



IES INDOOR REPORT
PHOTOMETRIC FILENAME : CLRM2-FS1-UNV-20W-3000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] LED-13296
[TESTLAB] LSI INDUSTRIES, INC.
[ISSUEDATE] 04/06/22
[TESTDATE] 03/09/22
[MANUFAC] LSI INDUSTRIES, INC.
[LUMCAT] CLRM2-FS1-UNV-20W-3000K
[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] 3000

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2039
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	20
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	3.22
Spacing Criterion (Diagonal)	2.74
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	26445	8966	8228
55	22457	7773	6711
65	19493	6665	5425
75	16199	5769	4416
85	12501	5082	3733

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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	95	95	95	95	95	95	95	95	95	95
2.5	101	86	75	65	62	65	73	84	99	109
5.0	101	67	66	88	87	89	72	64	97	115
7.5	102	63	91	105	116	110	94	69	95	114
10.0	101	81	113	133	142	136	121	91	92	136
12.5	102	89	132	161	167	163	138	94	91	138
15.0	101	94	155	186	194	190	162	106	87	129
17.5	99	107	166	208	224	216	178	124	85	149
20.0	98	120	187	229	250	237	195	132	82	170
22.5	96	125	201	251	272	259	220	140	78	168
25.0	94	132	217	272	294	281	232	152	75	167
27.5	91	144	233	289	311	299	248	156	71	187
30.0	88	147	240	301	326	314	261	164	68	197
32.5	84	149	255	315	337	326	271	171	64	184
35.0	79	156	261	325	346	334	281	173	61	190
37.5	74	159	269	332	353	341	288	180	58	195
40.0	69	160	275	336	356	345	293	185	54	187
42.5	65	164	277	337	357	346	297	185	51	186
45.0	60	166	280	337	354	346	298	188	48	188
47.5	56	166	281	335	351	343	299	189	45	184
50.0	52	166	281	331	345	340	299	189	42	181
52.5	48	166	279	326	340	333	295	190	40	179
55.0	44	165	276	320	330	326	292	188	37	175
57.5	40	164	273	312	321	318	287	187	34	174
60.0	37	163	269	305	312	310	282	185	32	171
62.5	34	161	264	297	303	302	277	183	29	168
65.0	31	159	258	288	292	292	271	180	26	165
67.5	27	156	254	279	282	282	265	178	23	163
70.0	24	153	248	269	271	273	258	174	21	159
72.5	21	150	241	260	261	263	250	170	18	155
75.0	19	147	235	251	251	253	243	167	16	152
77.5	16	144	228	243	241	244	236	163	13	149
80.0	13	141	222	234	233	236	229	158	11	146
82.5	11	138	217	227	225	228	223	154	9	144
85.0	9	135	211	220	217	221	216	151	7	143
87.5	7	131	206	213	211	214	211	148	6	139
90.0	6	128	201	209	205	210	206	144	5	132
92.5	5	126	197	203	200	203	200	140	4	130
95.0	4	125	194	199	196	199	196	138	3	133
97.5	3	122	190	196	192	195	193	135	3	133
100.0	2	120	189	195	190	193	190	132	2	129
102.5	1	121	192	199	196	198	193	132	2	129
105.0	0	120	192	200	197	199	193	132	1	129
107.5	0	118	191	200	198	199	192	130	1	127
110.0	0	115	191	201	198	200	191	126	1	124
112.5	0	112	190	201	199	200	190	123	1	122
115.0	0	109	188	201	200	200	189	120	1	119
117.5	0	106	186	202	201	201	187	116	0	115
120.0	0	102	184	202	202	200	184	112	0	111
122.5	0	99	180	201	203	200	182	108	1	108
125.0	0	94	178	201	203	200	179	104	0	104
127.5	0	90	174	200	203	199	175	99	0	99
130.0	0	86	170	198	202	197	171	95	1	95
132.5	0	81	165	196	201	195	166	90	1	91

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CANDELA TABULATION - (Cont.)

135.0	0	74	160	193	199	192	162	84	0	85
137.5	0	65	154	188	196	188	156	75	1	76
140.0	0	54	148	183	192	184	150	65	1	65
142.5	0	38	140	178	187	177	143	51	1	48
145.0	0	28	132	170	181	170	135	36	1	35
147.5	0	24	123	162	173	162	126	29	1	31
150.0	1	20	112	152	164	151	114	24	1	26
152.5	1	16	96	141	152	140	99	19	1	20
155.0	1	13	75	127	139	128	80	15	1	15
157.5	1	9	45	112	125	111	51	10	1	8
160.0	1	4	27	84	103	87	30	4	1	2
162.5	1	1	22	47	72	47	23	1	1	1
165.0	0	0	16	25	34	28	16	1	1	1
167.5	1	0	9	17	23	20	9	1	1	1
170.0	1	0	0	11	14	12	1	1	1	1
172.5	0	0	0	0	2	0	0	1	1	0
175.0	0	0	0	0	0	0	1	1	1	1
177.5	0	0	0	0	0	0	0	1	1	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	95	95	95	95	95	95	95
2.5	115	111	110	113	116	112	101
5.0	124	141	139	143	128	112	101
7.5	132	149	167	153	131	123	102
10.0	162	178	186	178	173	144	101
12.5	178	226	218	226	180	130	102
15.0	209	250	252	253	223	148	101
17.5	216	262	285	275	231	174	99
20.0	246	285	307	292	248	172	98
22.5	250	306	324	308	271	176	96
25.0	271	319	334	323	277	203	94
27.5	278	327	339	330	289	197	91
30.0	280	327	340	330	292	202	88
32.5	285	327	336	329	293	209	84
35.0	284	323	329	325	295	201	79
37.5	284	316	319	316	292	205	74
40.0	279	304	304	304	287	208	69
42.5	275	292	289	291	280	203	65
45.0	269	281	274	277	273	203	60
47.5	263	270	263	265	267	200	56
50.0	255	258	251	254	258	197	52
52.5	248	245	239	242	249	195	48
55.0	241	233	227	230	240	193	44
57.5	233	223	218	221	232	190	40
60.0	226	215	211	214	224	187	37
62.5	219	208	204	207	218	182	34
65.0	213	201	196	199	211	179	31
67.5	207	194	190	193	204	176	27
70.0	200	189	185	187	197	171	24
72.5	195	184	181	183	192	168	21
75.0	191	180	176	177	187	166	19
77.5	186	173	172	172	183	163	16
80.0	180	169	169	166	179	156	13

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CANDELA TABULATION - (Cont.)

82.5	175	165	165	163	175	153	11
85.0	172	163	161	161	171	151	9
87.5	170	159	157	159	165	149	7
90.0	168	156	153	157	161	146	6
92.5	165	153	151	154	160	144	5
95.0	163	152	151	151	159	142	4
97.5	160	150	150	147	158	138	3
100.0	159	149	148	146	156	136	2
102.5	163	153	152	152	161	141	1
105.0	168	158	156	157	163	141	0
107.5	170	160	157	159	165	138	0
110.0	170	162	159	160	166	135	0
112.5	171	163	160	161	167	133	0
115.0	171	164	161	162	168	130	0
117.5	171	166	162	163	168	126	0
120.0	170	166	163	164	168	123	0
122.5	170	168	164	165	167	121	0
125.0	170	169	166	167	167	115	0
127.5	168	170	167	168	166	111	0
130.0	166	172	169	170	166	107	0
132.5	164	174	171	171	164	102	0
135.0	162	175	172	172	162	95	0
137.5	157	174	173	172	158	86	0
140.0	152	174	175	172	155	74	0
142.5	147	172	176	171	150	56	0
145.0	140	168	173	168	142	39	0
147.5	132	163	170	163	134	30	0
150.0	121	157	165	156	125	25	1
152.5	104	148	156	146	110	20	1
155.0	79	135	145	136	88	14	1
157.5	54	120	135	120	61	8	1
160.0	32	90	113	93	36	1	1
162.5	26	61	81	57	26	1	1
165.0	18	30	44	34	17	1	0
167.5	8	20	27	22	8	0	1
170.0	0	11	16	11	0	1	1
172.5	0	0	0	0	0	1	0
175.0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	1	0
180.0	0	0	0	0	0	0	0

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	59.90	N.A.	2.90
0-30	164.89	N.A.	8.10
0-40	319.94	N.A.	15.70
0-60	702.53	N.A.	34.50
0-80	1084.31	N.A.	53.20
0-90	1255.46	N.A.	61.60
10-90	1244.74	N.A.	61.00
20-40	260.04	N.A.	12.80
20-50	445.47	N.A.	21.80
40-70	578.66	N.A.	28.40
60-80	381.78	N.A.	18.70
70-80	185.71	N.A.	9.10
80-90	171.15	N.A.	8.40
90-110	308.59	N.A.	15.10
90-120	450.07	N.A.	22.10
90-130	574.20	N.A.	28.20
90-150	742.79	N.A.	36.40
90-180	783.46	N.A.	38.40
110-180	474.87	N.A.	23.30
0-180	2038.92	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	10.72
10-20	49.18
20-30	104.99
30-40	155.05
40-50	185.42
50-60	197.17
60-70	196.07
70-80	185.71
80-90	171.15
90-100	157.13
100-110	151.46
110-120	141.48
120-130	124.12
130-140	100.49
140-150	68.10
150-160	34.25
160-170	6.29
170-180	0.12

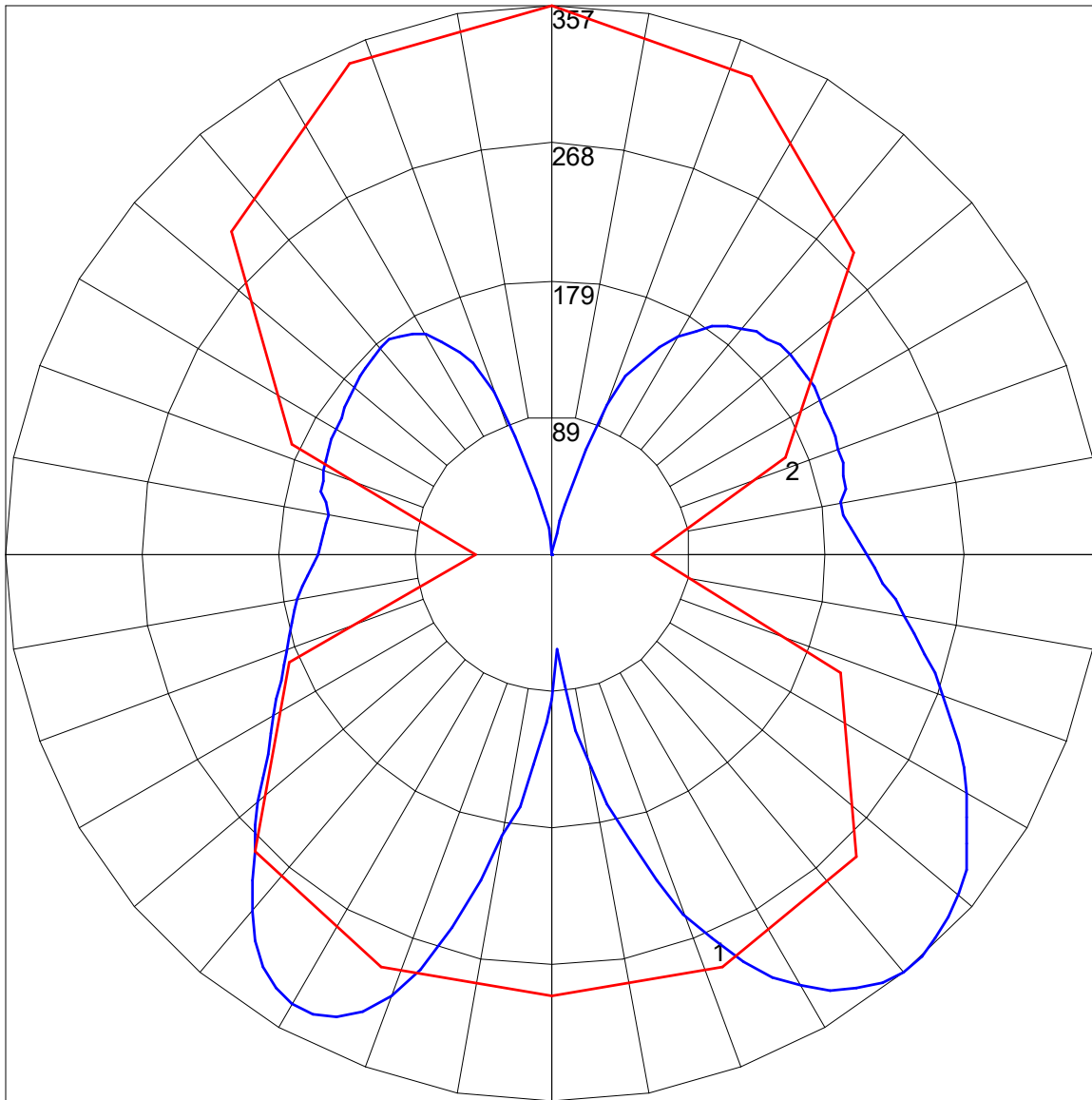
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	57	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	21	17
6	59	45	35	29	54	42	33	27	36	29	24	31	25	21	26	21	17	15
7	54	40	31	25	50	37	29	23	32	25	20	28	22	18	23	19	15	12
8	50	36	27	21	46	34	26	20	29	23	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	12	9
10	43	30	22	17	40	28	21	16	24	18	14	21	16	12	18	13	10	8

POLAR GRAPH



Maximum Candela = 357 Located At Horizontal Angle = 90, Vertical Angle = 42.5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (42.5) (Through Max. Cd.)