

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331795-940

Luminaire Tested: **S122RDIW-S485D970U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331795-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S485D970U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 970 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4967.3 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

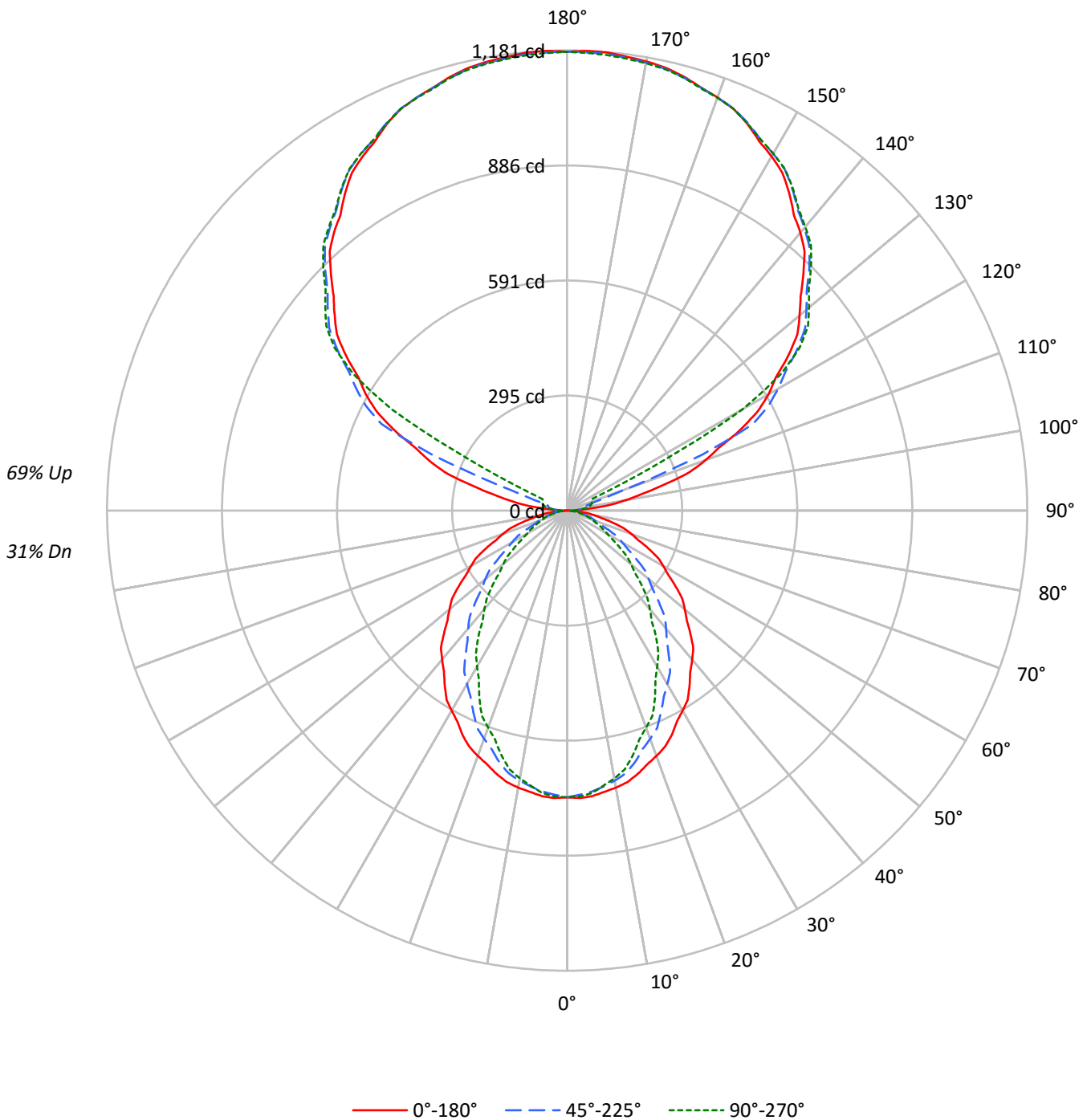
Input Watts (W): 45.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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
RCR																		
0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31
1	94	90	86	83	84	81	78	75	64	62	60	48	47	46	34	33	33	26
2	86	79	73	68	77	71	66	62	56	53	50	43	41	39	30	29	28	22
3	78	69	62	57	70	63	57	52	50	46	42	38	35	33	27	26	24	19
4	72	61	54	48	64	55	49	44	44	40	36	34	31	29	24	23	21	17
5	66	55	47	41	59	50	43	38	40	35	31	31	27	25	22	20	19	15
6	61	49	41	36	54	44	38	33	36	31	27	28	24	22	20	18	16	13
7	56	44	37	31	50	40	34	29	32	28	24	25	22	19	19	16	15	12
8	52	40	33	28	47	36	30	26	30	25	21	23	20	17	17	15	13	11
9	48	37	29	25	43	33	27	23	27	22	19	21	18	16	16	14	12	10
10	45	33	27	22	40	31	24	20	25	20	17	20	16	14	15	12	11	9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11880	11880	11880
5°	11925	11733	11797
10°	11835	11540	11442
15°	11699	11198	10877
20°	11510	10710	10172
25°	11318	10156	9492
30°	11050	9587	8617
35°	10789	8966	7849
40°	10526	8323	6962
45°	10218	7604	6158
50°	9902	6875	5368
55°	9579	6092	4611
60°	9203	5270	3827
65°	8779	4424	3484
70°	8266	3644	3205
75°	7642	3319	2994
80°	6750	2966	2724
85°	5298	2353	2353



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.9	1.4
10°-20°	189.1	3.8
20°-30°	265.6	5.3
30°-40°	289.6	5.8
40°-50°	266.3	5.4
50°-60°	209.1	4.2
60°-70°	136.4	2.7
70°-80°	70.3	1.4
80°-90°	21.1	0.4
90°-100°	39.3	0.8
100°-110°	144.0	2.9
110°-120°	385.0	7.8
120°-130°	635.6	12.8
130°-140°	675.9	13.6
140°-150°	628.3	12.6
150°-160°	505.1	10.2
160°-170°	325.5	6.6
170°-180°	112.0	2.3
0°-30°	523.6	10.5
0°-40°	813.2	16.4
0°-60°	1288.6	25.9
0°-90°	1516.4	30.5
90°-120°	568.4	11.4
90°-150°	2508.2	50.5
90°-180°	3451.0	69.5
0°-180°	4967.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	736	736	736	736	736	
5°	736	732	724	729	728	70
15°	700	692	670	658	651	197
25°	635	613	570	544	533	292
35°	547	512	455	414	398	342
45°	448	402	333	287	270	345
55°	340	287	216	178	164	304
65°	230	176	116	94	91	228
75°	122	77	53	49	48	130
85°	29	15	13	13	13	34
90°	1	10	17	21	23	4
95°	55	29	33	37	37	68
105°	259	270	52	61	65	277
115°	490	505	526	150	70	482
125°	693	704	720	726	728	617
135°	857	870	878	886	885	662
145°	994	994	1008	1013	1010	622
155°	1095	1088	1097	1102	1096	504
165°	1154	1149	1151	1156	1151	326
175°	1180	1175	1176	1181	1173	112
180°	1178	1178	1178	1178	1178	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	738.5	738.0	737.4	736.7	736.2	735.2	734.0	732.6	731.3	730.0	731.2
5°	735.8	735.1	734.4	733.7	732.9	731.6	729.7	727.7	725.9	723.9	725.2
7.5°	728.3	727.4	726.5	725.5	724.6	723.0	720.8	718.5	716.3	714.1	714.4
10°	721.9	720.9	719.8	718.8	717.7	715.8	712.8	709.8	706.9	703.9	703.5
12.5°	713.9	712.7	711.3	710.1	708.8	706.3	702.5	698.7	694.9	691.2	690.4
15°	699.9	698.3	696.7	695.0	693.4	690.1	685.0	680.0	675.0	669.9	667.2
17.5°	682.8	680.3	677.8	675.3	672.8	668.3	661.9	655.4	649.0	642.5	639.2
20°	669.9	667.0	664.1	661.1	658.1	652.9	645.5	638.1	630.7	623.3	619.6
22.5°	656.1	652.8	649.4	646.1	642.8	637.0	628.7	620.3	612.0	603.6	598.9
25°	635.3	630.6	625.9	621.1	616.4	609.1	599.3	589.6	579.8	570.1	564.0
27.5°	610.3	605.1	599.9	594.9	589.7	581.6	570.6	559.5	548.6	537.5	530.5
30°	592.7	587.1	581.5	575.9	570.2	561.5	549.7	537.8	525.9	514.2	506.6
32.5°	575.7	569.1	562.5	556.0	549.4	540.0	528.0	515.9	503.8	491.8	483.1
35°	547.4	539.8	532.4	524.8	517.2	506.9	493.9	480.9	467.9	454.9	445.5
37.5°	519.2	510.9	502.6	494.3	486.1	474.9	461.1	447.2	433.3	419.5	409.1
40°	499.4	490.6	481.7	472.9	464.0	452.4	438.0	423.7	409.3	394.9	384.4
42.5°	479.2	469.8	460.5	451.2	441.8	429.7	414.9	400.0	385.2	370.4	359.5
45°	447.5	437.7	427.7	417.8	407.9	395.1	379.6	364.1	348.5	333.0	322.4
47.5°	416.6	406.1	395.7	385.1	374.6	361.3	345.3	329.2	313.2	297.1	286.7
50°	394.2	383.7	373.3	362.7	352.2	338.9	322.5	306.3	290.0	273.7	263.5
52.5°	372.4	361.4	350.4	339.5	328.5	315.0	299.1	283.2	267.2	251.4	241.5
55°	340.3	328.8	317.2	305.7	294.2	280.4	264.4	248.4	232.4	216.4	207.6
57.5°	307.4	295.6	283.7	271.9	260.0	246.5	231.1	215.7	200.4	185.0	176.8
60°	285.0	273.2	261.4	249.5	237.6	224.2	208.9	193.7	178.4	163.2	155.6
62.5°	263.1	251.4	239.5	227.7	215.8	202.7	188.2	173.6	159.1	144.5	137.3
65°	229.8	217.8	205.8	193.8	181.8	169.2	155.9	142.5	129.2	115.8	110.8
67.5°	197.5	185.7	173.7	161.8	149.9	137.9	126.0	114.0	102.0	90.1	87.7
70°	175.1	163.6	152.0	140.5	128.9	118.1	107.9	97.6	87.5	77.2	75.8
72.5°	153.8	142.8	131.7	120.6	109.6	100.0	91.8	83.6	75.3	67.1	65.9
75°	122.5	112.2	101.8	91.5	81.1	73.4	68.4	63.3	58.3	53.2	52.3
77.5°	91.8	82.7	73.6	64.5	55.5	49.7	47.3	44.9	42.4	39.9	39.3
80°	72.6	65.0	57.5	49.9	42.4	37.9	36.4	35.0	33.4	31.9	31.4
82.5°	55.0	49.1	43.2	37.4	31.5	28.0	27.0	25.9	25.0	24.0	23.6
85°	28.6	25.5	22.4	19.4	16.2	14.4	14.0	13.6	13.1	12.7	12.7
87.5°	8.7	8.2	7.7	7.1	6.6	6.4	6.8	7.0	7.4	7.7	7.8
90°	0.9	2.9	5.0	7.1	9.2	11.0	12.5	14.0	15.5	17.0	18.0
92.5°	17.2	17.0	16.9	16.7	16.5	16.8	17.5	18.3	19.0	19.8	20.2
95°	55.4	49.1	42.9	36.6	30.4	27.9	29.2	30.6	31.9	33.3	34.2
97.5°	109.9	92.3	74.7	57.1	39.5	32.2	35.3	38.3	41.4	44.5	45.2
100°	150.8	124.8	98.9	73.0	47.1	35.7	38.9	42.1	45.4	48.6	50.1
102.5°	195.8	190.3	184.9	179.3	173.8	157.7	130.7	103.8	76.9	49.9	51.9
105°	259.0	264.7	270.4	276.1	281.8	258.8	207.1	155.3	103.7	52.0	54.0
107.5°	331.1	335.7	340.3	344.8	349.5	320.7	258.8	196.7	134.7	72.8	70.6
110°	377.5	381.5	385.4	389.4	393.3	368.0	313.3	258.6	203.8	149.1	130.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.1	424.6	428.1	431.7	435.2	430.2	416.7	403.1	389.6	376.1	307.0
115°	489.9	493.1	496.4	499.6	502.8	506.8	511.5	516.2	521.0	525.8	438.0
117.5°	551.4	555.1	558.7	562.2	565.9	569.3	572.6	575.8	579.1	582.3	561.1
120°	596.5	599.3	602.1	604.9	607.8	610.9	614.3	617.8	621.2	624.6	626.9
122.5°	634.6	637.6	640.6	643.5	646.6	650.0	653.6	657.4	661.0	664.8	666.1
125°	692.7	695.2	697.7	700.1	702.6	705.6	709.2	712.8	716.4	720.0	721.3
127.5°	745.4	748.1	750.8	753.6	756.3	759.0	761.7	764.4	767.0	769.7	771.7
130°	778.8	781.9	784.9	787.8	790.9	793.4	795.5	797.6	799.7	801.8	803.9
132.5°	812.9	815.5	818.1	820.6	823.1	825.5	827.6	829.6	831.7	833.8	835.6
135°	857.2	860.2	863.3	866.3	869.3	871.6	873.3	875.0	876.7	878.5	880.4
137.5°	902.0	904.1	906.2	908.4	910.4	912.5	914.4	916.3	918.3	920.2	922.1
140°	931.3	932.8	934.3	935.9	937.4	939.1	941.2	943.3	945.4	947.5	949.2
142.5°	955.8	957.2	958.6	959.9	961.3	963.1	965.5	968.0	970.4	972.7	974.3
145°	994.3	994.2	994.0	993.8	993.6	995.1	998.4	1001.6	1004.8	1008.0	1009.3
147.5°	1028.0	1027.2	1026.4	1025.7	1025.0	1026.3	1029.5	1032.6	1035.8	1039.0	1040.0
150°	1049.7	1048.4	1047.0	1045.8	1044.5	1045.3	1048.3	1051.3	1054.4	1057.4	1058.5
152.5°	1068.2	1066.7	1065.1	1063.7	1062.2	1062.9	1065.8	1068.7	1071.6	1074.4	1075.6
155°	1094.9	1093.1	1091.5	1089.8	1088.1	1088.3	1090.7	1092.9	1095.2	1097.4	1098.6
157.5°	1115.9	1114.5	1112.9	1111.5	1110.1	1110.2	1111.8	1113.4	1114.9	1116.5	1117.8
160°	1128.1	1127.0	1125.9	1124.7	1123.6	1123.6	1124.7	1125.9	1127.0	1128.1	1129.3
162.5°	1139.1	1137.9	1136.8	1135.6	1134.5	1134.4	1135.4	1136.4	1137.4	1138.4	1139.6
165°	1153.7	1152.5	1151.4	1150.3	1149.1	1148.9	1149.4	1150.0	1150.6	1151.1	1152.4
167.5°	1164.6	1163.4	1162.3	1161.2	1160.0	1159.8	1160.3	1160.8	1161.4	1161.9	1163.1
170°	1170.7	1169.6	1168.5	1167.3	1166.2	1165.8	1166.2	1166.5	1167.0	1167.3	1168.7
172.5°	1174.8	1173.7	1172.5	1171.4	1170.3	1169.9	1170.3	1170.6	1171.0	1171.4	1172.8
175°	1180.1	1178.8	1177.4	1176.2	1174.8	1174.3	1174.7	1175.1	1175.5	1175.8	1177.1
177.5°	1181.0	1179.9	1178.8	1177.8	1176.7	1176.3	1176.4	1176.5	1176.7	1176.9	1177.9
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	732.4	733.6	734.8	735.2	735.0	734.8	734.5	734.3
5°	726.6	727.9	729.2	729.7	729.2	728.8	728.3	727.9
7.5°	714.8	715.2	715.6	715.4	714.6	713.8	713.1	712.3
10°	703.0	702.6	702.1	701.5	700.6	699.7	698.8	697.9
12.5°	689.6	688.8	688.0	686.8	685.3	683.9	682.3	680.9
15°	664.3	661.6	658.7	656.6	655.1	653.6	652.1	650.7
17.5°	635.8	632.5	629.1	626.2	623.7	621.1	618.6	616.0
20°	615.9	612.2	608.5	605.0	601.8	598.5	595.3	592.0
22.5°	594.1	589.3	584.6	580.9	578.5	576.1	573.7	571.2
25°	557.9	551.9	545.8	541.6	539.4	537.2	535.0	532.8
27.5°	523.4	516.3	509.3	504.0	500.4	497.0	493.4	489.9
30°	499.0	491.5	483.9	478.1	474.1	470.2	466.2	462.2
32.5°	474.5	465.9	457.3	451.1	447.4	443.6	439.8	436.0
35°	436.2	426.9	417.6	411.3	408.0	404.7	401.5	398.2
37.5°	398.9	388.6	378.4	371.3	367.7	363.9	360.2	356.4
40°	373.9	363.4	352.8	345.7	341.9	338.0	334.1	330.3
42.5°	348.7	337.8	327.0	319.7	315.9	312.2	308.4	304.7
45°	311.9	301.5	291.0	283.9	280.4	276.8	273.2	269.7
47.5°	276.3	265.8	255.4	248.5	245.3	242.1	238.8	235.6
50°	253.2	243.1	232.8	226.2	223.1	220.0	216.9	213.7
52.5°	231.6	221.8	211.9	205.5	202.7	199.8	196.9	194.0
55°	198.7	189.8	180.9	175.0	172.3	169.4	166.7	163.8
57.5°	168.7	160.6	152.5	147.2	144.8	142.5	140.1	137.7
60°	148.0	140.5	133.0	128.0	125.6	123.2	120.9	118.5
62.5°	130.1	123.0	115.7	111.5	110.0	108.6	107.2	105.8
65°	105.8	100.8	95.8	93.0	92.6	92.1	91.7	91.2
67.5°	85.4	83.1	80.8	79.5	78.9	78.5	78.0	77.5
70°	74.3	72.9	71.3	70.3	69.7	69.1	68.5	67.9
72.5°	64.6	63.4	62.2	61.3	61.0	60.6	60.3	59.9
75°	51.2	50.2	49.1	48.5	48.4	48.2	48.1	48.0
77.5°	38.8	38.2	37.6	37.2	36.9	36.7	36.5	36.2
80°	30.8	30.2	29.6	29.3	29.3	29.3	29.3	29.3
82.5°	23.3	22.9	22.6	22.4	22.4	22.4	22.4	22.4
85°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
87.5°	7.8	7.8	7.9	8.0	8.1	8.2	8.3	8.3
90°	18.9	19.9	20.9	21.5	21.8	22.2	22.6	23.0
92.5°	20.8	21.2	21.8	22.1	22.3	22.6	22.7	23.0
95°	35.1	36.1	37.0	37.4	37.2	37.0	36.8	36.6
97.5°	46.0	46.7	47.5	48.0	48.2	48.4	48.7	48.9
100°	51.6	53.1	54.7	55.6	55.9	56.4	56.7	57.1
102.5°	53.9	55.8	57.8	59.0	59.6	60.1	60.6	61.2
105°	56.2	58.2	60.3	61.7	62.5	63.2	64.0	64.7
107.5°	68.5	66.4	64.3	63.6	64.4	65.1	65.9	66.6
110°	111.2	92.3	73.4	64.3	65.0	65.8	66.5	67.3





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CATALOG NUMBER: S122RDIW-S485D970U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.9	168.9	99.8	65.5	66.2	66.8	67.4	68.0
115°	350.4	262.7	175.0	124.4	110.8	97.1	83.5	69.9
117.5°	539.8	518.7	497.5	464.5	419.6	374.9	330.1	285.3
120°	629.1	631.3	633.6	622.0	596.5	570.9	545.3	519.8
122.5°	667.5	668.9	670.2	668.4	663.4	658.5	653.5	648.6
125°	722.6	724.0	725.3	726.2	726.8	727.4	727.9	728.5
127.5°	773.6	775.5	777.5	778.5	778.6	778.7	778.8	778.9
130°	805.9	808.1	810.1	811.1	810.8	810.7	810.5	810.3
132.5°	837.4	839.2	841.0	841.8	841.5	841.3	841.2	841.0
135°	882.3	884.1	886.0	886.8	886.4	886.0	885.6	885.3
137.5°	923.9	925.8	927.6	928.3	927.6	926.9	926.3	925.7
140°	950.9	952.6	954.3	954.7	953.8	952.8	951.8	950.9
142.5°	975.8	977.4	978.9	979.2	978.3	977.3	976.4	975.4
145°	1010.7	1012.0	1013.3	1013.5	1012.5	1011.6	1010.7	1009.7
147.5°	1041.0	1042.0	1042.9	1043.0	1042.2	1041.4	1040.6	1039.8
150°	1059.7	1060.8	1061.9	1062.0	1061.1	1060.2	1059.2	1058.3
152.5°	1076.7	1077.8	1079.0	1079.0	1077.7	1076.5	1075.2	1074.0
155°	1099.7	1100.8	1102.0	1101.8	1100.3	1098.8	1097.3	1095.7
157.5°	1119.1	1120.4	1121.7	1121.6	1120.1	1118.7	1117.1	1115.7
160°	1130.4	1131.5	1132.7	1132.6	1131.2	1129.9	1128.6	1127.3
162.5°	1140.9	1142.2	1143.5	1143.4	1141.7	1140.1	1138.4	1136.8
165°	1153.8	1155.1	1156.5	1156.5	1155.1	1153.8	1152.4	1151.1
167.5°	1164.5	1165.8	1167.2	1167.0	1165.3	1163.6	1161.9	1160.2
170°	1170.0	1171.3	1172.6	1172.4	1170.7	1169.0	1167.3	1165.6
172.5°	1174.0	1175.4	1176.7	1176.5	1174.8	1173.1	1171.4	1169.7
175°	1178.5	1179.8	1181.2	1180.9	1178.9	1177.1	1175.2	1173.3
177.5°	1179.0	1180.0	1181.1	1181.0	1179.6	1178.2	1176.9	1175.5
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5

(END OF REPORT)