



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SR(LED MODULE_ARRAY)_12V_2.5W.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [ISSUEDATE] 26 February 2019
 [TESTLAB] Spectra Lux Industries Inc.
 [TEST] S1902262-R1
 [LUMINAIRE] SR (PAR18)HEAD
 [LAMP] SR (PAR18)-12V-2.5W Clusters of (3) 5000K LEDs c/w Integrated Driver @ 12.00VDC
 [_BURNING] Axial (183 Luminaire Lumens)
 [_REFLECTOR] None
 [_LENS] Polycarbonate Diffuser
 [_HOUSING] Molded Polymer
 [_REPORTMODULE] IES LM-35-1989 Floodlight Report
 [DISTRIBUTION] IES Type 4Hx4V (Max. CP at 0.0H,-10.0V)
 [MANUFAC] BeLuce Canada Inc.
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Emergency
 [_SEARCH_MOUNTING] Ceiling, Wall
 [_SEARCH_CERTIFICATION] CSA

Note: Candela values converted from Type-B to Type-C

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	184
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	68
Total Luminaire Watts	2.71
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.26
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.60
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.20 ft (Diameter)
Luminous Width (90-270)	0.20 ft (Diameter)
Luminous Height	0.00 ft

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LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3873	4357	6293
55	2984	2984	4178
65	1620	1620	3240
75	0	1323	2645
85	0	0	3928

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CANDELA TABULATION

	<u>0.0</u>	<u>2.5</u>	<u>5.0</u>	<u>7.5</u>	<u>10.0</u>	<u>12.5</u>	<u>15.0</u>	<u>17.5</u>	<u>20.0</u>	<u>22.5</u>
0.0	363	363	363	363	363	363	363	363	363	363
2.5	283	283	282	282	282	282	283	283	284	284
5.0	224	223	223	223	223	223	223	224	225	226
7.5	180	179	179	178	178	178	179	179	181	182
10.0	148	147	147	147	147	147	148	149	150	151
12.5	124	124	124	124	124	124	125	126	127	128
15.0	105	105	104	104	105	105	106	107	108	108
17.5	87	87	87	88	88	89	90	91	91	91
20.0	71	71	72	73	73	73	74	74	74	75
22.5	59	59	59	59	59	60	60	60	61	61
25.0	47	47	47	47	47	47	48	49	49	49
27.5	37	37	36	37	37	37	38	38	38	38
30.0	29	29	28	29	29	29	29	30	30	30
32.5	22	22	22	23	23	23	23	23	23	23
35.0	17	17	17	17	18	18	18	18	18	18
37.5	14	14	14	14	14	14	14	14	14	14
40.0	12	11	11	11	11	12	12	12	11	12
42.5	9	9	9	9	9	10	10	9	9	10
45.0	8	8	8	8	8	8	8	8	8	8
47.5	7	7	7	7	7	7	7	7	7	7
50.0	6	6	6	6	6	6	6	6	6	6
52.5	5	5	5	5	5	5	5	5	5	5
55.0	5	4	5	5	4	4	5	5	5	5
57.5	4	4	4	4	4	4	4	4	4	4
60.0	3	3	4	3	3	3	3	3	4	4
62.5	3	3	3	3	3	3	3	3	3	3
65.0	2	2	2	2	2	2	2	2	3	3
67.5	2	2	2	2	2	2	2	2	2	2
70.0	1	1	1	1	1	1	1	1	1	2
72.5	1	1	1	1	1	1	0	1	1	1
75.0	0	0	0	0	0	0	0	0	0	0
77.5	0	0	0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0	0	0	0
82.5	0	0	0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles

	<u>25.0</u>	<u>27.5</u>	<u>30.0</u>	<u>32.5</u>	<u>35.0</u>	<u>37.5</u>	<u>40.0</u>	<u>42.5</u>	<u>45.0</u>	<u>47.5</u>
0.0	363	363	363	363	363	363	363	363	363	363
2.5	285	286	287	288	290	291	292	294	296	298
5.0	227	228	230	232	233	235	237	239	242	244
7.5	183	185	187	188	190	192	195	197	198	200
10.0	153	154	156	157	157	158	159	160	161	163
12.5	129	130	130	131	131	132	134	135	137	138
15.0	109	109	110	110	111	112	114	116	117	119
17.5	91	92	93	93	94	95	96	97	99	100
20.0	75	76	77	78	79	80	80	82	83	84
22.5	61	62	62	63	64	65	66	68	69	70
25.0	49	49	50	51	51	52	53	54	55	56
27.5	39	39	40	40	41	42	42	43	44	44
30.0	30	30	31	31	32	32	33	33	34	35

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CANDELA TABULATION - (Cont.)

32.5	24	24	24	24	24	25	25	26	26	27
35.0	19	19	19	19	19	19	20	20	20	20
37.5	14	15	15	15	15	15	15	15	16	16
40.0	12	12	12	12	12	12	12	12	13	13
42.5	10	10	10	10	10	10	10	10	10	10
45.0	8	8	8	8	8	8	8	8	9	9
47.5	7	7	7	7	7	7	7	7	7	7
50.0	6	6	6	6	6	6	6	6	6	6
52.5	5	5	5	5	5	5	5	5	5	5
55.0	5	4	5	5	5	5	5	5	5	5
57.5	4	4	4	4	4	4	4	4	4	4
60.0	3	3	3	4	3	3	4	4	4	4
62.5	3	3	3	3	3	3	3	3	3	3
65.0	2	2	2	3	3	3	3	3	2	3
67.5	2	2	2	2	2	2	2	2	2	2
70.0	2	2	2	1	2	2	2	2	1	1
72.5	1	1	1	1	1	1	1	1	1	1
75.0	0	0	0	0	0	0	1	1	1	1
77.5	0	0	0	0	0	0	0	0	0	0
80.0	0	0	0	0	0	0	0	0	0	0
82.5	0	0	0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0	72.5
0.0	363	363	363	363	363	363	363	363	363	363
2.5	300	302	304	306	308	311	313	316	318	321
5.0	247	249	252	255	258	262	266	270	275	279
7.5	201	204	206	209	212	215	218	221	226	229
10.0	165	167	170	172	175	178	182	185	188	191
12.5	140	142	144	147	150	152	155	158	161	164
15.0	121	123	125	127	128	130	132	134	135	137
17.5	102	104	105	106	108	109	111	113	115	117
20.0	86	87	88	90	91	93	94	96	97	99
22.5	71	72	72	74	75	77	79	80	82	84
25.0	57	57	58	60	61	63	64	66	67	69
27.5	45	46	47	48	49	50	51	52	54	55
30.0	35	36	36	37	38	39	40	41	42	43
32.5	27	28	28	29	29	30	31	32	33	34
35.0	21	21	21	22	22	23	24	25	26	27
37.5	16	16	17	17	18	18	18	19	20	21
40.0	13	13	13	14	14	14	15	15	16	16
42.5	10	10	10	11	11	11	11	12	13	13
45.0	9	9	9	9	9	10	10	10	10	10
47.5	7	7	7	8	8	8	8	9	8	9
50.0	7	7	7	7	7	7	7	7	8	7
52.5	5	6	6	6	6	6	6	6	6	6
55.0	5	5	5	5	5	5	5	5	6	5
57.5	4	4	4	4	4	4	5	5	5	5
60.0	4	4	4	4	4	4	4	4	4	4
62.5	3	3	3	3	3	3	3	3	3	4
65.0	3	3	3	3	3	3	3	3	3	3
67.5	2	2	2	2	2	2	2	2	2	2

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CANDELA TABULATION - (Cont.)

70.0	2	2	2	2	2	2	2	2	2	2
72.5	1	1	1	1	1	1	1	1	2	1
75.0	1	1	1	1	1	1	1	1	1	1
77.5	0	0	0	0	0	0	0	0	0	1
80.0	0	0	0	0	0	0	0	0	0	0
82.5	0	0	0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

	<u>75.0</u>	<u>77.5</u>	<u>80.0</u>	<u>82.5</u>	<u>85.0</u>	<u>87.5</u>	<u>90.0</u>	<u>92.5</u>	<u>95.0</u>	<u>97.5</u>
0.0	363	363	363	363	363	363	363	363	363	363
2.5	324	326	329	332	335	338	341	344	348	351
5.0	284	289	293	298	304	309	314	320	326	332
7.5	234	239	244	249	254	260	266	273	280	287
10.0	195	199	204	208	213	219	224	230	237	244
12.5	168	171	175	179	183	187	192	196	200	205
15.0	140	142	145	148	151	154	158	162	167	172
17.5	119	122	124	127	130	133	136	139	142	146
20.0	101	103	105	107	110	112	115	117	120	123
22.5	85	88	89	92	94	96	99	101	104	106
25.0	70	72	73	75	77	79	81	83	85	87
27.5	56	58	60	61	63	64	66	68	71	73
30.0	45	46	47	48	50	51	53	55	57	59
32.5	35	36	37	38	40	41	43	44	46	47
35.0	27	28	29	30	31	33	34	35	36	38
37.5	21	22	23	23	24	25	26	28	29	30
40.0	16	17	18	19	19	19	21	22	22	23
42.5	13	13	14	15	15	16	17	17	18	19
45.0	11	11	12	12	12	13	13	14	14	16
47.5	9	9	9	10	10	11	11	11	12	13
50.0	8	8	8	8	9	9	9	9	10	10
52.5	7	7	6	7	7	8	8	8	9	9
55.0	6	6	6	6	6	7	7	7	7	7
57.5	5	5	5	5	5	6	6	6	6	7
60.0	4	4	5	4	5	5	5	6	5	6
62.5	4	4	4	4	4	4	5	5	5	5
65.0	3	3	3	3	4	4	4	4	4	4
67.5	3	3	3	3	3	3	4	4	4	4
70.0	2	2	3	3	3	3	3	3	3	4
72.5	1	2	2	2	2	2	3	3	3	3
75.0	1	1	1	1	1	2	2	3	3	3
77.5	1	1	1	1	1	1	2	2	2	2
80.0	0	0	0	0	1	1	1	2	2	2
82.5	0	0	0	0	0	1	1	1	2	2
85.0	0	0	0	0	0	0	1	1	2	2
87.5	0	0	0	0	0	0	1	1	1	1
90.0	0	0	0	0	0	0	0	1	1	1

Vert. Horizontal Angles
Angles

	<u>100.0</u>	<u>102.5</u>	<u>105.0</u>	<u>107.5</u>	<u>110.0</u>	<u>112.5</u>	<u>115.0</u>	<u>117.5</u>	<u>120.0</u>	<u>122.5</u>
0.0	363	363	363	363	363	363	363	363	363	363
2.5	354	358	361	364	368	371	374	378	381	384

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CANDELA TABULATION - (Cont.)

5.0	338	344	350	357	363	370	376	383	390	396
7.5	295	303	312	321	330	339	348	358	368	379
10.0	251	259	268	276	286	296	306	318	329	340
12.5	210	216	224	232	240	250	259	268	278	289
15.0	177	182	188	195	202	208	216	224	232	240
17.5	150	154	159	164	168	174	179	184	191	197
20.0	126	130	134	138	142	145	149	153	158	164
22.5	109	112	115	118	121	123	127	130	133	138
25.0	90	93	96	99	101	105	108	110	113	116
27.5	75	76	78	80	83	85	88	91	94	97
30.0	61	62	64	67	68	70	72	75	77	79
32.5	49	51	53	54	56	57	59	61	63	65
35.0	40	41	42	44	45	47	49	50	51	53
37.5	31	32	34	35	36	37	39	40	41	42
40.0	25	26	27	28	29	30	31	32	33	34
42.5	20	20	21	22	23	24	25	25	27	27
45.0	16	16	17	17	19	19	20	20	21	22
47.5	13	13	14	14	15	15	16	16	17	18
50.0	11	11	12	12	12	13	13	13	14	14
52.5	9	10	10	10	10	11	11	11	11	11
55.0	8	8	8	8	9	9	9	10	10	10
57.5	7	7	7	8	8	8	8	8	8	9
60.0	6	6	6	7	7	7	7	7	7	7
62.5	6	5	6	6	6	6	6	6	6	6
65.0	5	5	5	5	5	5	6	6	5	6
67.5	4	4	5	5	5	5	5	5	5	5
70.0	4	4	4	4	4	4	4	4	5	5
72.5	3	4	4	4	4	4	4	4	4	4
75.0	3	3	3	3	3	4	4	3	3	4
77.5	3	3	3	3	3	3	3	3	3	3
80.0	2	2	3	3	3	3	3	3	3	3
82.5	2	2	2	2	2	2	2	2	2	2
85.0	2	2	2	2	2	2	2	2	2	2
87.5	1	2	2	1	2	2	1	2	2	2
90.0	1	1	1	1	1	1	1	1	1	1

Vert. Angles	Horizontal Angles									
	<u>125.0</u>	<u>127.5</u>	<u>130.0</u>	<u>132.5</u>	<u>135.0</u>	<u>137.5</u>	<u>140.0</u>	<u>142.5</u>	<u>145.0</u>	<u>147.5</u>
0.0	363	363	363	363	363	363	363	363	363	363
2.5	387	390	393	396	399	402	404	407	409	412
5.0	403	409	416	422	429	436	443	449	456	463
7.5	390	401	413	424	435	447	454	462	471	479
10.0	352	364	377	391	404	420	430	441	453	464
12.5	300	312	324	337	350	364	378	394	402	413
15.0	249	261	272	283	291	302	312	324	336	347
17.5	206	214	222	230	239	247	254	262	269	279
20.0	169	176	180	186	193	199	205	212	217	221
22.5	141	144	148	153	157	160	167	172	177	180
25.0	118	121	124	127	129	133	136	139	143	148
27.5	100	102	104	105	108	111	113	115	117	120
30.0	82	84	86	88	90	91	93	95	97	98
32.5	66	68	70	73	74	76	77	78	80	81
35.0	54	56	57	58	60	61	63	63	64	65
37.5	44	46	46	47	48	50	51	52	52	53
40.0	35	36	37	38	39	39	40	41	41	42

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CANDELA TABULATION - (Cont.)

42.5	28	29	30	30	31	32	32	32	33	33
45.0	22	23	23	24	25	25	25	25	26	27
47.5	18	18	19	19	19	20	20	20	20	21
50.0	14	15	15	15	16	16	16	16	16	16
52.5	12	12	12	12	13	13	13	13	14	14
55.0	10	10	10	11	11	10	10	11	11	11
57.5	9	9	9	9	9	9	9	9	9	9
60.0	7	8	8	7	8	8	8	8	8	8
62.5	6	7	7	7	7	7	7	7	7	7
65.0	6	6	6	6	6	6	6	6	6	6
67.5	5	5	5	5	5	5	5	5	6	5
70.0	5	5	5	5	5	5	5	5	5	5
72.5	4	4	4	4	4	4	4	4	4	4
75.0	4	4	4	4	4	4	4	4	4	4
77.5	3	3	3	3	3	3	3	3	3	3
80.0	3	3	3	3	3	3	3	3	3	3
82.5	2	2	2	2	2	2	2	2	3	3
85.0	2	2	2	2	2	2	2	2	2	2
87.5	2	2	2	1	1	1	1	1	2	1
90.0	1	1	1	1	1	1	1	1	1	1

Vert. Angles	Horizontal Angles									
	<u>150.0</u>	<u>152.5</u>	<u>155.0</u>	<u>157.5</u>	<u>160.0</u>	<u>162.5</u>	<u>165.0</u>	<u>167.5</u>	<u>170.0</u>	<u>172.5</u>
0.0	363	363	363	363	363	363	363	363	363	363
2.5	414	416	418	420	422	423	427	428	428	429
5.0	470	474	478	482	486	490	493	496	501	503
7.5	488	497	505	514	523	527	531	534	537	541
10.0	476	484	493	502	511	520	531	533	537	540
12.5	424	435	447	456	464	471	479	487	491	493
15.0	356	366	375	385	397	400	405	411	418	419
17.5	287	295	302	308	315	322	325	328	332	335
20.0	225	231	237	242	246	250	255	256	258	261
22.5	183	185	189	192	195	198	201	204	204	205
25.0	151	152	154	156	158	160	163	166	167	168
27.5	123	126	127	128	130	132	133	134	135	136
30.0	101	103	105	106	107	108	109	109	110	110
32.5	82	83	86	87	87	87	88	89	90	90
35.0	66	66	68	70	70	70	71	72	72	72
37.5	53	54	54	56	57	57	57	57	57	57
40.0	42	43	43	44	45	45	45	45	45	45
42.5	34	34	34	34	35	36	35	35	35	36
45.0	27	27	27	27	27	28	28	27	27	28
47.5	21	21	21	21	21	22	22	22	22	22
50.0	17	17	17	17	17	17	17	17	18	17
52.5	14	13	13	14	14	14	14	14	14	14
55.0	11	11	11	11	11	11	11	11	11	11
57.5	10	9	9	9	9	9	9	9	9	9
60.0	8	8	8	8	8	8	8	8	8	8
62.5	7	7	7	7	7	7	7	7	7	7
65.0	6	6	6	6	6	6	6	6	6	6
67.5	5	5	6	6	6	5	5	5	5	6
70.0	5	5	5	5	5	5	5	5	5	5
72.5	4	4	4	5	4	4	4	4	4	4
75.0	4	4	4	4	4	4	4	4	4	4
77.5	4	3	3	3	3	3	3	3	3	3

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CANDELA TABULATION - (Cont.)

80.0	3	3	3	3	3	3	3	3	3	3
82.5	2	2	3	2	3	3	3	3	3	3
85.0	2	2	2	2	2	2	2	2	2	2
87.5	2	2	2	2	2	2	2	2	2	2
90.0	1	1	1	1	1	1	1	1	1	1

Vert. Angles	Horizontal Angles		
	<u>175.0</u>	<u>177.5</u>	<u>180.0</u>
0.0	363	363	363
2.5	430	430	431
5.0	505	506	508
7.5	544	546	548
10.0	543	546	549
12.5	493	496	499
15.0	419	423	427
17.5	332	335	337
20.0	257	259	260
22.5	203	203	203
25.0	167	166	166
27.5	135	135	135
30.0	109	110	111
32.5	89	89	90
35.0	72	72	72
37.5	57	57	57
40.0	45	45	45
42.5	36	36	35
45.0	28	28	28
47.5	22	22	22
50.0	17	17	17
52.5	14	14	14
55.0	11	12	12
57.5	9	10	10
60.0	8	8	8
62.5	7	7	7
65.0	6	6	6
67.5	5	6	6
70.0	5	5	5
72.5	4	5	4
75.0	4	4	4
77.5	4	3	4
80.0	3	3	3
82.5	3	3	3
85.0	2	2	2
87.5	2	2	2
90.0	1	1	1

IES INDOOR REPORT
PHOTOMETRIC FILENAME : SR(LED MODULE_ARRAY)_12V_2.5W.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	87.75	N.A.	47.70
0-30	131.20	N.A.	71.40
0-40	156.55	N.A.	85.20
0-60	176.25	N.A.	95.90
0-80	182.74	N.A.	99.40
0-90	183.81	N.A.	100.00
10-90	153.34	N.A.	83.40
20-40	68.80	N.A.	37.40
20-50	81.61	N.A.	44.40
40-70	23.91	N.A.	13.00
60-80	6.48	N.A.	3.50
70-80	2.27	N.A.	1.20
80-90	1.08	N.A.	0.60
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	183.81	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	30.47
10-20	57.28
20-30	43.45
30-40	25.35
40-50	12.81
50-60	6.89
60-70	4.21
70-80	2.27
80-90	1.08
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

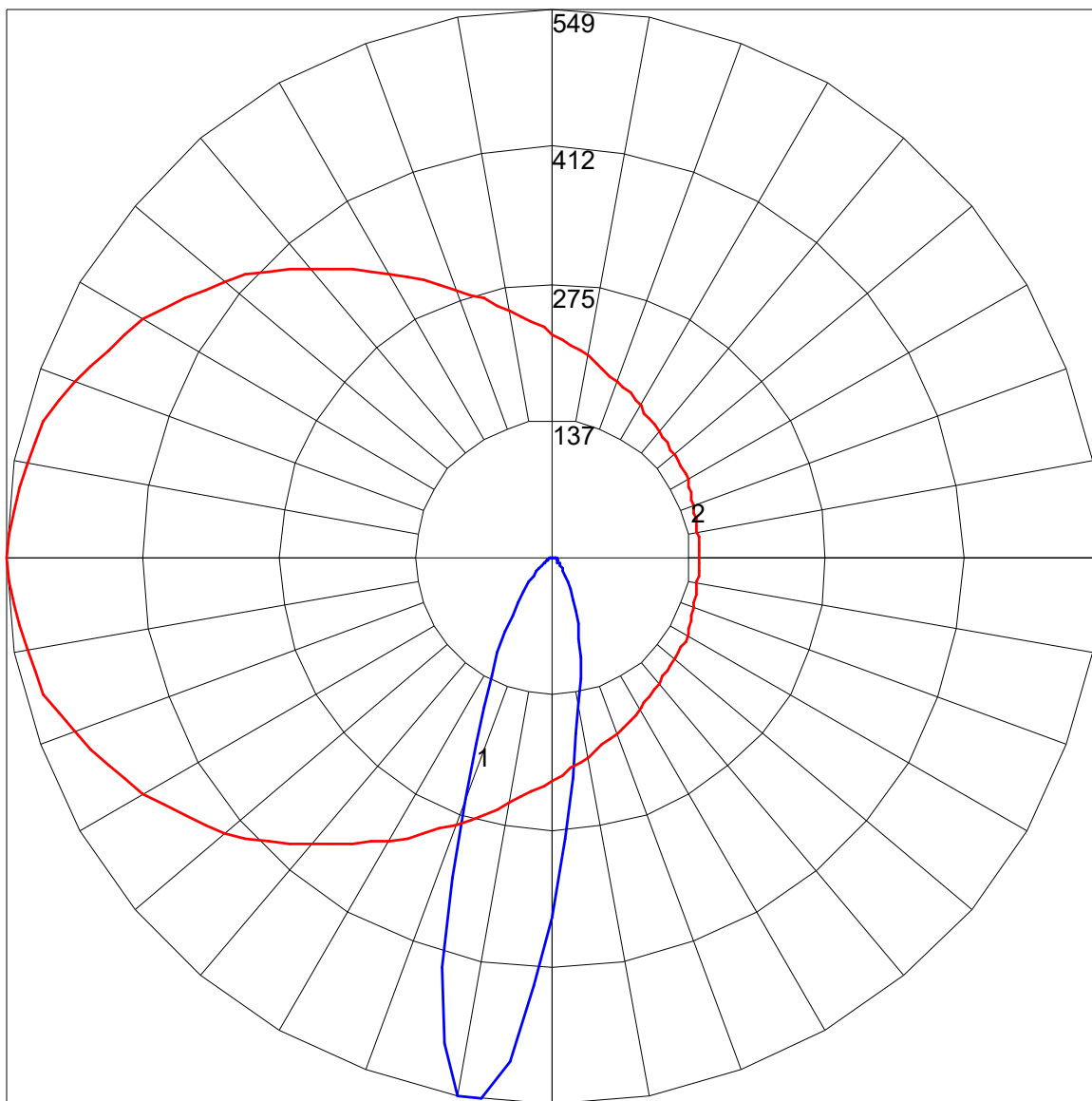
IES INDOOR REPORT
PHOTOMETRIC FILENAME : SR(LED MODULE_ARRAY)_12V_2.5W.IES

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	120	120	120	120	117	117	117	117	112	112	112	107	107	107	102	102	102	100
1	114	111	108	106	111	108	106	104	104	102	101	101	99	98	97	96	95	93
2	108	103	98	95	105	101	97	94	98	94	92	95	92	90	92	90	88	86
3	102	96	91	86	100	94	90	86	92	88	84	89	86	83	87	84	82	80
4	97	90	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75
5	93	84	78	74	91	83	78	74	81	77	73	80	76	72	78	75	72	70
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	67	66
7	84	75	69	65	83	74	69	65	73	68	64	72	67	64	71	67	64	62
8	81	71	65	61	79	71	65	61	70	65	61	69	64	61	68	63	60	59
9	77	68	62	58	76	67	62	58	66	61	58	65	61	58	65	60	57	56
10	74	65	59	55	73	64	59	55	63	58	55	63	58	55	62	58	55	53

POLAR GRAPH



Maximum Candela = 549 Located At Horizontal Angle = 180, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)