

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: P332408-927

Luminaire Tested: **S123RDIW-S340D1535U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332408-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S340D1535U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5893.8 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

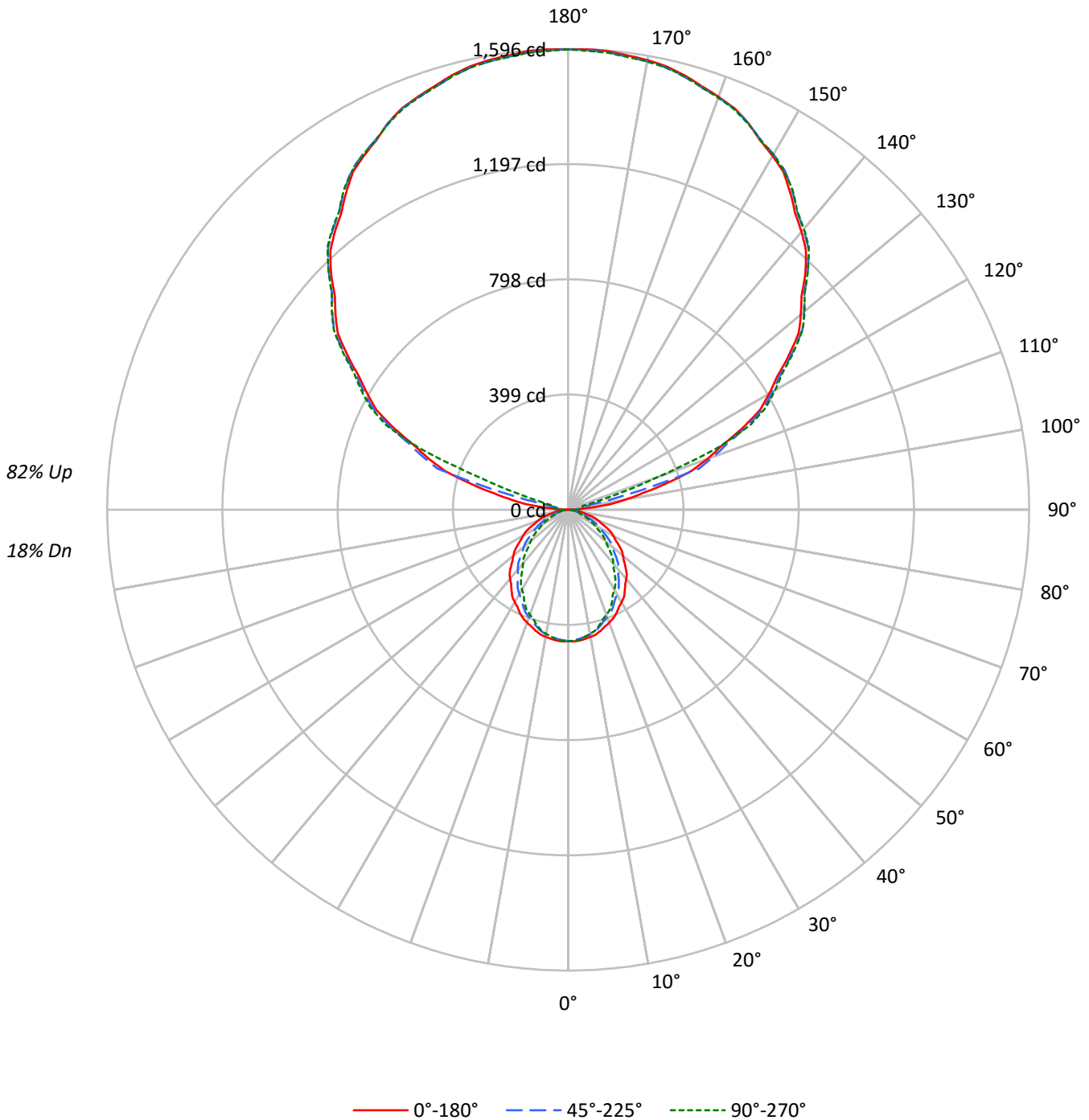
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	88	88	88	88	65	65	65	45	45	45	26	26	26	18
1	91	87	83	80	80	76	73	71	57	55	53	40	38	37	23	23	22	15
2	83	76	70	65	72	67	62	58	50	47	44	35	33	31	21	20	19	13
3	75	66	60	54	66	59	53	48	44	40	37	31	29	27	18	17	16	11
4	69	59	51	46	60	52	46	41	39	35	32	27	25	23	16	15	14	9
5	63	52	45	39	55	46	40	35	35	31	27	25	22	20	15	13	12	8
6	58	47	39	34	51	41	35	30	31	27	24	22	19	17	13	12	11	7
7	53	42	34	29	47	37	31	26	28	24	21	20	17	15	12	11	10	6
8	49	38	31	26	43	34	27	23	26	21	18	18	15	13	11	10	9	6
9	46	34	27	23	40	31	25	20	23	19	16	17	14	12	10	9	8	5
10	43	31	25	20	38	28	22	18	21	17	14	15	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4899	4899	4899
5°	4917	4850	4878
10°	4889	4790	4773
15°	4837	4677	4628
20°	4765	4537	4431
25°	4691	4380	4240
30°	4593	4197	3967
35°	4491	4016	3720
40°	4398	3801	3413
45°	4276	3589	3136
50°	4141	3349	2825
55°	4003	3076	2535
60°	3877	2781	2217
65°	3713	2463	1897
70°	3509	2068	1533
75°	3211	1626	1443
80°	2858	1444	1327
85°	2421	1272	1186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.7	0.7
10°-20°	118.9	2.0
20°-30°	171.2	2.9
30°-40°	192.9	3.3
40°-50°	184.5	3.1
50°-60°	151.1	2.6
60°-70°	101.9	1.7
70°-80°	51.3	0.9
80°-90°	18.0	0.3
90°-100°	58.0	1.0
100°-110°	276.2	4.7
110°-120°	663.5	11.3
120°-130°	844.9	14.3
130°-140°	902.7	15.3
140°-150°	844.1	14.3
150°-160°	680.9	11.6
160°-170°	439.5	7.5
170°-180°	151.5	2.6
0°-30°	332.9	5.6
0°-40°	525.7	8.9
0°-60°	861.4	14.6
0°-90°	1032.6	17.5
90°-120°	997.6	16.9
90°-150°	3589.3	60.9
90°-180°	4861.0	82.5
0°-180°	5893.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	455	455	455	455	455	
5°	455	453	449	452	452	43
15°	434	430	420	418	415	122
25°	395	385	369	361	357	182
35°	342	328	306	290	283	214
45°	281	264	236	215	206	217
55°	213	195	164	143	135	191
65°	146	125	97	79	74	144
75°	77	59	39	36	35	82
85°	20	12	10	10	10	22
90°	1	13	28	33	36	4
95°	72	27	37	44	45	89
105°	353	359	259	62	52	374
115°	662	669	680	691	696	653
125°	933	942	948	950	952	833
135°	1162	1169	1174	1177	1174	894
145°	1341	1349	1351	1354	1354	839
155°	1477	1475	1476	1481	1474	680
165°	1557	1554	1553	1561	1554	440
175°	1594	1588	1589	1597	1588	152
180°	1594	1594	1594	1594	1594	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	456.6	456.3	456.1	455.8	455.6	455.0	454.2	453.4	452.7	451.9	452.6
5°	455.1	454.7	454.3	453.9	453.4	452.8	451.8	450.8	449.8	448.9	449.6
7.5°	450.9	450.4	450.0	449.6	449.2	448.3	447.0	445.8	444.4	443.1	443.5
10°	447.3	446.8	446.2	445.7	445.0	444.0	442.6	441.1	439.6	438.2	438.2
12.5°	442.4	441.7	441.1	440.5	439.8	438.6	436.7	435.0	433.2	431.3	431.3
15°	434.1	433.2	432.3	431.3	430.5	428.9	426.6	424.3	422.0	419.7	419.3
17.5°	423.7	422.6	421.6	420.5	419.5	417.5	414.5	411.6	408.8	405.8	405.0
20°	416.0	414.7	413.4	412.1	410.7	408.5	405.4	402.3	399.2	396.1	395.0
22.5°	407.4	405.9	404.4	402.9	401.4	399.0	395.7	392.4	389.0	385.7	384.4
25°	395.0	392.9	390.9	388.8	386.7	383.8	380.1	376.3	372.5	368.8	367.0
27.5°	379.9	377.6	375.3	373.0	370.7	367.6	363.4	359.1	354.9	350.7	348.3
30°	369.5	367.0	364.6	362.1	359.7	356.1	351.5	346.9	342.3	337.7	334.9
32.5°	359.2	356.3	353.6	350.8	348.0	344.2	339.3	334.5	329.6	324.7	321.7
35°	341.8	338.8	335.9	333.0	330.0	326.0	320.9	315.8	310.7	305.6	302.1
37.5°	324.2	320.9	317.7	314.4	311.1	306.7	301.3	295.9	290.5	285.0	281.1
40°	313.0	309.4	305.8	302.2	298.6	293.8	288.0	282.2	276.4	270.5	266.3
42.5°	300.3	296.7	293.1	289.5	285.9	281.1	275.0	269.0	263.0	257.0	252.3
45°	280.9	277.2	273.5	269.8	266.1	261.1	254.8	248.5	242.2	235.8	231.2
47.5°	261.5	257.5	253.3	249.3	245.3	240.1	233.8	227.4	221.2	214.8	209.8
50°	247.3	243.4	239.6	235.8	231.9	226.6	220.0	213.3	206.7	200.0	195.0
52.5°	234.6	230.4	226.2	222.0	217.9	212.5	205.9	199.3	192.7	186.2	180.9
55°	213.3	209.3	205.3	201.3	197.3	191.8	184.8	177.8	170.9	163.9	159.1
57.5°	193.7	189.3	185.0	180.5	176.2	170.5	163.5	156.5	149.5	142.5	138.0
60°	180.1	175.6	171.1	166.6	162.1	156.5	149.6	142.8	136.0	129.2	124.8
62.5°	166.5	162.0	157.5	153.0	148.5	142.8	136.0	129.2	122.4	115.6	111.5
65°	145.8	141.3	136.8	132.3	127.8	122.3	115.9	109.5	103.1	96.7	92.7
67.5°	125.1	120.5	115.9	111.4	106.8	101.5	95.3	89.2	83.0	76.9	73.9
70°	111.5	107.0	102.6	98.2	93.8	88.6	82.9	77.2	71.5	65.7	62.8
72.5°	97.9	93.6	89.2	84.8	80.4	75.7	70.4	65.2	60.0	54.7	52.4
75°	77.2	73.2	69.2	65.4	61.4	57.2	52.7	48.2	43.6	39.1	38.3
77.5°	58.2	54.7	51.1	47.5	44.0	40.8	37.9	34.9	32.1	29.2	28.8
80°	46.1	42.8	39.5	36.0	32.7	30.2	28.4	26.7	25.0	23.3	23.0
82.5°	34.6	31.7	28.8	25.9	23.0	21.2	20.4	19.6	18.8	17.9	17.7
85°	19.6	17.7	15.9	14.2	12.4	11.3	11.1	10.9	10.6	10.3	10.1
87.5°	7.3	7.1	7.0	6.7	6.6	6.8	7.4	8.2	8.9	9.5	9.7
90°	1.2	3.8	6.4	9.1	11.7	14.7	18.1	21.5	25.0	28.4	29.5
92.5°	22.0	21.3	20.5	19.8	19.1	20.0	22.6	25.2	27.7	30.3	32.0
95°	72.2	61.5	50.7	39.8	29.1	25.1	28.0	30.9	33.8	36.7	38.6
97.5°	145.2	140.4	135.5	130.6	125.8	113.9	95.0	76.0	57.1	38.1	40.2
100°	200.2	205.4	210.6	215.9	221.2	203.3	162.2	121.2	80.2	39.1	41.2
102.5°	262.7	266.5	270.3	274.0	277.8	257.3	212.5	167.6	122.8	78.0	71.4
105°	352.9	355.8	358.7	361.6	364.5	354.1	330.4	306.7	283.0	259.4	212.8
107.5°	448.1	450.4	452.7	455.1	457.4	460.4	464.1	467.9	471.7	475.4	441.2
110°	511.6	513.7	515.8	517.9	520.1	522.5	525.5	528.3	531.2	534.1	525.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	572.3	574.2	576.1	578.0	579.8	582.3	585.1	588.0	590.9	593.8	594.0
115°	662.0	663.6	665.2	666.8	668.4	670.3	672.7	675.0	677.4	679.8	682.4
117.5°	748.9	750.9	752.8	754.8	756.8	758.4	759.5	760.7	761.9	763.2	765.2
120°	803.0	805.3	807.7	810.1	812.5	814.0	814.8	815.6	816.3	817.1	819.3
122.5°	857.9	859.8	861.8	863.7	865.7	867.2	868.2	869.2	870.1	871.2	872.7
125°	933.2	935.3	937.5	939.5	941.7	943.3	944.3	945.3	946.4	947.5	948.0
127.5°	1006.2	1008.3	1010.4	1012.5	1014.6	1016.3	1017.6	1018.8	1020.1	1021.4	1022.2
130°	1051.6	1053.8	1055.9	1058.0	1060.1	1061.7	1062.7	1063.7	1064.9	1065.9	1066.9
132.5°	1095.3	1097.3	1099.5	1101.5	1103.7	1105.2	1106.0	1106.8	1107.6	1108.5	1109.5
135°	1161.8	1163.4	1165.0	1166.6	1168.2	1169.4	1170.4	1171.6	1172.6	1173.6	1174.4
137.5°	1218.6	1220.7	1222.7	1224.6	1226.6	1228.0	1228.5	1229.1	1229.7	1230.3	1231.5
140°	1256.6	1258.1	1259.7	1261.3	1262.9	1264.0	1264.8	1265.6	1266.4	1267.2	1268.3
142.5°	1291.6	1293.2	1294.7	1296.3	1297.9	1299.1	1299.9	1300.7	1301.5	1302.3	1303.1
145°	1340.6	1342.4	1344.3	1346.2	1348.0	1349.2	1349.7	1350.2	1350.8	1351.3	1351.8
147.5°	1386.8	1388.1	1389.3	1390.4	1391.6	1392.5	1393.1	1393.6	1394.1	1394.6	1395.2
150°	1415.2	1416.0	1416.8	1417.6	1418.4	1419.0	1419.6	1420.1	1420.6	1421.2	1421.7
152.5°	1440.8	1441.2	1441.5	1441.9	1442.3	1442.6	1443.0	1443.3	1443.6	1443.9	1444.9
155°	1476.8	1476.3	1475.8	1475.3	1474.7	1474.6	1474.9	1475.1	1475.4	1475.6	1476.9
157.5°	1504.8	1504.8	1504.7	1504.6	1504.6	1504.4	1504.1	1503.9	1503.6	1503.3	1504.9
160°	1521.9	1521.5	1521.3	1521.1	1520.8	1520.5	1520.3	1520.0	1519.7	1519.5	1521.1
162.5°	1537.9	1537.2	1536.6	1535.9	1535.2	1534.7	1534.5	1534.2	1533.9	1533.7	1535.5
165°	1557.4	1556.6	1555.8	1555.0	1554.2	1553.7	1553.4	1553.2	1552.9	1552.6	1554.7
167.5°	1572.5	1571.5	1570.4	1569.4	1568.3	1567.8	1567.8	1567.8	1567.8	1567.8	1569.9
170°	1581.0	1580.0	1578.9	1577.9	1576.8	1576.3	1576.3	1576.3	1576.3	1576.3	1578.4
172.5°	1586.7	1585.5	1584.2	1582.9	1581.7	1581.1	1581.4	1581.6	1581.8	1582.0	1584.1
175°	1594.0	1592.8	1591.4	1590.1	1588.8	1588.2	1588.6	1588.8	1589.0	1589.4	1591.2
177.5°	1595.9	1594.9	1593.9	1592.8	1591.7	1591.3	1591.6	1591.7	1592.0	1592.2	1593.9
180°	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	453.3	454.0	454.8	455.0	455.0	454.8	454.6	454.6
5°	450.4	451.1	451.8	452.1	451.9	451.8	451.6	451.5
7.5°	444.0	444.4	444.8	444.9	444.6	444.3	444.0	443.8
10°	438.3	438.4	438.5	438.3	437.9	437.5	437.0	436.7
12.5°	431.3	431.2	431.2	430.9	430.4	429.9	429.4	429.0
15°	418.8	418.4	418.0	417.6	417.0	416.4	415.8	415.3
17.5°	404.1	403.2	402.3	401.5	400.6	399.7	398.9	398.1
20°	394.0	392.8	391.8	390.8	389.8	388.8	387.9	386.8
22.5°	383.1	381.8	380.4	379.3	378.3	377.5	376.5	375.7
25°	365.3	363.6	361.9	360.5	359.7	358.8	357.8	357.0
27.5°	345.9	343.6	341.2	339.3	337.9	336.5	335.2	333.7
30°	332.2	329.4	326.6	324.6	323.2	321.9	320.6	319.2
32.5°	318.6	315.6	312.5	310.3	309.0	307.6	306.2	304.8
35°	298.6	295.0	291.5	289.0	287.6	286.1	284.6	283.1
37.5°	277.0	273.0	269.0	266.1	264.3	262.4	260.6	258.8
40°	262.1	257.8	253.5	250.4	248.5	246.7	244.8	242.9
42.5°	247.6	243.0	238.4	235.2	233.5	231.8	230.1	228.4
45°	226.5	221.8	217.1	213.8	211.9	209.9	207.9	206.0
47.5°	204.6	199.6	194.5	191.1	189.3	187.6	185.8	184.0
50°	189.9	184.8	179.7	176.3	174.4	172.5	170.6	168.7
52.5°	175.6	170.3	165.1	161.6	159.9	158.2	156.5	154.8
55°	154.4	149.6	144.9	141.6	140.1	138.4	136.7	135.1
57.5°	133.5	129.0	124.5	121.5	120.2	118.7	117.4	116.0
60°	120.3	115.9	111.5	108.5	107.2	105.8	104.4	103.0
62.5°	107.3	103.1	98.9	96.1	94.7	93.2	91.7	90.3
65°	88.6	84.7	80.6	78.2	77.2	76.4	75.5	74.5
67.5°	70.9	67.9	64.9	62.9	61.9	61.0	60.0	59.1
70°	60.0	57.1	54.2	52.4	51.4	50.5	49.6	48.7
72.5°	50.1	47.8	45.4	44.0	43.6	43.3	42.9	42.5
75°	37.5	36.7	35.8	35.3	35.2	35.0	34.9	34.7
77.5°	28.3	27.8	27.4	27.1	26.9	26.8	26.6	26.5
80°	22.7	22.5	22.3	22.1	21.9	21.7	21.5	21.4
82.5°	17.4	17.2	17.0	16.8	16.8	16.7	16.7	16.7
85°	10.0	9.8	9.7	9.6	9.6	9.6	9.6	9.6
87.5°	9.8	10.0	10.1	10.2	10.2	10.3	10.3	10.4
90°	30.5	31.6	32.6	33.4	34.0	34.5	35.0	35.5
92.5°	33.7	35.4	37.1	38.0	38.3	38.7	39.0	39.3
95°	40.4	42.2	44.0	45.0	45.0	45.0	45.0	45.0
97.5°	42.4	44.4	46.6	47.8	48.0	48.2	48.6	48.8
100°	43.3	45.4	47.5	48.7	49.0	49.2	49.5	49.7
102.5°	64.9	58.4	51.8	48.8	49.3	49.7	50.2	50.7
105°	166.2	119.6	73.0	50.0	50.5	51.1	51.6	52.1
107.5°	407.0	372.9	338.7	304.1	269.0	233.9	198.8	163.7
110°	516.7	508.0	499.4	476.2	438.6	400.9	363.3	325.7



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CATALOG NUMBER: S123RDIW-S340D1535U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	594.1	594.3	594.5	590.6	582.6	574.6	566.7	558.7
115°	685.1	687.7	690.3	692.1	693.2	694.3	695.3	696.4
117.5°	767.4	769.4	771.6	772.8	772.9	773.2	773.4	773.6
120°	821.4	823.5	825.6	826.6	826.6	826.6	826.6	826.6
122.5°	874.1	875.6	877.1	877.9	878.1	878.3	878.5	878.8
125°	948.5	949.0	949.5	950.1	950.6	951.1	951.6	952.2
127.5°	1023.0	1023.9	1024.7	1024.8	1024.4	1023.8	1023.3	1022.8
130°	1067.9	1069.1	1070.1	1070.3	1069.8	1069.3	1068.7	1068.3
132.5°	1110.6	1111.7	1112.7	1112.9	1112.1	1111.4	1110.6	1109.9
135°	1175.2	1176.0	1176.8	1176.8	1176.0	1175.2	1174.4	1173.6
137.5°	1232.8	1234.1	1235.3	1235.6	1235.2	1234.6	1234.1	1233.6
140°	1269.3	1270.3	1271.4	1271.7	1271.1	1270.7	1270.1	1269.6
142.5°	1303.9	1304.8	1305.6	1305.7	1305.0	1304.2	1303.5	1302.7
145°	1352.3	1352.9	1353.4	1353.7	1353.7	1353.7	1353.7	1353.7
147.5°	1395.7	1396.2	1396.8	1396.4	1395.2	1394.0	1392.7	1391.5
150°	1422.2	1422.8	1423.2	1423.2	1422.4	1421.6	1420.8	1420.0
152.5°	1445.8	1446.8	1447.7	1447.6	1446.4	1445.1	1443.9	1442.7
155°	1478.3	1479.6	1480.9	1480.7	1479.2	1477.6	1476.0	1474.5
157.5°	1506.5	1508.1	1509.7	1509.4	1507.4	1505.3	1503.2	1501.2
160°	1522.7	1524.2	1525.7	1525.7	1523.8	1521.9	1520.1	1518.3
162.5°	1537.2	1539.1	1540.8	1540.9	1539.3	1537.6	1536.0	1534.4
165°	1556.8	1558.9	1561.1	1561.2	1559.3	1557.5	1555.6	1553.8
167.5°	1572.0	1574.1	1576.2	1576.2	1574.1	1572.0	1569.9	1567.8
170°	1580.5	1582.6	1584.8	1584.8	1582.6	1580.5	1578.4	1576.3
172.5°	1586.2	1588.3	1590.4	1590.3	1588.0	1585.7	1583.3	1581.0
175°	1593.0	1594.8	1596.7	1596.6	1594.4	1592.4	1590.2	1588.2
177.5°	1595.5	1597.2	1598.9	1598.7	1596.6	1594.5	1592.4	1590.3
180°	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0

(END OF REPORT)