



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-8-P9-8TW-X-RD-XX-XX-POE 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] 11-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-P9-8TW-x-RD-xx-xx-PoE 4000k

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6858
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	49.1
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	8763	7455	7754
55	7243	6305	6750
65	5950	5464	5972
75	4567	4648	5034
85	3547	4335	4642

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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	1993.374	1993.374	1993.374	1993.374	1993.374
5	2004.925	2003.275	2006.575	2009.875	2011.526
10	1945.520	1948.820	1965.321	1978.523	1981.823
15	1853.112	1866.313	1896.015	1924.068	1935.619
20	1767.304	1793.707	1848.161	1899.316	1917.467
25	1602.290	1638.593	1716.150	1785.456	1811.858
30	1440.576	1491.730	1597.339	1694.698	1732.651
35	1303.614	1372.920	1508.232	1628.692	1676.546
40	1113.847	1193.054	1363.019	1508.232	1559.386
45	948.833	1049.492	1250.809	1419.124	1481.829
50	787.119	894.378	1115.497	1297.013	1358.068
55	641.906	760.716	993.387	1183.153	1245.859
60	509.894	633.655	874.576	1062.693	1123.748
65	394.384	529.696	778.868	968.635	1029.690
70	285.475	429.037	674.909	858.075	910.879
75	191.417	336.629	572.600	735.964	780.518
80	120.461	270.624	499.994	656.757	698.011
85	57.755	214.519	433.988	579.201	617.154
90	8.251	158.414	343.230	460.390	493.393
95	0.000	122.111	303.626	422.437	448.839
100	0.000	100.659	257.422	353.131	379.533
105	0.000	82.507	212.869	297.026	323.428
110	0.000	67.656	179.866	257.422	273.924
115	0.000	57.755	153.463	216.169	239.271
120	0.000	54.455	133.662	189.767	207.918
125	0.000	51.154	113.860	161.714	178.216
130	0.000	46.204	97.358	141.912	155.114
135	0.000	39.603	82.507	118.810	127.061
140	0.000	37.953	77.557	107.259	118.810
145	0.000	39.603	72.606	97.358	107.259
150	0.000	34.653	59.405	77.557	84.157
155	0.000	34.653	52.805	67.656	70.956
160	0.000	34.653	46.204	57.755	59.405
165	0.000	16.501	41.254	49.504	51.154
170	0.000	0.000	37.953	39.603	41.254
175	0.000	0.000	0.000	34.653	34.653
180	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	727.13	N.A.	10.60
0-30	1518.44	N.A.	22.10
0-40	2449.38	N.A.	35.70
0-60	4267.41	N.A.	62.20
0-80	5578.24	N.A.	81.30
0-90	5999.49	N.A.	87.50
10-90	5809.61	N.A.	84.70
20-40	1722.25	N.A.	25.10
20-50	2671.21	N.A.	38.90
40-70	2556.88	N.A.	37.30
60-80	1310.83	N.A.	19.10
70-80	571.98	N.A.	8.30
80-90	421.25	N.A.	6.10
90-110	492.45	N.A.	7.20
90-120	630.24	N.A.	9.20
90-130	724.45	N.A.	10.60
90-150	825.63	N.A.	12.00
90-180	858.96	N.A.	12.50
110-180	366.51	N.A.	5.30
0-180	6858.45	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	189.88
10-20	537.25
20-30	791.31
30-40	930.94
40-50	948.95
50-60	869.08
60-70	738.85
70-80	571.98
80-90	421.25
90-100	290.51
100-110	201.94
110-120	137.79
120-130	94.21
130-140	60.87
140-150	40.30
150-160	22.20
160-170	9.63
170-180	1.50

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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	115	115	115	115	111	111	111	111	103	103	103	96	96	96	90	90	90	87
1	103	97	93	88	99	94	90	85	87	84	80	81	78	76	76	74	71	68
2	93	84	77	71	89	81	74	69	76	70	65	70	66	62	66	62	59	56
3	85	74	65	58	81	71	63	57	66	60	54	62	56	52	58	53	49	47
4	77	65	56	49	74	63	54	48	59	52	46	55	49	44	51	46	42	40
5	71	58	49	42	68	56	48	41	53	45	40	49	43	38	46	41	37	34
6	66	52	43	37	63	51	42	36	47	40	35	45	38	33	42	36	32	30
7	61	47	38	32	58	46	38	32	43	36	31	41	34	30	38	33	29	26
8	57	43	35	29	54	42	34	28	40	32	27	37	31	26	35	30	26	24
9	53	40	31	26	51	38	31	25	36	29	25	34	28	24	33	27	23	21
10	50	36	29	23	48	35	28	23	34	27	22	32	26	22	30	25	21	19

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## UGR TABLE - CORRECTED

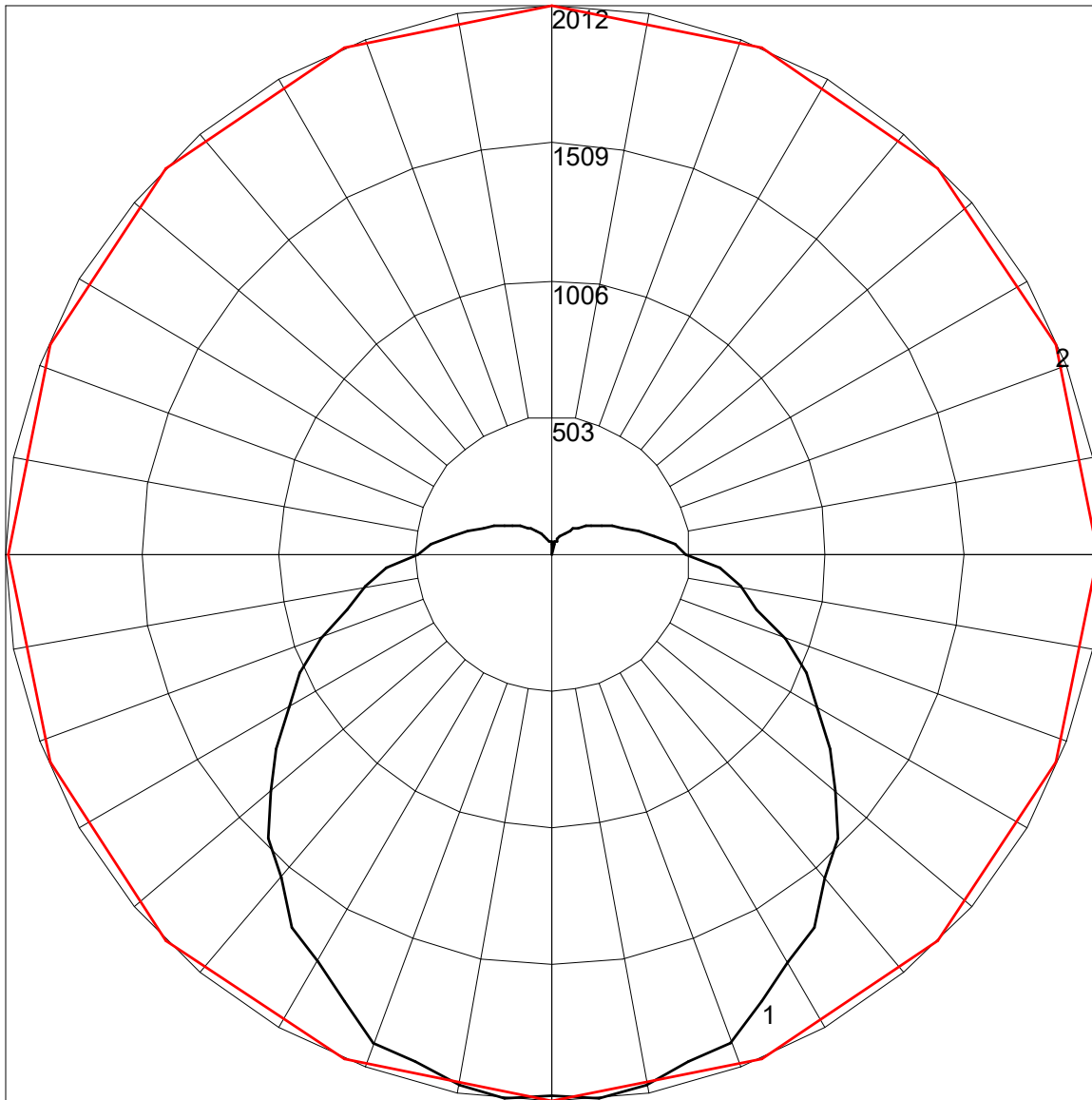
### Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	14.5	16.0	15.1	16.5	17.1	19.7	21.1	20.2	21.7	22.3
	3H	15.7	17.0	16.3	17.6	18.2	22.3	23.6	22.9	24.2	24.8
	4H	16.1	17.3	16.6	17.9	18.5	23.6	24.8	24.2	25.4	26.1
	6H	16.3	17.5	16.9	18.0	18.7	25.0	26.1	25.6	26.7	27.4
	8H	16.3	17.5	16.9	18.1	18.7	25.7	26.8	26.3	27.4	28.1
	12H	16.4	17.4	17.0	18.0	18.7	26.6	27.6	27.2	28.2	28.9
4H	2H	16.0	17.3	16.6	17.8	18.5	19.9	21.2	20.5	21.7	22.4
	3H	17.5	18.5	18.0	19.1	19.8	22.8	23.9	23.4	24.5	25.1
	4H	17.9	18.9	18.5	19.5	20.2	24.2	25.2	24.8	25.8	26.5
	6H	18.3	19.1	18.9	19.8	20.5	25.8	26.7	26.4	27.3	28.0
	8H	18.4	19.2	19.0	19.8	20.5	26.6	27.5	27.3	28.1	28.8
	12H	18.4	19.1	19.1	19.8	20.5	27.6	28.3	28.3	29.0	29.7
8H	4H	19.1	19.9	19.7	20.5	21.3	24.3	25.2	25.0	25.8	26.5
	6H	19.6	20.3	20.3	21.0	21.8	26.1	26.8	26.7	27.4	28.2
	8H	19.9	20.5	20.5	21.2	21.9	27.0	27.7	27.7	28.4	29.1
	12H	20.0	20.5	20.6	21.2	22.0	28.2	28.7	28.8	29.4	30.2
12H	4H	19.4	20.2	20.1	20.9	21.6	24.3	25.1	25.0	25.7	26.5
	6H	20.2	20.8	20.9	21.5	22.2	26.1	26.7	26.8	27.4	28.2
	8H	20.5	21.0	21.1	21.7	22.5	27.1	27.7	27.8	28.4	29.2

Maximum UGR = 30.2

POLAR GRAPH



Maximum Candela = 2011.526 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.)