

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: P332453

Luminaire Tested: **S123RDIW-S1000D460U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332453
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1000D460U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5391.2 lumens
Efficiency: N/A
Efficacy: 116.7 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-Direct

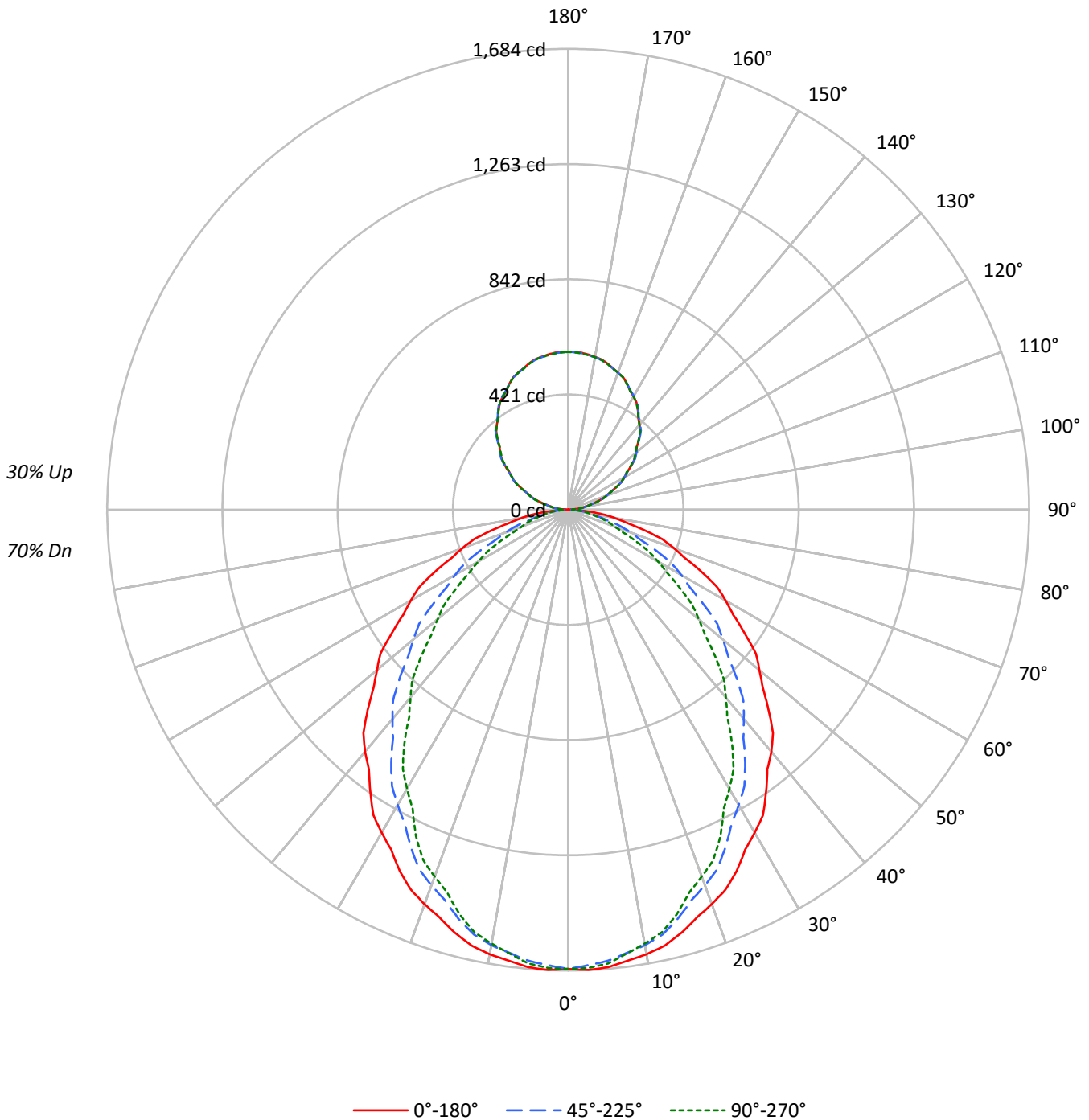
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	50	30	10	0														
RCR																																						
0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	70																				
1	103	99	95	91	97	93	90	87	84	81	79	75	73	71	67	65	64	60																				
2	94	87	80	75	89	82	77	72	74	70	66	66	63	60	59	57	55	51																				
3	86	77	69	63	81	73	66	61	66	60	56	59	55	52	53	50	47	44																				
4	79	68	60	54	75	65	58	52	59	53	48	53	48	45	48	44	41	38																				
5	73	61	53	47	69	58	51	45	53	47	42	48	43	39	43	39	36	33																				
6	67	55	47	41	64	53	45	40	48	42	37	43	38	34	39	35	32	29																				
7	62	50	42	36	59	48	40	35	44	37	33	40	35	31	36	32	29	26																				
8	58	46	38	32	55	44	36	31	40	34	29	36	31	28	33	29	26	24																				
9	54	42	34	29	51	40	33	28	37	31	27	34	29	25	31	26	23	21																				
10	51	39	31	26	48	37	30	26	34	28	24	31	26	23	29	24	21	19																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18064	18064	18064
5°	18133	17882	17986
10°	18030	17658	17598
15°	17836	17245	17063
20°	17570	16728	16339
25°	17296	16149	15631
30°	16933	15479	14633
35°	16561	14808	13717
40°	16218	14018	12584
45°	15767	13239	11561
50°	15270	12353	10416
55°	14763	11340	9348
60°	14299	10256	8174
65°	13692	9082	7002
70°	12935	7626	5655
75°	11832	6001	5319
80°	10544	5312	4891
85°	8904	4705	4372



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.6	2.9
10°-20°	438.5	8.1
20°-30°	631.4	11.7
30°-40°	711.2	13.2
40°-50°	680.4	12.6
50°-60°	557.2	10.3
60°-70°	375.9	7.0
70°-80°	189.1	3.5
80°-90°	51.7	1.0
90°-100°	37.6	0.7
100°-110°	112.5	2.1
110°-120°	191.3	3.5
120°-130°	251.7	4.7
130°-140°	282.9	5.2
140°-150°	278.0	5.2
150°-160°	234.1	4.3
160°-170°	155.8	2.9
170°-180°	54.6	1.0
0°-30°	1227.4	22.8
0°-40°	1938.6	36.0
0°-60°	3176.1	58.9
0°-90°	3792.8	70.4
90°-120°	341.4	6.3
90°-150°	1153.9	21.4
90°-180°	1598.0	29.6
0°-180°	5391.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1678	1671	1655	1666	1665	159
15°	1601	1584	1548	1541	1531	451
25°	1456	1421	1360	1332	1316	669
35°	1260	1209	1127	1070	1044	788
45°	1036	972	870	795	760	799
55°	787	717	604	528	498	705
65°	538	461	357	293	275	532
75°	284	219	144	131	128	303
85°	72	44	38	36	35	81
90°	0	5	11	13	14	5
95°	27	30	34	35	35	30
105°	102	103	107	107	108	109
115°	193	194	193	194	193	191
125°	282	283	282	280	279	251
135°	366	368	368	366	365	282
145°	444	445	446	445	444	277
155°	508	508	508	510	507	234
165°	553	552	552	554	552	156
175°	576	574	574	576	573	55
180°	577	577	577	577	577	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1683.6	1682.6	1681.7	1680.7	1679.7	1677.8	1674.9	1672.0	1669.1	1666.2	1668.8
5°	1678.2	1676.6	1675.1	1673.6	1672.1	1669.5	1665.9	1662.3	1658.7	1655.0	1657.7
7.5°	1662.6	1661.0	1659.4	1657.7	1656.1	1652.9	1648.2	1643.5	1638.8	1634.1	1635.6
10°	1649.6	1647.5	1645.3	1643.2	1641.1	1637.3	1631.9	1626.4	1621.0	1615.6	1615.9
12.5°	1631.1	1628.7	1626.4	1624.0	1621.6	1617.1	1610.5	1603.8	1597.2	1590.5	1590.3
15°	1600.6	1597.3	1593.9	1590.6	1587.3	1581.4	1572.9	1564.4	1556.0	1547.5	1546.0
17.5°	1562.2	1558.3	1554.5	1550.6	1546.7	1539.4	1528.6	1517.9	1507.1	1496.3	1493.1
20°	1533.9	1529.1	1524.2	1519.4	1514.5	1506.4	1494.9	1483.4	1471.9	1460.4	1456.5
22.5°	1502.3	1496.8	1491.2	1485.6	1480.1	1471.2	1458.9	1446.7	1434.5	1422.3	1417.4
25°	1456.3	1448.8	1441.2	1433.6	1426.1	1415.3	1401.4	1387.5	1373.6	1359.7	1353.3
27.5°	1400.5	1392.2	1383.8	1375.5	1367.1	1355.2	1339.7	1324.2	1308.7	1293.3	1284.4
30°	1362.4	1353.3	1344.3	1335.2	1326.1	1313.1	1296.2	1279.2	1262.3	1245.4	1235.1
32.5°	1324.3	1314.0	1303.7	1293.4	1283.2	1269.1	1251.2	1233.3	1215.3	1197.4	1186.2
35°	1260.3	1249.4	1238.5	1227.7	1216.8	1201.9	1183.2	1164.4	1145.7	1126.9	1113.9
37.5°	1195.5	1183.4	1171.3	1159.2	1147.1	1131.1	1111.1	1091.0	1071.0	1051.0	1036.2
40°	1154.2	1140.9	1127.5	1114.2	1100.9	1083.5	1062.1	1040.6	1019.1	997.6	981.9
42.5°	1107.3	1094.0	1080.7	1067.4	1054.1	1036.4	1014.2	992.0	969.8	947.6	930.4
45°	1035.8	1022.1	1008.5	994.9	981.3	962.9	939.6	916.3	893.0	869.7	852.5
47.5°	964.2	949.2	934.3	919.3	904.4	885.3	862.0	838.7	815.4	792.1	773.4
50°	911.9	897.7	883.5	869.3	855.0	835.7	811.2	786.7	762.2	737.7	718.9
52.5°	865.1	849.7	834.2	818.8	803.4	783.5	759.3	735.0	710.8	686.5	667.0
55°	786.7	771.9	757.0	742.2	727.4	707.1	681.4	655.7	630.0	604.3	586.8
57.5°	714.3	698.1	682.0	665.8	649.7	628.7	602.8	577.0	551.2	525.4	508.8
60°	664.2	647.6	630.9	614.3	597.6	576.8	551.7	526.6	501.5	476.4	460.0
62.5°	614.1	597.5	580.8	564.2	547.6	526.7	501.6	476.5	451.4	426.3	410.9
65°	537.6	521.0	504.3	487.7	471.1	451.0	427.4	403.8	380.2	356.6	341.8
67.5°	461.1	444.3	427.5	410.7	393.9	374.1	351.5	328.9	306.3	283.6	272.6
70°	411.0	394.7	378.4	362.0	345.7	327.0	305.8	284.6	263.4	242.3	231.7
72.5°	360.9	344.9	328.8	312.7	296.6	278.9	259.7	240.5	221.2	202.0	193.3
75°	284.5	269.9	255.4	240.9	226.4	210.8	194.2	177.5	160.9	144.3	141.2
77.5°	214.8	201.6	188.5	175.4	162.3	150.3	139.6	128.9	118.2	107.5	105.9
80°	170.1	157.7	145.3	132.9	120.5	111.2	104.8	98.4	92.1	85.7	84.8
82.5°	127.7	117.0	106.3	95.5	84.8	78.0	75.0	72.1	69.1	66.1	65.2
85°	72.1	65.5	58.8	52.2	45.5	41.7	40.8	39.9	39.0	38.1	37.5
87.5°	26.2	23.8	21.3	18.8	16.4	15.3	15.5	15.8	16.1	16.3	16.2
90°	0.5	1.5	2.5	3.5	4.5	5.6	6.9	8.3	9.6	10.9	11.3
92.5°	11.0	11.7	12.3	13.0	13.7	14.4	15.2	15.9	16.7	17.4	17.7
95°	26.7	27.4	28.1	28.9	29.6	30.3	31.1	31.9	32.7	33.5	33.9
97.5°	47.5	48.0	48.5	49.1	49.6	50.1	50.7	51.3	51.9	52.5	52.9
100°	61.6	62.2	62.8	63.4	64.0	64.6	65.1	65.6	66.1	66.6	66.9
102.5°	77.9	78.3	78.7	79.0	79.4	79.9	80.6	81.2	81.9	82.6	82.9
105°	102.0	102.2	102.4	102.6	102.8	103.3	104.2	105.1	106.0	106.9	106.9
107.5°	129.9	130.0	130.1	130.2	130.4	130.6	131.0	131.3	131.7	132.1	132.4
110°	147.3	147.5	147.7	147.9	148.1	148.3	148.5	148.7	148.9	149.1	149.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.4	165.5	165.7	165.8	165.9	166.0	166.0	166.1	166.1	166.1	166.6
115°	192.6	192.9	193.2	193.5	193.8	193.9	193.7	193.5	193.3	193.1	193.2
117.5°	220.0	220.2	220.4	220.6	220.8	220.7	220.5	220.2	220.0	219.7	219.7
120°	237.0	237.6	238.2	238.8	239.4	239.5	239.0	238.5	238.0	237.5	237.4
122.5°	254.8	255.2	255.7	256.1	256.5	256.6	256.4	256.1	255.9	255.6	255.3
125°	281.9	282.2	282.5	282.8	283.1	283.1	282.9	282.7	282.5	282.3	281.9
127.5°	306.9	307.5	308.2	308.8	309.5	309.7	309.5	309.2	309.0	308.8	308.2
130°	323.6	324.4	325.2	326.0	326.8	327.0	326.7	326.4	326.1	325.8	325.4
132.5°	340.2	341.0	341.9	342.7	343.5	343.8	343.5	343.3	343.1	342.9	342.4
135°	365.7	366.3	366.9	367.5	368.1	368.4	368.3	368.2	368.1	368.0	367.6
137.5°	389.3	389.8	390.3	390.8	391.3	391.7	391.9	392.2	392.5	392.7	392.3
140°	405.6	406.1	406.6	407.1	407.6	407.9	408.0	408.1	408.2	408.3	408.2
142.5°	420.5	421.0	421.5	422.0	422.5	422.8	423.0	423.2	423.4	423.5	423.4
145°	443.7	443.9	444.1	444.3	444.5	444.7	445.0	445.3	445.6	445.9	445.8
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	466.9
150°	478.1	478.3	478.5	478.7	478.9	479.1	479.3	479.5	479.7	479.9	479.9
152.5°	489.7	490.0	490.3	490.5	490.8	491.0	491.1	491.3	491.4	491.5	491.7
155°	508.0	508.0	508.0	508.0	508.0	508.1	508.2	508.3	508.4	508.5	508.9
157.5°	523.6	523.5	523.4	523.2	523.1	523.1	523.2	523.3	523.3	523.4	523.8
160°	533.4	533.2	533.0	532.8	532.6	532.5	532.5	532.5	532.5	532.5	533.0
162.5°	542.1	541.8	541.5	541.2	541.0	540.9	540.9	541.0	541.1	541.2	541.7
165°	553.3	553.0	552.7	552.4	552.1	552.0	552.0	552.0	552.0	552.0	552.6
167.5°	562.3	561.9	561.5	561.1	560.7	560.5	560.6	560.7	560.8	560.8	561.5
170°	567.4	567.0	566.6	566.2	565.8	565.6	565.6	565.6	565.6	565.6	566.3
172.5°	571.4	571.0	570.6	570.2	569.7	569.5	569.5	569.5	569.5	569.5	570.2
175°	575.5	575.1	574.7	574.3	573.9	573.7	573.7	573.7	573.7	573.7	574.3
177.5°	577.3	576.9	576.6	576.3	576.0	575.8	575.8	575.8	575.8	575.8	576.3
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1671.5	1674.2	1676.8	1677.9	1677.4	1677.0	1676.5	1676.0
5°	1660.5	1663.2	1665.9	1667.0	1666.4	1665.8	1665.2	1664.6
7.5°	1637.1	1638.6	1640.1	1640.4	1639.3	1638.3	1637.3	1636.2
10°	1616.2	1616.5	1616.8	1616.2	1614.6	1613.1	1611.6	1610.1
12.5°	1590.1	1590.0	1589.8	1588.8	1587.1	1585.3	1583.6	1581.8
15°	1544.5	1543.0	1541.5	1539.6	1537.5	1535.4	1533.3	1531.2
17.5°	1489.9	1486.7	1483.5	1480.3	1477.2	1474.0	1470.9	1467.7
20°	1452.5	1448.6	1444.7	1440.9	1437.3	1433.6	1430.0	1426.4
22.5°	1412.5	1407.6	1402.7	1398.5	1395.2	1391.8	1388.4	1385.0
25°	1347.0	1340.6	1334.3	1329.4	1326.1	1322.8	1319.5	1316.1
27.5°	1275.6	1266.8	1257.9	1251.0	1245.9	1240.8	1235.7	1230.7
30°	1224.8	1214.5	1204.2	1196.7	1191.8	1187.0	1182.1	1177.3
32.5°	1174.9	1163.7	1152.4	1144.3	1139.2	1134.1	1129.0	1123.9
35°	1100.9	1087.9	1074.9	1065.7	1060.3	1054.8	1049.4	1043.9
37.5°	1021.5	1006.7	992.0	981.2	974.5	967.8	961.1	954.4
40°	966.2	950.5	934.7	923.4	916.4	909.5	902.5	895.6
42.5°	913.2	896.0	878.8	867.1	860.9	854.7	848.4	842.2
45°	835.2	818.0	800.7	788.5	781.2	774.0	766.7	759.5
47.5°	754.6	735.9	717.1	704.5	698.0	691.6	685.1	678.6
50°	700.2	681.4	662.7	649.8	642.9	635.9	629.0	622.0
52.5°	647.6	628.1	608.6	595.7	589.5	583.3	577.1	570.8
55°	569.2	551.7	534.1	522.3	516.3	510.2	504.2	498.1
57.5°	492.2	475.6	459.1	448.2	443.1	437.9	432.8	427.6
60°	443.7	427.4	411.0	400.3	395.2	390.0	384.9	379.7
62.5°	395.5	380.2	364.8	354.4	349.1	343.7	338.3	332.9
65°	327.0	312.1	297.3	288.2	284.9	281.6	278.3	274.9
67.5°	261.5	250.4	239.4	232.0	228.5	224.9	221.3	217.8
70°	221.1	210.5	199.9	193.0	189.6	186.3	183.0	179.7
72.5°	184.7	176.0	167.4	162.4	161.0	159.6	158.2	156.8
75°	138.2	135.2	132.2	130.4	129.8	129.1	128.5	127.9
77.5°	104.3	102.6	101.0	99.9	99.3	98.7	98.1	97.5
80°	83.9	83.0	82.1	81.4	80.8	80.2	79.5	78.9
82.5°	64.3	63.4	62.5	62.0	61.9	61.8	61.6	61.5
85°	36.9	36.3	35.7	35.4	35.4	35.4	35.4	35.4
87.5°	16.0	15.8	15.7	15.5	15.3	15.1	14.9	14.7
90°	11.7	12.1	12.5	12.8	13.0	13.2	13.4	13.6
92.5°	18.0	18.4	18.7	18.8	18.7	18.5	18.4	18.3
95°	34.3	34.7	35.1	35.3	35.3	35.3	35.3	35.3
97.5°	53.4	53.9	54.3	54.5	54.5	54.5	54.4	54.4
100°	67.2	67.5	67.8	68.1	68.3	68.5	68.7	68.9
102.5°	83.2	83.5	83.8	83.9	83.9	83.8	83.8	83.7
105°	106.9	106.9	106.9	107.0	107.3	107.5	107.7	107.9
107.5°	132.7	133.0	133.3	133.4	133.3	133.2	133.1	133.0
110°	149.9	150.3	150.7	150.8	150.6	150.4	150.2	150.0



TEST NUMBER: P332453

CATALOG NUMBER: S123RDIW-S1000D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.6	168.1	168.3	168.2	168.2	168.2	168.1
115°	193.3	193.4	193.5	193.5	193.4	193.3	193.2	193.1
117.5°	219.7	219.6	219.6	219.5	219.2	218.9	218.6	218.3
120°	237.3	237.2	237.1	236.9	236.7	236.5	236.3	236.1
122.5°	255.1	254.8	254.5	254.3	254.0	253.7	253.4	253.1
125°	281.5	281.1	280.7	280.3	279.9	279.5	279.1	278.7
127.5°	307.7	307.1	306.5	306.0	305.6	305.1	304.6	304.2
130°	325.0	324.6	324.2	323.7	323.0	322.3	321.6	320.8
132.5°	341.9	341.4	340.9	340.4	339.9	339.3	338.8	338.2
135°	367.2	366.8	366.4	366.1	365.9	365.7	365.5	365.3
137.5°	391.9	391.5	391.0	390.6	390.2	389.9	389.5	389.1
140°	408.1	408.0	407.9	407.5	406.8	406.1	405.4	404.7
142.5°	423.3	423.2	423.1	422.8	422.3	421.7	421.2	420.6
145°	445.7	445.6	445.5	445.3	444.9	444.5	444.1	443.7
147.5°	466.9	466.9	466.9	466.6	466.0	465.3	464.7	464.1
150°	479.9	479.9	479.9	479.6	479.0	478.4	477.8	477.2
152.5°	491.8	492.0	492.2	492.0	491.5	490.9	490.4	489.9
155°	509.3	509.7	510.1	509.9	509.2	508.5	507.8	507.1
157.5°	524.3	524.7	525.1	525.0	524.5	523.9	523.3	522.8
160°	533.5	534.0	534.5	534.5	534.1	533.7	533.3	532.9
162.5°	542.2	542.7	543.2	543.1	542.5	541.8	541.2	540.5
165°	553.2	553.8	554.4	554.3	553.6	552.9	552.2	551.5
167.5°	562.1	562.7	563.3	563.3	562.7	562.1	561.5	560.8
170°	567.0	567.7	568.4	568.4	567.7	567.0	566.3	565.6
172.5°	570.8	571.4	572.0	572.0	571.3	570.6	569.9	569.2
175°	574.9	575.5	576.1	576.1	575.4	574.7	574.0	573.3
177.5°	576.8	577.3	577.7	577.7	577.1	576.6	576.0	575.4
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9

(END OF REPORT)