IES INDOOR REPORT
PHOTOMETRIC FILENAME : MLS4-LED-20L-CSM-UNV-40.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]LED-8731
[TESTLAB]LSI INDUSTRIES, INC
[ISSUEDATE]08/23/17
[TESTDATE]03/24/17
[MANUFAC]LSI INDUSTRIES, INC
[LUMCAT]MLS4-LED-20L-CSM-UNV-40
[OTHER]TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTE]NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2134
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	19.5
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	1.42
Spacing Criterion (Diagonal)	1.52
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.17 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7277	8098	8783
55	7003	8746	10012
65	6565	10076	12252
75	5672	13462	17451
85	4442	31834	44419

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0.0	446	446	446	446	446
2.5	461	451	447	444	438
5.0	460	451	447	444	440
7.5	459	450	446	444	440
10.0	458	448	445	444	440
12.5	454	446	443	442	439
15.0	451	443	441	441	438
17.5	445	438	438	439	436
20.0	440	433	433	436	435
22.5	432	427	429	433	433
25.0	423	419	423	428	428
27.5	413	411	417	424	424
30.0	402	402	410	419	420
32.5	391	393	402	413	415
35.0	379	381	394	407	409
37.5	365	370	385	401	404
40.0	350	356	375	394	397
42.5	336	344	365	387	392
45.0	319	330	355	379	385
47.5	303	315	344	371	378
50.0	287	300	334	364	371
52.5	268	285	322	355	364
55.0	249	269	311	346	356
57.5	231	253	298	336	348
60.0	211	238	287	326	340
62.5	193	222	275	316	331
65.0	172	206	264	305	321
67.5	152	191	251	294	310
70.0	133	175	239	285	299
72.5	112	159	227	274	289
75.0	91	145	216	264	280
77.5	72	131	204	254	270
80.0	54	118	193	243	260
82.5	38	105	182	232	249
85.0	24	95	172	223	240
87.5	13	84	161	213	230
90.0	7	75	153	204	222
92.5	5	67	144	195	212
95.0	4	60	135	186	203
97.5	4	53	126	176	193
100.0	3	47	118	166	183
102.5	3	41	109	157	172
105.0	4	35	100	146	162
107.5	3	29	91	136	152
110.0	3	24	83	126	141
112.5	3	18	74	116	131
115.0	3	14	66	106	120
117.5	3	9	59	96	110
120.0	3	6	50	86	99
122.5	3	4	43	77	89
125.0	3	3	36	67	79
127.5	2	2	28	58	69
130.0	2	2	21	50	59
132.5	2	2	15	41	50

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CANDELA TABULATION - (Cont.)

135.0	2	2	9	32	41
137.5	2	2	4	24	32
140.0	2	2	2	16	24
142.5	1	1	1	9	15
145.0	2	1	1	4	8
147.5	1	1	1	1	3
150.0	0	0	0	0	0
152.5	0	0	0	0	0
155.0	0	0	0	0	0
157.5	0	0	0	0	0
160.0	0	0	0	0	0
162.5	0	0	0	0	0
165.0	0	0	0	0	0
167.5	0	0	0	0	0
170.0	0	0	0	0	0
172.5	0	0	0	0	0
175.0	0	0	0	0	0
177.5	0	0	0	0	0
180.0	0	0	0	0	0

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	167.71	N.A.	7.90
0-30	363.46	N.A.	17.00
0-40	610.29	N.A.	28.60
0-60	1158.63	N.A.	54.30
0-80	1625.97	N.A.	76.20
0-90	1795.9	N.A.	84.10
10-90	1753.19	N.A.	82.10
20-40	442.58	N.A.	20.70
20-50	716.04	N.A.	33.50
40-70	801.38	N.A.	37.50
60-80	467.34	N.A.	21.90
70-80	214.30	N.A.	10.00
80-90	169.93	N.A.	8.00
90-110	228.60	N.A.	10.70
90-120	290.31	N.A.	13.60
90-130	323.52	N.A.	15.20
90-150	338.59	N.A.	15.90
90-180	338.59	N.A.	15.90
110-180	110.00	N.A.	5.20
0-180	2134.49	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	42.70
10-20	125.01
20-30	195.75
30-40	246.83
40-50	273.46
50-60	274.87
60-70	253.04
70-80	214.30
80-90	169.93
90-100	132.18
100-110	96.42
110-120	61.72
120-130	33.21
130-140	12.96
140-150	2.12
150-160	0.00
160-170	0.00
170-180	0.00

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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	102	102	102	95	95	95	87	87	87	84
1	102	96	90	85	97	92	87	82	85	81	77	78	75	72	72	69	67	63
2	91	82	74	67	87	78	71	65	72	66	61	66	61	57	61	57	54	50
3	83	71	62	54	79	68	59	53	62	55	50	58	52	47	53	48	44	41
4	75	62	52	45	71	60	51	44	55	47	42	51	44	39	47	41	37	34
5	69	55	45	38	65	53	44	37	49	41	35	45	39	34	42	36	32	29
6	63	49	40	33	60	47	39	32	44	36	31	41	34	29	38	32	28	25
7	58	44	35	29	56	43	34	28	40	32	27	37	30	25	34	29	24	22
8	54	40	31	25	52	39	31	25	36	29	24	34	27	23	31	26	22	19
9	51	37	28	23	48	36	28	22	33	26	21	31	25	20	29	23	19	17
10	47	34	26	20	45	33	25	20	31	24	19	29	23	18	27	21	17	16

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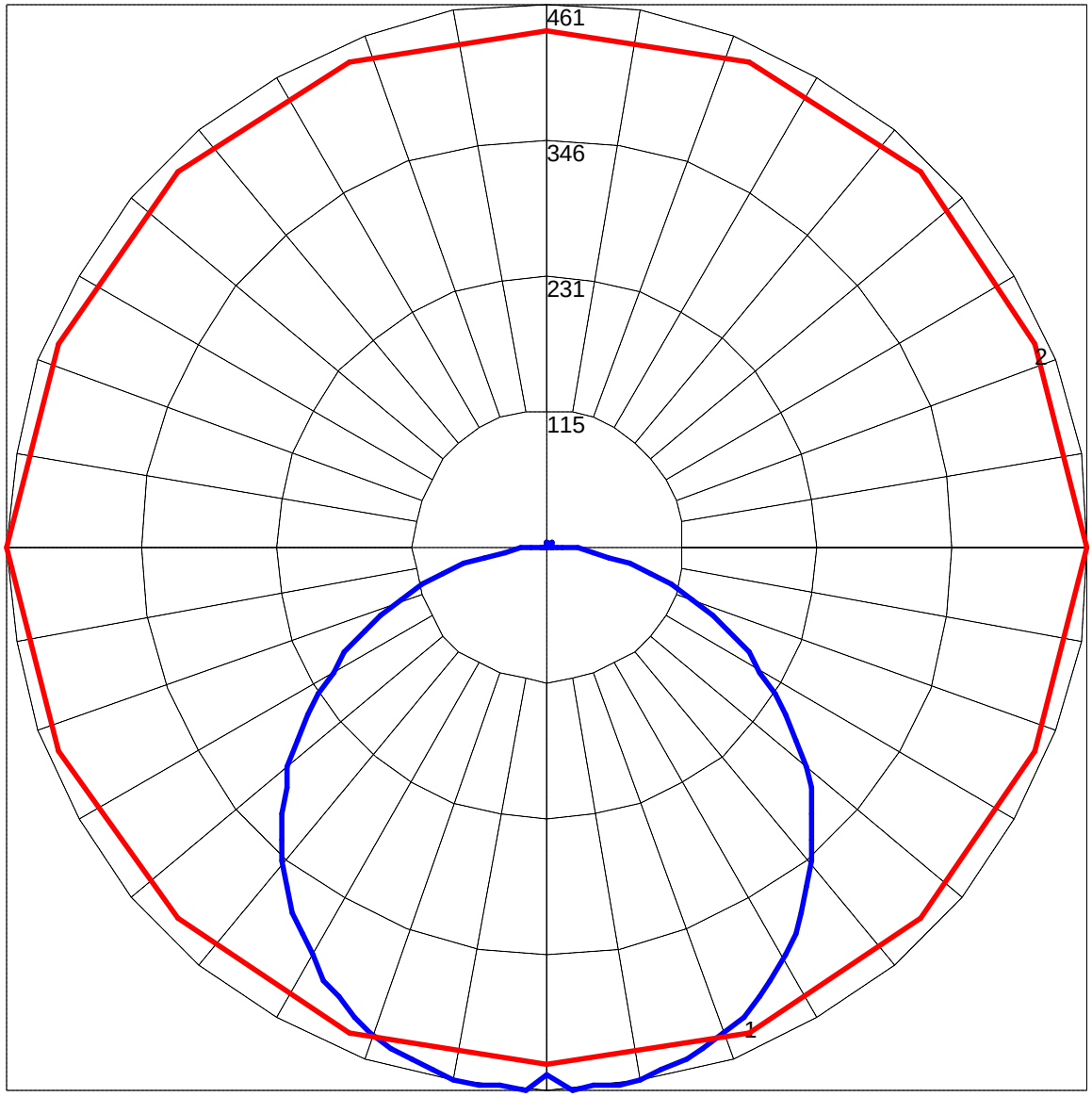
POLAR GRAPH



Maximum Candela = 461 Located At Horizontal Angle = 0, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)