



IES INDOOR REPORT
PHOTOMETRIC FILENAME : CLRM2-FS1-UNV-20W-3500K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] LED-13295
[TESTLAB] LSI INDUSTRIES, INC.
[ISSUEDATE] 04/06/22
[TESTDATE] 03/09/22
[MANUFAC] LSI INDUSTRIES, INC.
[LUMCAT] CLRM2-FS1-UNV-20W-3500K
[OTHER] TEST PROCEDURE: IESNA LM-79-19
[ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED
[OTHER] SCALED FROM ORIGINAL TEST DATA
[SEARCH_SOURCETYPE] LED
[SEARCH_APPLICATION] Indoor
[SEARCH_COLORTEMP] 3500

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2215
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	20
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	3.34
Spacing Criterion (Diagonal)	2.84
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	1.88 ft
Luminous Width (90-270)	0.02 ft
Luminous Height	0.33 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	27327	9767	8926
55	22457	8505	7301
65	18236	7285	5852
75	14494	6260	4767
85	9723	5540	4042

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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	94	94	94	94	94	94	94	94	94	94
2.5	96	82	72	65	63	65	68	80	95	107
5.0	97	67	85	95	94	96	95	68	93	124
7.5	97	75	100	120	132	129	106	86	91	117
10.0	97	96	128	145	159	154	139	98	89	134
12.5	97	99	145	177	190	180	154	105	88	151
15.0	97	107	172	206	215	209	177	122	85	143
17.5	96	124	183	235	245	241	199	138	82	147
20.0	94	135	204	254	273	263	214	144	79	176
22.5	93	140	226	275	300	284	241	157	77	183
25.0	92	149	238	299	322	305	255	166	73	177
27.5	89	162	255	317	340	325	270	172	70	191
30.0	86	162	265	332	355	341	286	183	67	210
32.5	83	168	278	344	367	354	297	187	65	200
35.0	80	175	288	355	377	364	307	192	61	199
37.5	75	176	294	362	383	371	315	200	59	208
40.0	71	180	301	365	387	374	319	202	56	202
42.5	67	184	303	368	387	376	324	203	53	197
45.0	62	184	305	367	384	375	325	207	51	202
47.5	57	183	306	363	380	371	325	206	48	198
50.0	53	184	306	360	374	367	324	207	46	194
52.5	48	184	305	354	366	361	321	207	43	192
55.0	44	183	302	348	359	353	317	206	40	190
57.5	40	181	297	339	347	344	312	203	37	188
60.0	36	180	293	331	339	336	305	202	34	185
62.5	33	178	288	322	328	325	300	199	31	181
65.0	29	175	282	312	315	315	293	196	28	177
67.5	26	173	277	302	305	305	287	193	25	176
70.0	23	169	269	292	293	294	278	189	22	170
72.5	20	165	263	281	281	283	271	185	19	166
75.0	17	163	255	272	271	273	262	182	17	164
77.5	13	158	247	262	262	264	256	177	14	161
80.0	11	154	242	254	252	255	247	171	11	157
82.5	9	152	236	247	244	246	241	167	9	156
85.0	7	147	230	239	235	238	235	163	7	155
87.5	5	145	225	232	228	231	228	160	6	150
90.0	4	140	220	225	221	226	221	156	4	142
92.5	4	138	214	221	217	220	217	152	4	142
95.0	3	136	211	216	213	215	212	149	3	143
97.5	3	133	208	213	209	212	210	146	3	143
100.0	2	131	206	213	207	208	205	141	2	140
102.5	1	132	209	216	213	215	209	142	1	140
105.0	1	132	210	218	214	215	208	141	1	141
107.5	0	129	208	218	215	216	207	140	1	138
110.0	0	125	207	219	216	216	206	136	1	135
112.5	0	122	206	219	217	217	206	133	0	133
115.0	0	118	205	219	218	218	204	129	1	131
117.5	0	115	203	220	219	218	202	124	1	126
120.0	1	111	200	220	220	218	200	120	0	122
122.5	0	106	197	220	222	218	197	115	1	119
125.0	0	102	192	219	221	217	193	111	1	114
127.5	0	97	188	217	221	216	190	106	1	110
130.0	0	93	184	215	220	214	186	101	1	105
132.5	0	86	178	214	219	212	180	96	1	101

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135.0	0	78	173	209	216	208	173	89	0	94
137.5	0	68	166	205	213	203	168	78	0	85
140.0	0	55	158	199	209	198	161	67	1	74
142.5	0	39	150	192	201	191	153	51	0	57
145.0	0	29	142	184	195	183	143	36	0	41
147.5	0	25	131	174	188	174	133	30	1	36
150.0	1	20	120	163	176	163	123	25	1	30
152.5	1	16	99	151	163	150	106	21	1	24
155.0	1	12	75	135	149	136	84	15	1	18
157.5	1	7	43	117	135	119	50	9	1	10
160.0	0	1	27	90	111	90	30	1	0	2
162.5	1	1	22	49	77	46	23	1	1	1
165.0	0	0	16	26	36	28	16	1	0	1
167.5	0	0	7	18	23	20	8	1	1	0
170.0	0	0	0	11	13	10	1	1	1	1
172.5	1	0	0	0	0	0	1	0	1	0
175.0	1	0	0	0	0	0	1	0	1	1
177.5	0	0	0	0	0	0	1	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles **Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	94	94	94	94	94	94	94
2.5	115	118	119	121	119	111	96
5.0	119	142	147	148	127	125	97
7.5	152	145	171	154	146	121	97
10.0	157	193	194	192	176	150	97
12.5	194	243	237	246	194	147	97
15.0	208	264	274	272	234	146	97
17.5	234	280	308	286	238	180	96
20.0	262	309	330	311	269	188	94
22.5	266	332	346	334	283	183	93
25.0	292	344	359	350	298	212	92
27.5	295	351	366	358	312	217	89
30.0	304	354	369	359	314	212	86
32.5	306	356	367	359	318	225	83
35.0	306	353	361	354	320	218	80
37.5	309	343	349	346	317	218	75
40.0	301	332	333	334	312	224	71
42.5	298	319	315	318	306	219	67
45.0	293	306	300	304	299	218	62
47.5	284	294	286	292	292	217	57
50.0	277	281	275	280	284	213	53
52.5	268	267	262	266	272	210	48
55.0	262	255	250	254	263	209	44
57.5	254	244	239	242	253	206	40
60.0	246	236	231	234	246	203	36
62.5	239	228	222	226	239	198	33
65.0	231	220	215	217	232	195	29
67.5	225	212	207	211	225	192	26
70.0	217	206	202	205	217	187	23
72.5	212	201	197	201	211	184	20
75.0	208	196	193	195	206	182	17
77.5	202	189	189	189	200	177	13
80.0	196	184	184	182	195	172	11

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CANDELA TABULATION - (Cont.)

82.5	191	181	182	179	191	167	9
85.0	187	178	177	176	187	166	7
87.5	185	173	172	174	182	163	5
90.0	183	170	167	171	177	160	4
92.5	180	167	166	169	176	158	4
95.0	178	166	165	167	175	155	3
97.5	175	164	164	162	174	151	3
100.0	173	162	162	159	172	148	2
102.5	174	164	163	166	176	154	1
105.0	181	172	170	172	179	155	1
107.5	184	174	171	174	180	152	0
110.0	184	176	173	175	182	147	0
112.5	185	177	175	176	183	146	0
115.0	186	178	176	178	184	142	0
117.5	186	180	177	178	184	138	0
120.0	186	181	178	179	183	136	1
122.5	186	183	179	181	184	133	0
125.0	184	184	180	182	183	128	0
127.5	184	186	183	183	183	122	0
130.0	182	188	185	186	182	119	0
132.5	180	189	187	187	180	113	0
135.0	176	190	188	187	177	106	0
137.5	173	190	189	189	174	96	0
140.0	166	190	190	187	169	82	0
142.5	161	187	191	187	164	64	0
145.0	153	183	189	183	156	45	0
147.5	144	180	186	180	149	35	0
150.0	133	172	180	172	138	28	1
152.5	115	162	173	162	121	23	1
155.0	88	149	160	150	96	16	1
157.5	65	134	149	134	67	10	1
160.0	39	103	128	103	39	2	0
162.5	30	73	90	64	29	1	1
165.0	21	34	50	38	20	0	0
167.5	12	23	30	25	10	1	0
170.0	0	14	18	14	0	1	0
172.5	0	0	1	0	0	0	1
175.0	0	0	0	0	0	1	1
177.5	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	64.18	N.A.	2.90
0-30	177.56	N.A.	8.00
0-40	346.02	N.A.	15.60
0-60	762.20	N.A.	34.40
0-80	1176.9	N.A.	53.10
0-90	1362.89	N.A.	61.50
10-90	1351.58	N.A.	61.00
20-40	281.84	N.A.	12.70
20-50	483.50	N.A.	21.80
40-70	629.20	N.A.	28.40
60-80	414.70	N.A.	18.70
70-80	201.68	N.A.	9.10
80-90	185.99	N.A.	8.40
90-110	335.58	N.A.	15.20
90-120	489.61	N.A.	22.10
90-130	624.89	N.A.	28.20
90-150	808.06	N.A.	36.50
90-180	852.11	N.A.	38.50
110-180	516.53	N.A.	23.30
0-180	2215.00	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	11.31
10-20	52.87
20-30	113.38
30-40	168.46
40-50	201.66
50-60	214.52
60-70	213.02
70-80	201.68
80-90	185.99
90-100	171.02
100-110	164.56
110-120	154.02
120-130	135.29
130-140	109.29
140-150	73.88
150-160	37.12
160-170	6.81
170-180	0.13

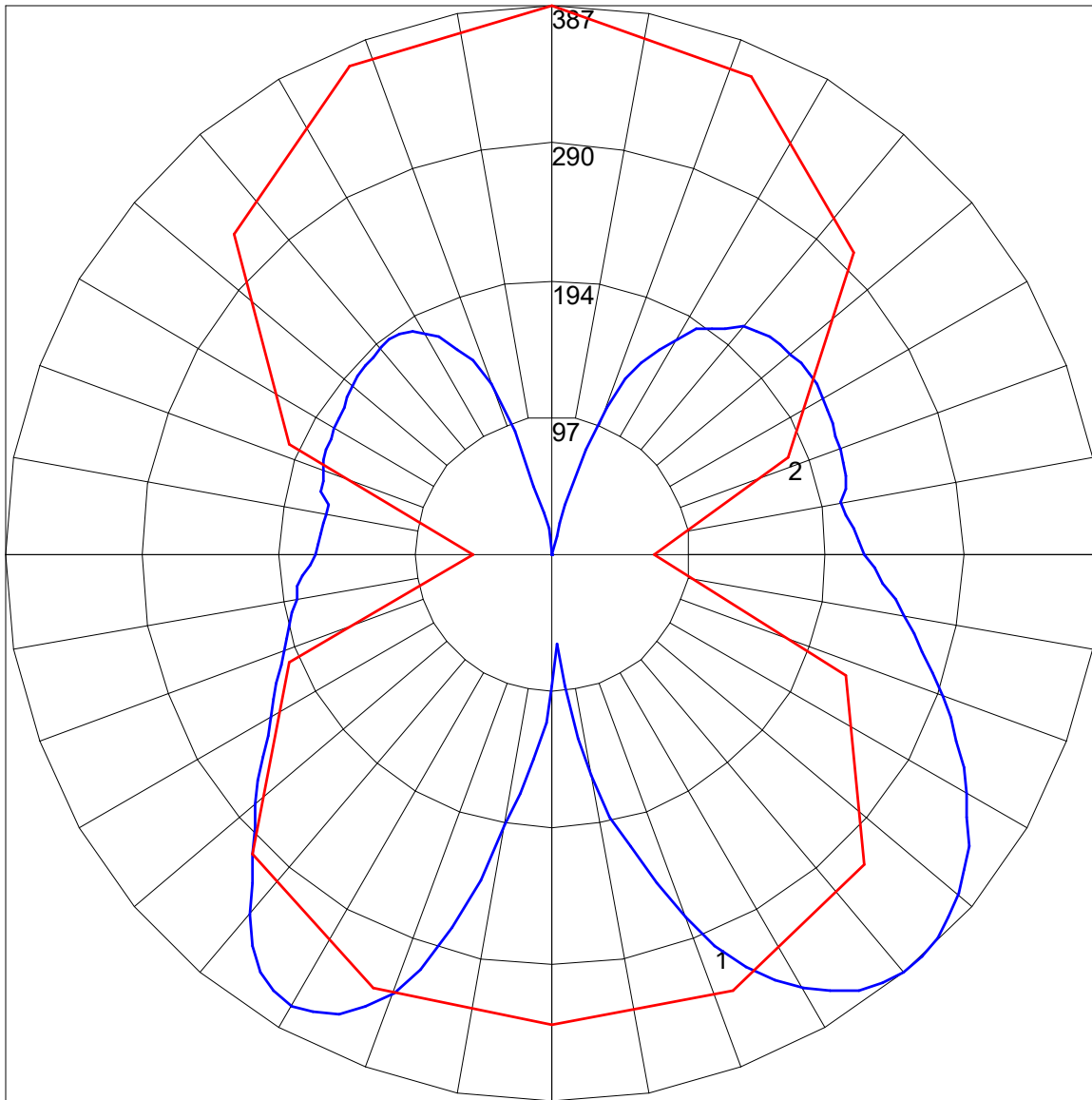
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	96	90	84	79	89	84	79	75	73	69	65	62	59	56	52	50	48	43
2	86	76	68	62	80	71	64	58	61	56	51	52	48	44	44	40	37	33
3	77	66	56	49	71	61	53	46	53	46	41	45	39	35	37	33	30	26
4	70	57	48	40	65	53	45	38	46	39	33	39	33	29	32	28	24	21
5	64	50	41	34	59	47	38	32	40	33	28	34	29	24	29	24	20	17
6	59	45	35	29	54	42	33	27	36	29	24	31	25	21	26	21	17	14
7	54	40	31	25	50	37	29	23	32	25	20	28	22	18	23	18	15	12
8	50	36	27	21	46	34	26	20	29	22	18	25	19	15	21	16	13	11
9	46	33	24	19	43	31	23	18	27	20	16	23	17	14	19	15	11	9
10	43	30	22	17	40	28	21	16	24	18	14	21	16	12	18	13	10	8

POLAR GRAPH



Maximum Candela = 387 Located At Horizontal Angle = 90, Vertical Angle = 40
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (40) (Through Max. Cd.)