

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: P333029-940

Luminaire Tested: **S124RDIW-S350D1340U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333029-940
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-S350D1340U940-4F0-1E-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: 6061.5 lumens
Efficiency: N/A
Efficacy: 130.1 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

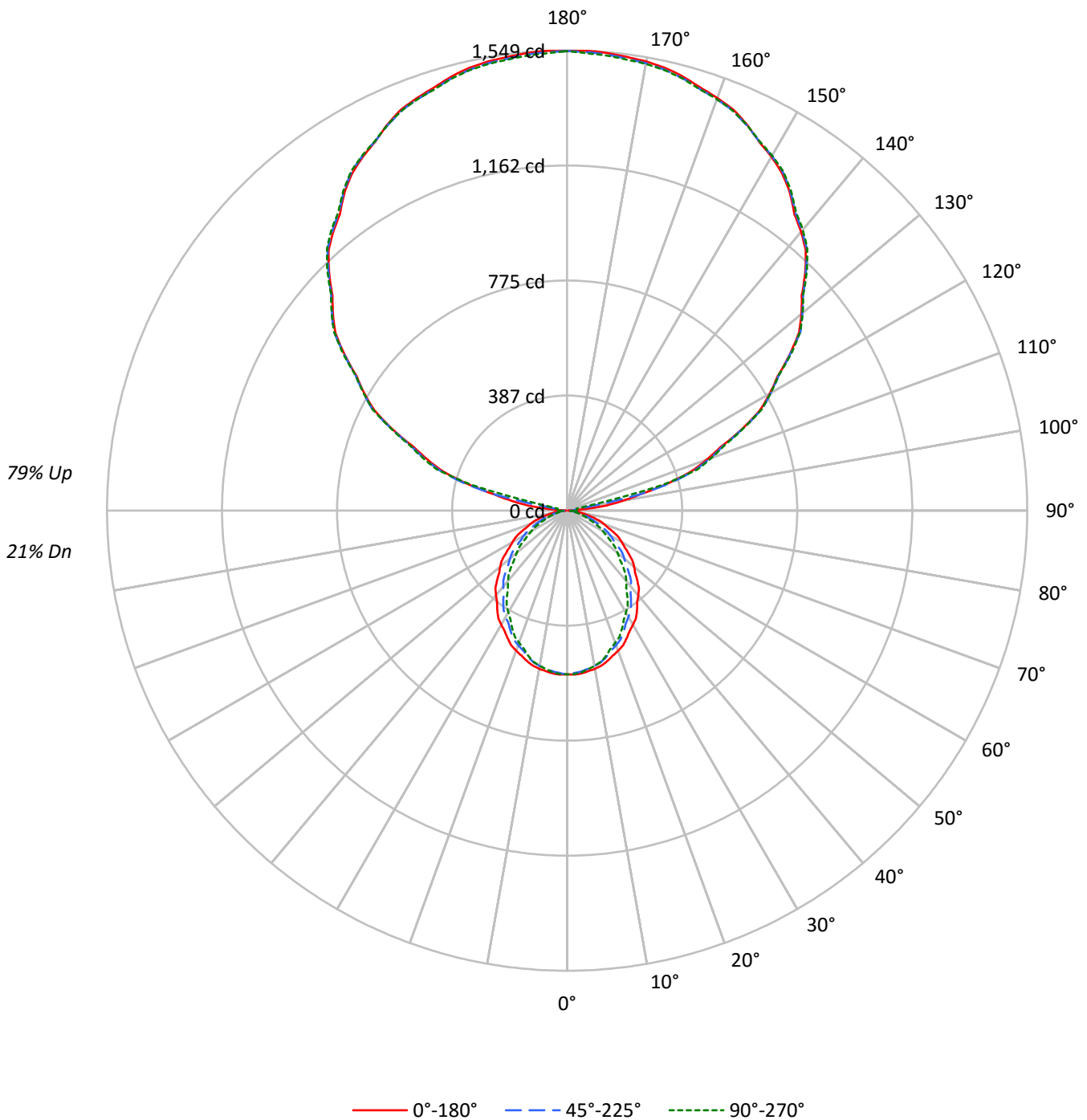
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	0.9
10°-20°	144.4	2.4
20°-30°	208.5	3.4
30°-40°	236.4	3.9
40°-50°	228.2	3.8
50°-60°	189.8	3.1
60°-70°	131.1	2.2
70°-80°	66.4	1.1
80°-90°	21.5	0.4
90°-100°	52.9	0.9
100°-110°	337.2	5.6
110°-120°	645.1	10.6
120°-130°	818.9	13.5
130°-140°	876.2	14.5
140°-150°	819.3	13.5
150°-160°	660.7	10.9
160°-170°	426.2	7.0
170°-180°	146.9	2.4
0°-30°	404.7	6.7
0°-40°	641.0	10.6
0°-60°	1059.1	17.5
0°-90°	1278.0	21.1
90°-120°	1035.2	17.1
90°-150°	3549.6	58.6
90°-180°	4783.0	78.9
0°-180°	6061.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	4	16	25	32	35	4
95°	64	26	25	32	34	82
105°	348	355	361	368	330	364
115°	650	653	652	654	655	639
125°	914	918	916	919	921	815
135°	1134	1133	1137	1139	1142	873
145°	1307	1310	1310	1312	1314	816
155°	1433	1434	1431	1435	1432	660
165°	1512	1506	1506	1514	1505	427
175°	1546	1540	1541	1550	1537	147
180°	1546	1546	1546	1546	1546	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	8.5	8.4	8.4	8.4	8.3	8.5	8.8	9.2	9.5	9.8	10.1
90°	3.5	6.3	9.1	11.9	14.8	17.2	19.3	21.3	23.4	25.4	27.0
92.5°	14.5	14.7	14.9	15.1	15.2	16.3	18.4	20.4	22.5	24.5	26.0
95°	63.6	54.8	46.1	37.4	28.6	24.4	24.7	25.0	25.1	25.4	27.0
97.5°	135.1	140.5	146.0	151.4	156.9	145.3	116.5	87.9	59.2	30.5	30.7
100°	189.7	194.3	198.9	203.6	208.2	192.8	157.3	121.8	86.3	50.9	46.5
102.5°	250.7	254.1	257.5	260.9	264.3	263.7	259.0	254.5	249.9	245.2	198.0
105°	348.1	349.6	351.2	352.8	354.3	355.7	357.0	358.3	359.5	360.9	363.2
107.5°	438.5	439.3	440.1	440.9	441.7	442.9	444.7	446.4	448.2	450.0	451.0
110°	499.6	500.4	501.2	501.9	502.7	503.9	505.4	506.9	508.5	510.1	510.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	558.8	560.3	561.7	563.0	564.5	565.4	566.2	566.9	567.7	568.4	568.3
115°	650.0	650.8	651.6	652.3	653.1	653.4	653.1	652.8	652.6	652.3	652.8
117.5°	732.1	733.2	734.1	735.2	736.2	737.0	737.6	738.2	738.7	739.3	739.2
120°	787.6	788.6	789.7	790.8	791.8	792.1	791.9	791.7	791.4	791.1	791.7
122.5°	839.5	840.1	840.7	841.3	842.0	842.4	842.8	843.1	843.5	843.8	844.2
125°	913.7	914.7	915.8	916.8	917.8	918.1	917.6	917.0	916.5	916.1	916.8
127.5°	984.0	984.3	984.5	984.8	985.1	985.8	986.9	988.1	989.4	990.5	990.3
130°	1029.4	1029.7	1029.9	1030.1	1030.4	1030.9	1031.7	1032.4	1033.2	1034.0	1034.3
132.5°	1071.0	1071.5	1071.9	1072.4	1072.8	1073.6	1074.6	1075.5	1076.5	1077.5	1077.7
135°	1133.5	1133.2	1132.9	1132.7	1132.5	1132.8	1133.8	1134.9	1136.0	1136.9	1137.5
137.5°	1188.7	1188.8	1188.9	1189.1	1189.2	1189.8	1190.9	1192.0	1193.2	1194.3	1194.9
140°	1224.9	1225.4	1225.8	1226.4	1226.9	1227.4	1227.9	1228.4	1229.0	1229.5	1230.2
142.5°	1257.2	1258.1	1259.1	1260.0	1261.0	1261.5	1261.9	1262.1	1262.5	1262.8	1263.4
145°	1307.0	1307.7	1308.5	1309.3	1310.0	1310.5	1310.5	1310.5	1310.5	1310.5	1310.7
147.5°	1346.5	1347.9	1349.4	1350.9	1352.3	1352.9	1352.6	1352.4	1352.1	1351.8	1352.0
150°	1375.2	1376.3	1377.2	1378.3	1379.3	1379.7	1379.5	1379.2	1378.9	1378.7	1378.7
152.5°	1399.3	1400.1	1400.9	1401.7	1402.6	1402.8	1402.3	1401.8	1401.3	1400.9	1401.3
155°	1433.1	1433.2	1433.5	1433.8	1434.0	1433.8	1433.1	1432.3	1431.5	1430.7	1431.7
157.5°	1461.5	1461.3	1461.2	1461.0	1460.9	1460.4	1459.5	1458.6	1457.8	1456.9	1458.2
160°	1478.1	1477.4	1476.6	1475.8	1475.1	1474.5	1474.3	1474.0	1473.7	1473.6	1475.1
162.5°	1492.9	1491.9	1491.0	1490.0	1489.1	1488.4	1488.2	1487.9	1487.6	1487.4	1488.9
165°	1511.7	1510.4	1509.1	1507.8	1506.5	1505.9	1505.9	1505.9	1505.9	1505.9	1508.0
167.5°	1526.5	1525.2	1523.8	1522.5	1521.2	1520.4	1520.3	1520.1	1519.9	1519.7	1522.1
170°	1534.8	1533.3	1531.7	1530.2	1528.7	1528.0	1528.2	1528.5	1528.7	1529.0	1531.1
172.5°	1540.3	1538.8	1537.3	1535.7	1534.2	1533.6	1533.8	1534.1	1534.3	1534.5	1536.6
175°	1546.4	1544.8	1543.3	1541.8	1540.2	1539.5	1539.8	1540.1	1540.3	1540.6	1542.9
177.5°	1549.2	1547.7	1546.2	1544.8	1543.4	1542.8	1543.3	1543.7	1544.1	1544.5	1546.1
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	10.3	10.5	10.8	11.0	11.1	11.3	11.5	11.7
90°	28.5	30.1	31.7	32.6	33.2	33.7	34.2	34.7
92.5°	27.6	29.2	30.7	31.5	31.7	31.7	31.8	31.9
95°	28.5	30.1	31.7	32.5	32.7	33.0	33.3	33.5
97.5°	30.9	31.0	31.1	31.4	31.7	31.8	32.1	32.4
100°	42.2	37.8	33.4	31.4	31.7	31.8	32.1	32.4
102.5°	151.0	103.8	56.6	33.1	33.2	33.2	33.3	33.3
105°	365.5	367.8	370.1	366.7	357.4	348.1	338.9	329.7
107.5°	452.2	453.3	454.4	455.5	456.5	457.4	458.4	459.4
110°	511.1	511.6	512.1	512.7	513.5	514.3	515.1	515.9



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CATALOG NUMBER: S124RDIW-S350D1340U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	568.1	568.0	567.9	568.4	569.4	570.3	571.3	572.3
115°	653.4	653.9	654.3	654.6	654.6	654.6	654.6	654.6
117.5°	739.0	739.0	738.9	738.8	738.7	738.6	738.5	738.3
120°	792.1	792.6	793.2	793.2	792.6	792.1	791.7	791.1
122.5°	844.5	844.8	845.1	845.0	844.5	843.9	843.5	842.9
125°	917.6	918.4	919.1	919.6	919.9	920.2	920.4	920.7
127.5°	990.2	990.1	989.9	989.7	989.5	989.3	989.1	988.9
130°	1034.5	1034.7	1035.0	1035.2	1035.2	1035.2	1035.2	1035.2
132.5°	1078.0	1078.3	1078.5	1078.5	1078.3	1078.2	1077.9	1077.7
135°	1138.0	1138.4	1139.0	1139.5	1140.1	1140.5	1141.0	1141.6
137.5°	1195.4	1196.0	1196.6	1196.8	1196.6	1196.5	1196.3	1196.1
140°	1231.0	1231.8	1232.5	1233.1	1233.3	1233.6	1233.9	1234.1
142.5°	1263.9	1264.4	1265.1	1265.3	1265.4	1265.4	1265.5	1265.5
145°	1310.9	1311.2	1311.4	1311.9	1312.3	1312.9	1313.4	1313.9
147.5°	1352.3	1352.5	1352.6	1352.9	1353.2	1353.4	1353.6	1353.9
150°	1378.7	1378.7	1378.7	1378.8	1379.0	1379.3	1379.6	1379.8
152.5°	1401.7	1402.1	1402.5	1402.7	1402.5	1402.3	1402.2	1402.0
155°	1432.8	1433.8	1434.9	1434.9	1434.2	1433.4	1432.6	1431.9
157.5°	1459.6	1460.9	1462.2	1462.2	1460.9	1459.6	1458.2	1456.9
160°	1476.6	1478.1	1479.7	1479.7	1478.1	1476.6	1475.1	1473.6
162.5°	1490.5	1492.0	1493.5	1493.4	1491.7	1490.0	1488.2	1486.5
165°	1510.0	1512.1	1514.1	1513.9	1511.7	1509.4	1507.1	1504.8
167.5°	1524.3	1526.5	1528.8	1528.7	1526.1	1523.5	1521.0	1518.4
170°	1533.1	1535.2	1537.2	1537.0	1534.5	1531.9	1529.3	1526.7
172.5°	1538.6	1540.8	1542.8	1542.5	1539.6	1536.9	1534.1	1531.3
175°	1545.2	1547.6	1549.9	1549.4	1546.4	1543.3	1540.2	1537.1
177.5°	1547.8	1549.4	1551.1	1550.7	1548.2	1545.8	1543.3	1540.8
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4

(END OF REPORT)