



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LLM-2-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] 2' DIRECT/INDIRECT SURFACE LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC ROUND LENS

[LUMCAT]LLM-2-P9-8TW-x-RD-xx-xx-PoE 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1757
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	133
Total Luminaire Watts	13.2
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	8090	7099	7584
55	6535	5967	6602
65	5176	5134	5841
75	3692	4327	4924
85	2228	3985	4540

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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	510.697	510.697	510.697	510.697	510.697
5	513.656	513.233	514.079	514.924	515.347
10	498.437	499.282	503.510	506.892	507.737
15	474.762	478.144	485.754	492.941	495.900
20	452.778	459.542	473.494	486.599	491.250
25	410.502	419.803	439.673	457.429	464.193
30	369.071	382.177	409.234	434.177	443.900
35	333.982	351.738	386.405	417.266	429.526
40	285.364	305.657	349.202	386.405	399.510
45	243.088	268.877	320.454	363.575	379.640
50	201.658	229.137	285.787	332.291	347.933
55	164.454	194.893	254.503	303.120	319.185
60	130.634	162.341	224.064	272.259	287.901
65	101.040	135.707	199.544	248.161	263.804
70	73.138	109.918	172.910	219.836	233.365
75	49.040	86.243	146.698	188.552	199.967
80	30.862	69.333	128.097	168.259	178.828
85	14.797	54.959	111.186	148.390	158.113
90	2.114	40.585	87.935	117.951	126.406
95	0.000	31.284	77.788	108.227	114.991
100	0.000	25.788	65.951	90.471	97.235
105	0.000	21.138	54.536	76.097	82.861
110	0.000	17.333	46.081	65.951	70.179
115	0.000	14.797	39.317	55.382	61.301
120	0.000	13.951	34.244	48.618	53.268
125	0.000	13.106	29.171	41.431	45.658
130	0.000	11.837	24.943	36.358	39.740
135	0.000	10.146	21.138	30.439	32.553
140	0.000	9.724	19.870	27.480	30.439
145	0.000	10.146	18.602	24.943	27.480
150	0.000	8.878	15.219	19.870	21.561
155	0.000	8.878	13.528	17.333	18.179
160	0.000	8.878	11.837	14.797	15.219
165	0.000	4.228	10.569	12.683	13.106
170	0.000	0.000	9.724	10.146	10.569
175	0.000	0.000	0.000	8.878	8.878
180	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	186.29	N.A.	10.60
0-30	389.02	N.A.	22.10
0-40	627.52	N.A.	35.70
0-60	1093.3	N.A.	62.20
0-80	1429.13	N.A.	81.30
0-90	1537.05	N.A.	87.50
10-90	1488.41	N.A.	84.70
20-40	441.24	N.A.	25.10
20-50	684.36	N.A.	38.90
40-70	655.07	N.A.	37.30
60-80	335.83	N.A.	19.10
70-80	146.54	N.A.	8.30
80-90	107.92	N.A.	6.10
90-110	126.16	N.A.	7.20
90-120	161.47	N.A.	9.20
90-130	185.60	N.A.	10.60
90-150	211.52	N.A.	12.00
90-180	220.06	N.A.	12.50
110-180	93.90	N.A.	5.30
0-180	1757.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	48.65
10-20	137.64
20-30	202.73
30-40	238.50
40-50	243.12
50-60	222.66
60-70	189.29
70-80	146.54
80-90	107.92
90-100	74.43
100-110	51.74
110-120	35.30
120-130	24.14
130-140	15.60
140-150	10.33
150-160	5.69
160-170	2.47
170-180	0.38

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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	114	114	114	114	110	110	110	110	103	103	103	96	96	96	89	89	89	86
1	102	97	92	87	98	93	89	85	87	83	80	81	78	75	75	73	71	68
2	93	84	76	70	89	81	74	68	75	70	65	70	65	61	65	62	58	55
3	84	73	65	58	81	71	63	56	66	59	54	61	56	51	57	53	49	46
4	77	65	56	49	74	62	54	48	58	51	46	55	49	44	51	46	42	39
5	71	58	49	42	68	56	47	41	52	45	39	49	43	38	46	41	36	34
6	65	52	43	36	62	50	42	36	47	40	34	44	38	33	42	36	32	30
7	60	47	38	32	58	46	37	32	43	36	30	40	34	29	38	33	28	26
8	56	43	34	29	54	42	34	28	39	32	27	37	31	26	35	30	25	23
9	53	39	31	26	50	38	31	25	36	29	24	34	28	24	32	27	23	21
10	49	36	28	23	47	35	28	23	33	27	22	32	26	22	30	25	21	19

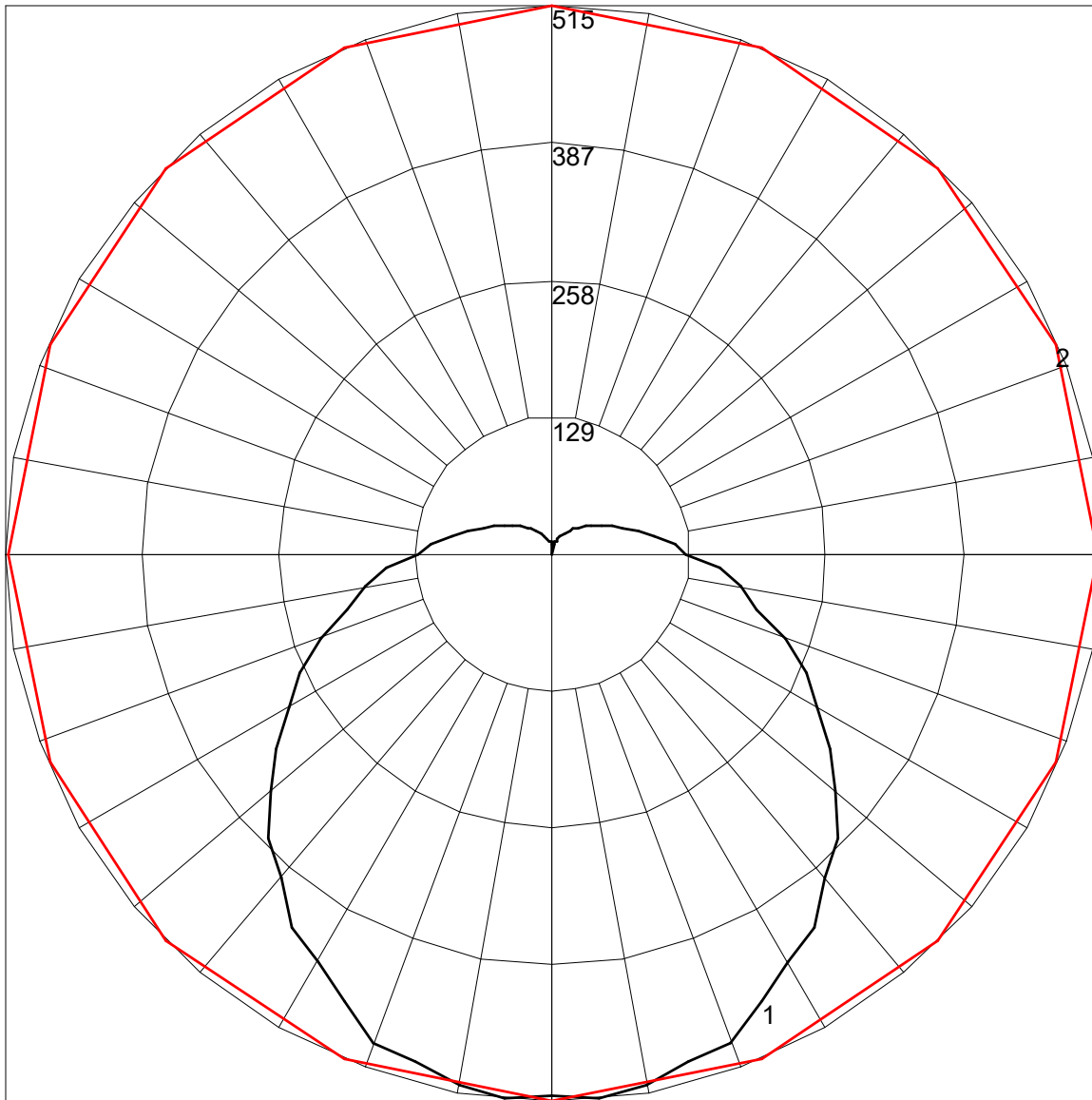
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UGR TABLE - CORRECTED

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	14.4	15.9	15.0	16.4	17.0	19.4	20.9	20.0	21.4	22.0
	3H	15.6	16.9	16.2	17.5	18.1	22.0	23.3	22.5	23.9	24.5
	4H	16.0	17.2	16.6	17.8	18.5	23.2	24.5	23.8	25.0	25.7
	6H	16.2	17.4	16.8	18.0	18.6	24.5	25.6	25.1	26.2	26.9
	8H	16.3	17.4	16.9	18.0	18.6	25.2	26.3	25.7	26.9	27.5
	12H	16.3	17.4	16.9	17.9	18.6	25.9	26.9	26.5	27.5	28.2
4H	2H	15.9	17.1	16.5	17.7	18.4	19.7	20.9	20.2	21.5	22.1
	3H	17.3	18.4	17.9	19.0	19.7	22.5	23.5	23.1	24.1	24.8
	4H	17.8	18.8	18.4	19.4	20.1	23.8	24.8	24.4	25.4	26.1
	6H	18.1	19.0	18.8	19.6	20.4	25.3	26.2	26.0	26.8	27.6
	8H	18.2	19.1	18.9	19.7	20.4	26.1	26.9	26.7	27.6	28.3
	12H	18.3	19.0	18.9	19.7	20.4	27.0	27.7	27.6	28.4	29.1
8H	4H	18.9	19.7	19.6	20.4	21.1	24.0	24.8	24.6	25.4	26.2
	6H	19.5	20.2	20.1	20.9	21.6	25.6	26.3	26.3	27.0	27.7
	8H	19.7	20.3	20.4	21.0	21.8	26.5	27.2	27.2	27.9	28.6
	12H	19.8	20.4	20.5	21.1	21.9	27.6	28.1	28.2	28.8	29.6
12H	4H	19.3	20.0	19.9	20.7	21.4	24.0	24.7	24.6	25.4	26.1
	6H	20.0	20.6	20.7	21.3	22.1	25.7	26.3	26.3	26.9	27.7
	8H	20.3	20.9	21.0	21.5	22.4	26.6	27.2	27.3	27.9	28.7

Maximum UGR = 29.6

POLAR GRAPH



Maximum Candela = 515.347 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.)