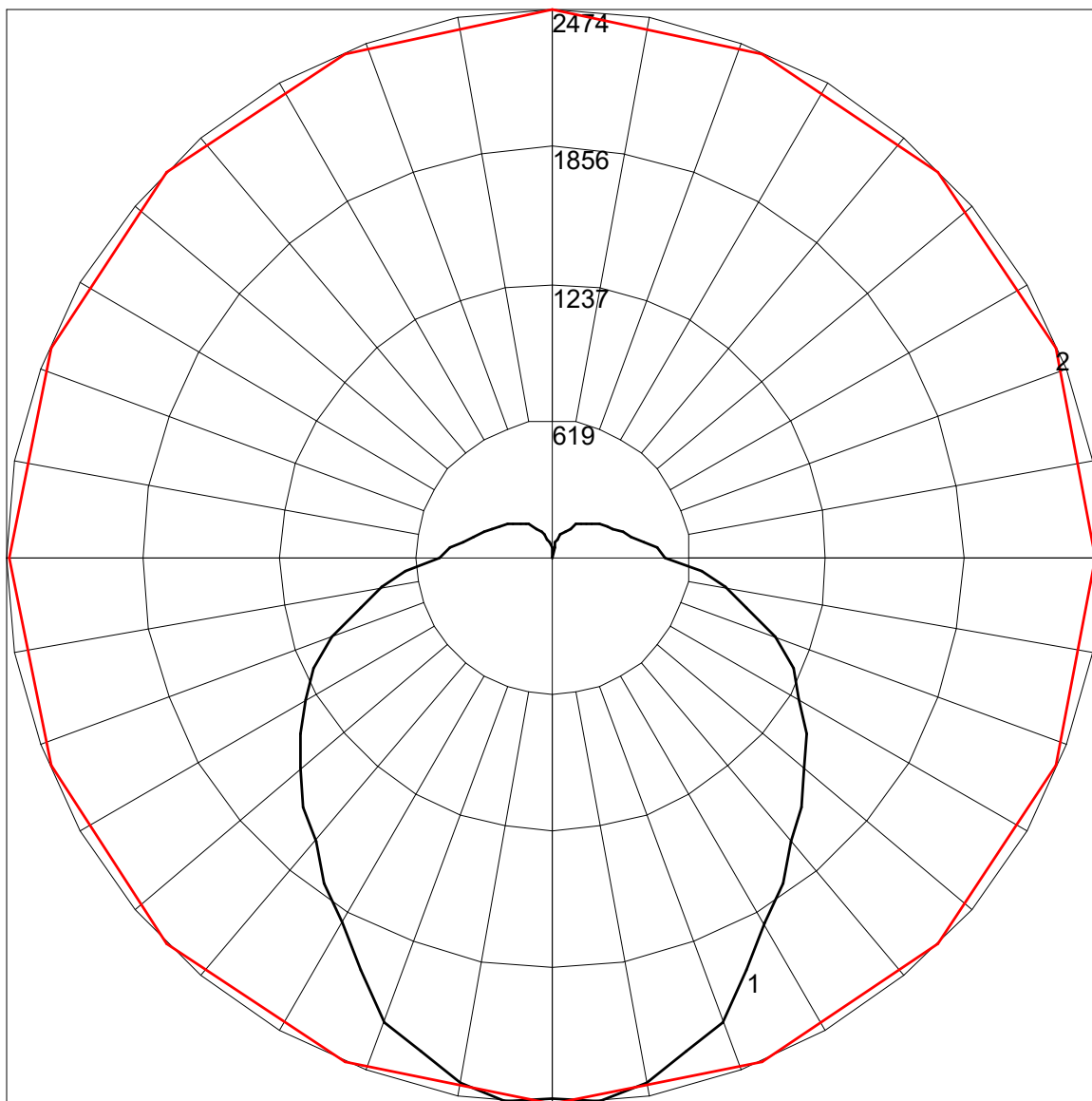
X=2H	Y=2H	14.5	15.9	15.1	16.5	17.1	19.6	21.0	20.1	21.5	22.2
	3H	15.7	16.9	16.2	17.5	18.2	22.3	23.6	22.9	24.2	24.9
	4H	16.0	17.2	16.6	17.8	18.5	23.6	24.8	24.2	25.4	26.1
	6H	16.2	17.3	16.8	17.9	18.6	25.0	26.1	25.6	26.7	27.4
	8H	16.2	17.3	16.8	17.9	18.6	25.7	26.8	26.3	27.4	28.1
	12H	16.2	17.2	16.8	17.9	18.6	26.5	27.5	27.1	28.1	28.9

UGR Viewed Endwise

4H	2H	15.9	17.1	16.5	17.7	18.4	19.8	21.0	20.4	21.6	22.3
	3H	17.3	18.3	17.9	19.0	19.7	22.8	23.8	23.4	24.4	25.1
	4H	17.8	18.7	18.4	19.3	20.1	24.2	25.2	24.8	25.8	26.5
	6H	18.1	18.9	18.7	19.6	20.3	25.7	26.6	26.4	27.3	28.0
	8H	18.1	18.9	18.8	19.6	20.4	26.6	27.3	27.2	28.0	28.8
	12H	18.2	18.9	18.9	19.6	20.4	27.4	28.2	28.1	28.9	29.6
8H	4H	18.9	19.7	19.5	20.3	21.1	24.3	25.1	25.0	25.8	26.5
	6H	19.4	20.1	20.1	20.8	21.6	26.0	26.7	26.7	27.4	28.1
	8H	19.6	20.2	20.3	20.9	21.7	26.9	27.5	27.6	28.2	29.0
	12H	19.7	20.2	20.4	20.9	21.8	28.0	28.5	28.7	29.2	30.1
12H	4H	19.2	19.9	19.9	20.6	21.4	24.3	25.0	25.0	25.7	26.5
	6H	19.9	20.5	20.6	21.2	22.0	26.0	26.6	26.7	27.3	28.1
	8H	20.2	20.7	20.9	21.4	22.3	27.0	27.5	27.7	28.2	29.1

Maximum UGR = 30.1

POLAR GRAPH



Maximum Candela = 2474.046 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.)