

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: P333029-935

Luminaire Tested: **S124RDIW-S350D1340U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333029-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S350D1340U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5852.7 lumens
Efficiency: N/A
Efficacy: 125.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

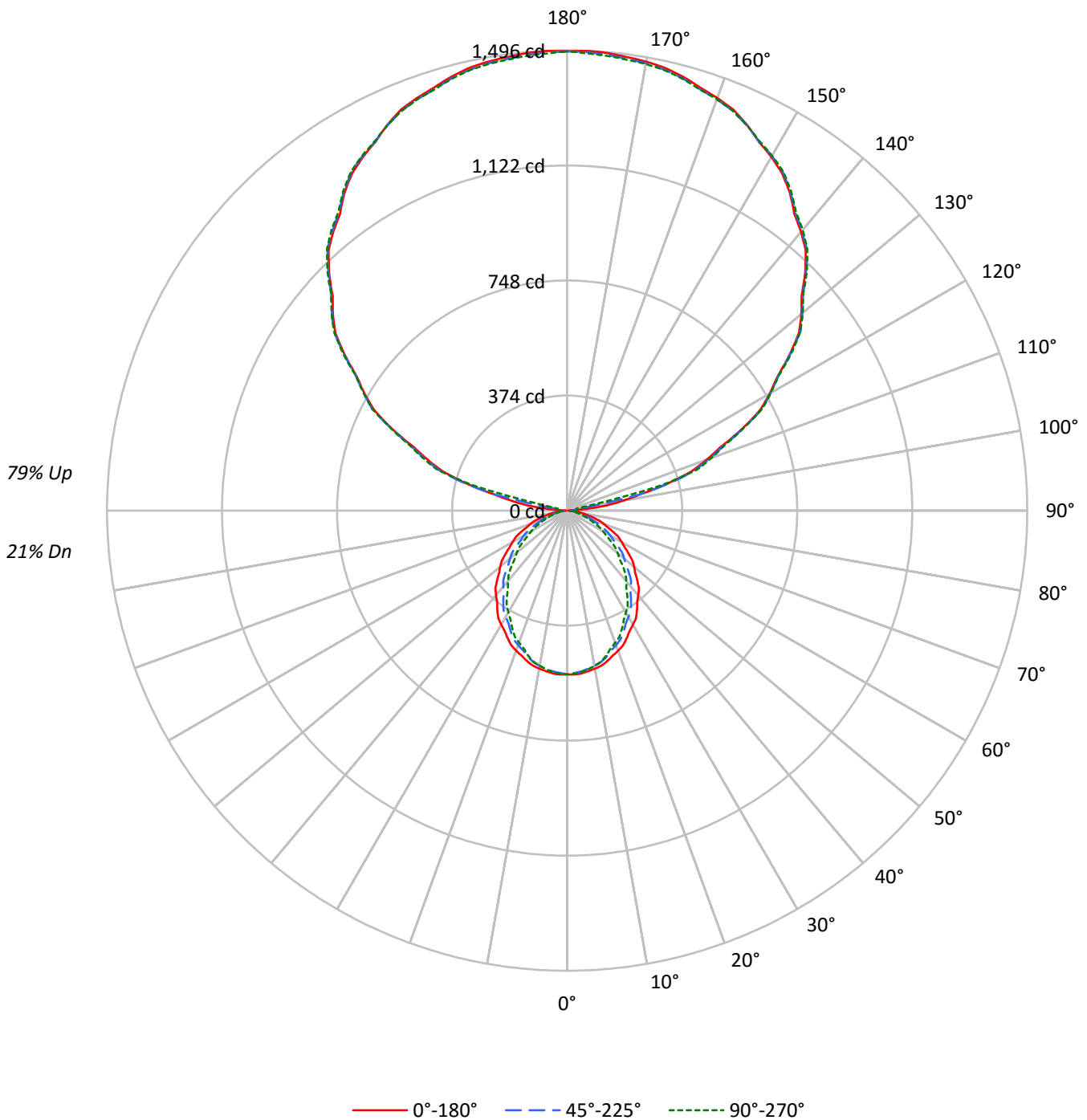
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	89	89	89	89	67	67	67	48	48	48	30	30	30	21
1	91	87	84	80	81	77	74	72	59	57	55	42	41	40	26	26	25	18
2	83	76	71	66	73	68	63	59	52	48	46	37	35	33	23	22	21	15
3	76	67	60	55	67	60	54	49	46	42	38	33	30	28	21	19	18	13
4	69	59	52	46	61	53	46	42	40	36	33	29	26	24	18	17	16	11
5	64	53	45	39	56	47	40	36	36	32	28	26	23	21	17	15	14	10
6	58	47	39	34	52	42	35	31	32	28	24	23	20	18	15	13	12	9
7	54	42	35	30	48	38	31	27	29	25	21	21	18	16	14	12	11	8
8	50	38	31	26	44	34	28	24	27	22	19	19	16	14	13	11	10	7
9	46	35	28	23	41	31	25	21	24	20	17	18	15	13	12	10	9	6
10	43	32	25	20	38	28	23	19	22	18	15	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4297	4297	4297
5°	4306	4254	4280
10°	4279	4203	4203
15°	4231	4115	4084
20°	4163	3998	3924
25°	4077	3862	3764
30°	3993	3719	3564
35°	3900	3571	3362
40°	3789	3402	3144
45°	3685	3234	2923
50°	3567	3041	2688
55°	3441	2839	2432
60°	3303	2619	2172
65°	3177	2344	1914
70°	2991	2039	1626
75°	2757	1691	1323
80°	2404	1288	1213
85°	2038	1176	1093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.0	0.9
10°-20°	139.4	2.4
20°-30°	201.3	3.4
30°-40°	228.2	3.9
40°-50°	220.4	3.8
50°-60°	183.2	3.1
60°-70°	126.5	2.2
70°-80°	64.1	1.1
80°-90°	20.8	0.4
90°-100°	51.1	0.9
100°-110°	325.6	5.6
110°-120°	622.9	10.6
120°-130°	790.7	13.5
130°-140°	846.0	14.5
140°-150°	791.1	13.5
150°-160°	638.0	10.9
160°-170°	411.5	7.0
170°-180°	141.8	2.4
0°-30°	390.7	6.7
0°-40°	619.0	10.6
0°-60°	1022.6	17.5
0°-90°	1234.0	21.1
90°-120°	999.5	17.1
90°-150°	3427.4	58.6
90°-180°	4619.0	78.9
0°-180°	5852.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	532	532	532	532	532	
5°	531	530	525	529	528	50
15°	506	502	492	491	489	143
25°	458	450	434	427	423	211
35°	396	382	362	349	341	247
45°	323	307	283	264	256	249
55°	244	228	202	181	173	219
65°	166	148	123	106	100	164
75°	88	73	54	45	42	93
85°	22	14	13	12	12	25
90°	3	15	24	31	34	4
95°	61	26	24	31	32	79
105°	336	343	348	356	318	352
115°	628	631	630	632	632	617
125°	882	886	884	888	889	787
135°	1094	1094	1098	1100	1102	843
145°	1262	1265	1265	1266	1269	788
155°	1384	1385	1382	1385	1383	638
165°	1460	1454	1454	1462	1453	412
175°	1493	1487	1488	1496	1484	142
180°	1493	1493	1493	1493	1493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	533.6	533.2	533.0	532.7	532.4	531.8	531.1	530.3	529.4	528.7	529.4
5°	531.4	531.1	530.7	530.4	529.9	529.3	528.1	527.1	526.0	525.0	525.8
7.5°	526.6	526.2	525.9	525.5	525.1	524.2	522.8	521.3	520.0	518.6	519.1
10°	522.0	521.6	521.2	520.7	520.2	519.2	517.5	515.9	514.3	512.7	513.1
12.5°	516.2	515.7	515.1	514.6	514.1	512.9	510.9	509.0	507.1	505.1	505.4
15°	506.2	505.3	504.5	503.7	502.9	501.4	499.1	496.8	494.6	492.3	492.1
17.5°	494.0	492.8	491.6	490.5	489.3	487.3	484.7	481.9	479.2	476.5	476.0
20°	484.6	483.4	482.2	481.0	479.8	477.8	474.7	471.6	468.5	465.4	464.7
22.5°	474.2	472.8	471.5	470.2	468.8	466.5	463.2	459.9	456.7	453.3	452.3
25°	457.7	456.1	454.4	452.8	451.2	448.5	444.8	441.1	437.3	433.6	432.0
27.5°	440.4	438.3	436.3	434.3	432.2	429.2	425.2	421.3	417.3	413.4	411.4
30°	428.3	426.0	423.8	421.5	419.3	416.0	411.7	407.5	403.2	399.0	396.7
32.5°	415.6	413.0	410.5	407.9	405.4	401.9	397.5	393.1	388.7	384.4	381.7
35°	395.7	392.8	389.9	387.0	384.1	380.4	375.9	371.3	366.9	362.3	359.2
37.5°	374.4	371.4	368.5	365.5	362.5	358.5	353.4	348.4	343.5	338.5	335.0
40°	359.5	356.5	353.4	350.5	347.5	343.5	338.3	333.1	328.0	322.8	319.0
42.5°	345.1	342.0	338.8	335.7	332.6	328.3	323.0	317.5	312.2	306.8	302.9
45°	322.8	319.4	316.1	312.7	309.4	305.0	299.5	294.1	288.7	283.3	278.8
47.5°	299.7	296.3	292.8	289.3	285.9	281.3	275.7	270.0	264.3	258.7	254.1
50°	284.0	280.5	277.0	273.5	269.9	265.3	259.5	253.7	247.9	242.1	237.5
52.5°	268.1	264.6	261.1	257.7	254.3	249.5	243.6	237.6	231.7	225.8	221.2
55°	244.5	240.9	237.3	233.7	230.1	225.2	219.4	213.5	207.6	201.7	197.0
57.5°	221.2	217.4	213.7	209.9	206.1	201.4	195.5	189.8	184.0	178.1	173.4
60°	204.6	201.0	197.3	193.7	190.1	185.4	179.6	173.7	168.0	162.2	157.5
62.5°	189.6	185.8	182.0	178.3	174.5	169.7	163.8	157.8	151.9	145.9	141.5
65°	166.3	162.4	158.5	154.6	150.7	145.9	140.1	134.2	128.5	122.7	118.8
67.5°	142.1	138.4	134.6	130.9	127.2	122.6	117.2	111.8	106.4	101.1	97.7
70°	126.7	123.0	119.2	115.4	111.5	107.0	101.9	96.7	91.5	86.4	83.4
72.5°	110.5	107.0	103.6	100.1	96.7	92.6	87.6	82.7	77.9	73.0	70.5
75°	88.4	85.1	81.7	78.4	75.0	71.2	67.0	62.7	58.5	54.2	52.1
77.5°	66.1	63.3	60.4	57.6	54.8	51.6	48.1	44.7	41.2	37.8	36.6
80°	51.7	49.2	46.5	43.9	41.2	38.6	35.9	33.1	30.4	27.7	27.5
82.5°	39.3	36.9	34.5	32.1	29.7	27.7	26.2	24.6	23.1	21.5	21.4
85°	22.0	20.2	18.4	16.5	14.7	13.7	13.4	13.2	12.9	12.7	12.5
87.5°	8.2	8.1	8.1	8.1	8.0	8.2	8.5	8.9	9.1	9.5	9.7
90°	3.4	6.1	8.8	11.5	14.3	16.6	18.6	20.6	22.6	24.5	26.1
92.5°	14.0	14.2	14.4	14.6	14.6	15.8	17.7	19.7	21.7	23.7	25.1
95°	61.4	53.0	44.5	36.1	27.6	23.6	23.8	24.1	24.3	24.5	26.1
97.5°	130.4	135.7	140.9	146.2	151.4	140.3	112.5	84.9	57.2	29.4	29.6
100°	183.1	187.6	192.1	196.6	201.0	186.1	151.9	117.6	83.3	49.2	44.9
102.5°	242.1	245.4	248.7	251.9	255.2	254.6	250.1	245.7	241.3	236.8	191.2
105°	336.1	337.6	339.1	340.6	342.1	343.5	344.7	345.9	347.2	348.4	350.7
107.5°	423.4	424.2	425.0	425.7	426.5	427.7	429.4	431.0	432.7	434.5	435.5
110°	482.4	483.2	484.0	484.7	485.4	486.6	488.0	489.5	491.0	492.5	493.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	539.6	541.0	542.3	543.6	545.0	546.0	546.7	547.4	548.1	548.8	548.7
115°	627.6	628.4	629.1	629.8	630.6	630.9	630.6	630.3	630.1	629.8	630.3
117.5°	706.9	707.9	708.9	709.9	710.8	711.6	712.2	712.7	713.3	713.9	713.8
120°	760.5	761.5	762.5	763.5	764.5	764.8	764.7	764.4	764.1	763.9	764.4
122.5°	810.5	811.1	811.8	812.4	813.0	813.4	813.7	814.1	814.4	814.8	815.1
125°	882.3	883.2	884.2	885.2	886.2	886.5	886.0	885.5	884.9	884.5	885.2
127.5°	950.1	950.4	950.6	950.9	951.1	951.8	953.0	954.1	955.3	956.4	956.2
130°	993.9	994.2	994.5	994.6	994.9	995.4	996.2	996.9	997.6	998.4	998.7
132.5°	1034.1	1034.6	1035.0	1035.4	1035.9	1036.6	1037.6	1038.5	1039.4	1040.3	1040.6
135°	1094.4	1094.2	1093.9	1093.7	1093.5	1093.8	1094.8	1095.8	1096.8	1097.8	1098.3
137.5°	1147.8	1147.9	1148.0	1148.1	1148.2	1148.8	1149.9	1151.0	1152.1	1153.1	1153.7
140°	1182.7	1183.2	1183.6	1184.1	1184.6	1185.2	1185.6	1186.1	1186.6	1187.1	1187.8
142.5°	1213.9	1214.8	1215.7	1216.6	1217.5	1218.1	1218.4	1218.7	1219.0	1219.3	1219.9
145°	1262.0	1262.7	1263.4	1264.2	1264.9	1265.3	1265.3	1265.3	1265.3	1265.3	1265.6
147.5°	1300.1	1301.5	1303.0	1304.3	1305.7	1306.3	1306.1	1305.8	1305.5	1305.3	1305.4
150°	1327.8	1328.9	1329.8	1330.8	1331.8	1332.1	1332.0	1331.7	1331.5	1331.2	1331.2
152.5°	1351.1	1351.9	1352.6	1353.4	1354.3	1354.4	1354.0	1353.5	1353.1	1352.6	1353.1
155°	1383.7	1383.9	1384.1	1384.4	1384.7	1384.4	1383.7	1382.9	1382.2	1381.5	1382.4
157.5°	1411.2	1411.0	1410.8	1410.7	1410.6	1410.1	1409.2	1408.3	1407.6	1406.7	1408.0
160°	1427.2	1426.5	1425.7	1425.0	1424.3	1423.7	1423.5	1423.2	1423.0	1422.8	1424.3
162.5°	1441.5	1440.5	1439.7	1438.7	1437.8	1437.2	1436.9	1436.7	1436.4	1436.1	1437.6
165°	1459.7	1458.4	1457.2	1455.9	1454.7	1454.1	1454.1	1454.1	1454.1	1454.1	1456.0
167.5°	1473.9	1472.7	1471.4	1470.1	1468.8	1468.0	1467.9	1467.7	1467.6	1467.4	1469.6
170°	1482.0	1480.5	1478.9	1477.5	1476.0	1475.4	1475.6	1475.8	1476.1	1476.4	1478.3
172.5°	1487.3	1485.8	1484.4	1482.8	1481.4	1480.7	1481.0	1481.3	1481.4	1481.7	1483.7
175°	1493.1	1491.6	1490.1	1488.7	1487.1	1486.5	1486.8	1487.0	1487.3	1487.5	1489.8
177.5°	1495.8	1494.4	1493.0	1491.6	1490.2	1489.7	1490.1	1490.6	1490.9	1491.3	1492.9
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	530.3	531.1	531.8	532.2	532.1	532.1	532.0	531.9
5°	526.8	527.6	528.6	528.9	528.7	528.6	528.3	528.1
7.5°	519.7	520.3	520.9	521.0	520.7	520.5	520.1	519.9
10°	513.4	513.8	514.1	514.1	513.8	513.4	513.1	512.7
12.5°	505.6	505.8	506.1	505.9	505.4	504.9	504.4	503.9
15°	492.0	491.8	491.5	491.2	490.5	489.9	489.3	488.6
17.5°	475.4	475.0	474.5	473.7	472.8	471.8	470.9	469.9
20°	464.0	463.2	462.5	461.6	460.4	459.2	458.1	456.8
22.5°	451.2	450.0	449.0	448.0	447.0	446.1	445.1	444.1
25°	430.5	429.0	427.5	426.3	425.3	424.4	423.5	422.6
27.5°	409.5	407.6	405.7	404.2	402.8	401.5	400.2	398.9
30°	394.4	392.2	389.9	388.1	386.6	385.2	383.7	382.3
32.5°	379.1	376.4	373.8	371.8	370.4	369.0	367.6	366.3
35°	356.1	353.1	350.0	347.7	346.0	344.4	342.8	341.1
37.5°	331.6	328.1	324.7	322.1	320.5	318.8	317.2	315.6
40°	315.1	311.3	307.5	304.9	303.2	301.6	300.0	298.3
42.5°	299.0	295.2	291.3	288.5	286.8	285.1	283.4	281.7
45°	274.4	269.9	265.4	262.4	260.8	259.2	257.5	256.0
47.5°	249.5	244.9	240.3	237.1	235.3	233.5	231.7	230.0
50°	233.0	228.5	223.9	220.8	219.1	217.4	215.7	214.0
52.5°	216.5	212.0	207.4	204.1	202.4	200.6	198.8	197.0
55°	192.3	187.6	182.9	179.7	178.0	176.2	174.5	172.8
57.5°	168.6	163.8	159.0	156.0	154.7	153.4	152.1	150.8
60°	152.7	148.1	143.4	140.3	138.8	137.4	136.0	134.5
62.5°	137.2	132.9	128.5	125.8	124.6	123.5	122.3	121.1
65°	114.9	111.0	107.1	104.6	103.5	102.5	101.3	100.2
67.5°	94.4	91.0	87.6	85.4	84.2	83.0	81.8	80.6
70°	80.4	77.4	74.5	72.5	71.5	70.7	69.7	68.9
72.5°	67.9	65.3	62.9	61.1	60.3	59.5	58.6	57.8
75°	50.0	48.0	45.9	44.6	44.0	43.5	43.0	42.4
77.5°	35.4	34.2	33.0	32.3	32.1	31.9	31.8	31.6
80°	27.2	26.9	26.6	26.4	26.3	26.3	26.2	26.1
82.5°	21.1	20.9	20.8	20.6	20.5	20.4	20.3	20.2
85°	12.3	12.1	11.9	11.8	11.8	11.8	11.8	11.8
87.5°	9.9	10.2	10.4	10.6	10.8	10.9	11.1	11.3
90°	27.6	29.0	30.6	31.5	32.0	32.5	33.0	33.5
92.5°	26.7	28.2	29.6	30.4	30.6	30.7	30.7	30.8
95°	27.6	29.0	30.6	31.4	31.6	31.9	32.1	32.4
97.5°	29.8	30.0	30.0	30.3	30.6	30.7	31.0	31.3
100°	40.7	36.5	32.3	30.3	30.6	30.7	31.0	31.3
102.5°	145.8	100.2	54.7	31.9	32.0	32.0	32.1	32.2
105°	352.9	355.2	357.4	354.0	345.1	336.1	327.2	318.3
107.5°	436.6	437.7	438.8	439.8	440.7	441.7	442.6	443.6
110°	493.5	494.0	494.5	495.1	495.8	496.6	497.3	498.1



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CATALOG NUMBER: S124RDIW-S350D1340U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	548.5	548.5	548.4	548.8	549.7	550.7	551.6	552.6
115°	630.9	631.4	631.8	632.1	632.1	632.1	632.1	632.1
117.5°	713.6	713.5	713.4	713.3	713.3	713.2	713.1	712.9
120°	764.8	765.3	765.9	765.9	765.3	764.8	764.4	763.9
122.5°	815.4	815.7	816.0	815.9	815.4	814.9	814.4	813.9
125°	886.0	886.7	887.4	887.9	888.2	888.5	888.7	889.0
127.5°	956.1	956.0	955.8	955.6	955.5	955.2	955.0	954.8
130°	998.8	999.1	999.4	999.5	999.5	999.5	999.5	999.5
132.5°	1040.9	1041.1	1041.4	1041.4	1041.2	1041.0	1040.8	1040.6
135°	1098.8	1099.2	1099.8	1100.3	1100.8	1101.2	1101.7	1102.3
137.5°	1154.3	1154.8	1155.4	1155.5	1155.4	1155.3	1155.1	1154.9
140°	1188.6	1189.4	1190.1	1190.6	1190.8	1191.1	1191.4	1191.6
142.5°	1220.4	1220.9	1221.5	1221.8	1221.8	1221.8	1221.9	1221.9
145°	1265.8	1266.0	1266.3	1266.7	1267.1	1267.7	1268.2	1268.7
147.5°	1305.7	1305.9	1306.1	1306.3	1306.6	1306.8	1307.0	1307.3
150°	1331.2	1331.2	1331.2	1331.3	1331.5	1331.8	1332.1	1332.3
152.5°	1353.4	1353.8	1354.2	1354.4	1354.2	1354.0	1353.9	1353.8
155°	1383.5	1384.4	1385.4	1385.5	1384.8	1384.1	1383.3	1382.6
157.5°	1409.3	1410.6	1411.9	1411.9	1410.6	1409.3	1408.0	1406.7
160°	1425.7	1427.2	1428.7	1428.7	1427.2	1425.7	1424.3	1422.8
162.5°	1439.2	1440.6	1442.1	1442.0	1440.4	1438.6	1436.9	1435.3
165°	1458.0	1460.0	1462.0	1461.8	1459.7	1457.4	1455.2	1452.9
167.5°	1471.8	1473.9	1476.2	1476.0	1473.5	1471.0	1468.6	1466.1
170°	1480.3	1482.3	1484.3	1484.0	1481.6	1479.1	1476.6	1474.1
172.5°	1485.7	1487.7	1489.7	1489.4	1486.6	1483.9	1481.3	1478.6
175°	1492.0	1494.3	1496.5	1496.1	1493.1	1490.1	1487.1	1484.2
177.5°	1494.5	1496.1	1497.7	1497.3	1494.9	1492.5	1490.1	1487.7
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1

(END OF REPORT)