

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: P332333

Luminaire Tested: **S123RDIP-S1000D365U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

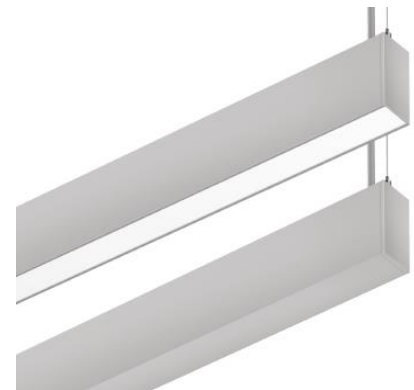
Test Information

Test Method: LM-79-08
Report Number: P332333
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: S123RDIP-S1000D365U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5242.9 lumens
Efficiency: N/A
Efficacy: 120.5 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

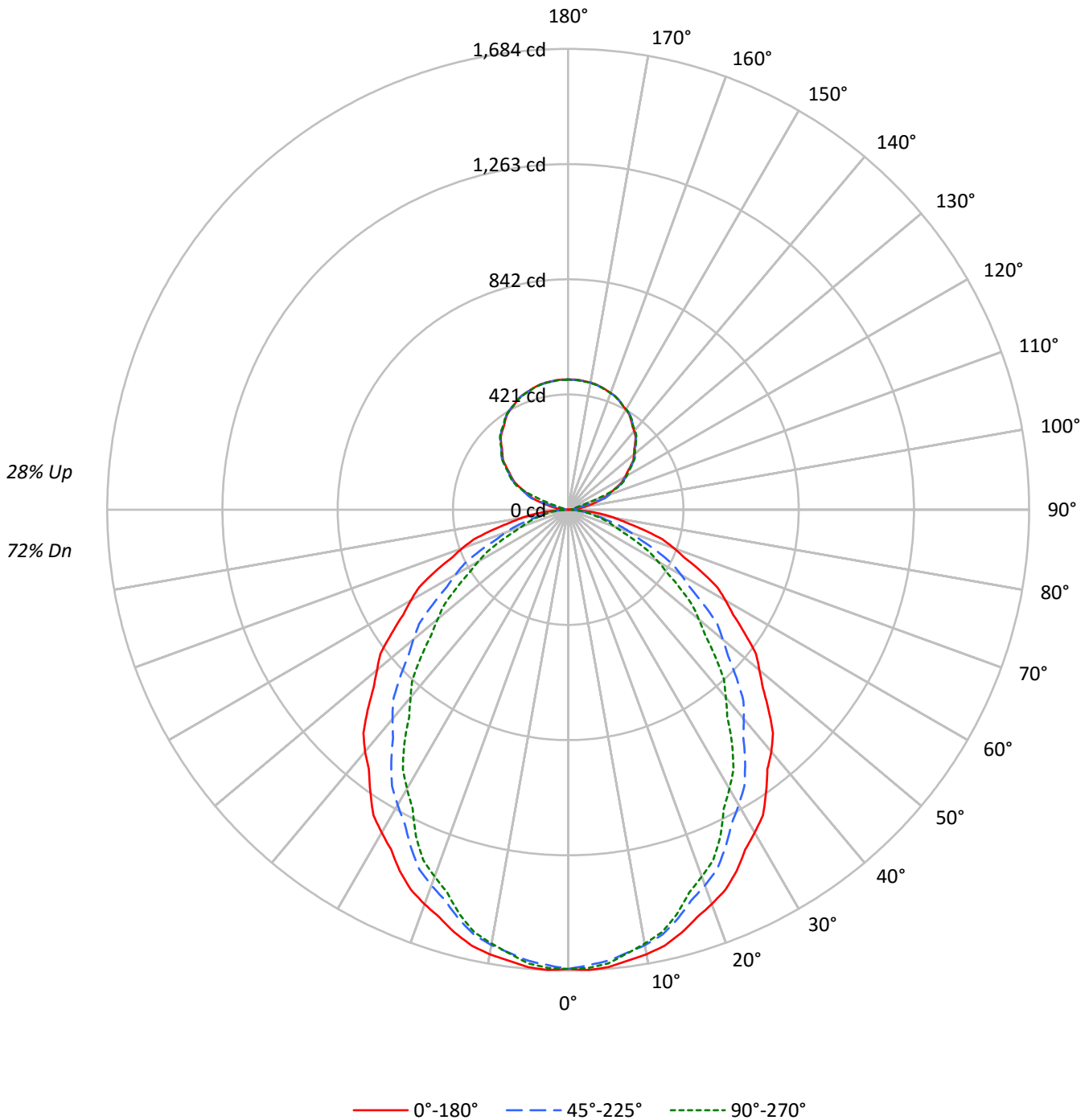
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	77	77	77	72
1	103	99	95	92	98	94	91	88	85	82	80	76	74	73	69	67	66	62
2	94	87	81	76	89	83	77	73	75	71	67	68	64	61	61	58	56	53
3	86	77	70	64	82	73	67	61	67	61	57	60	56	52	54	51	48	45
4	79	68	60	54	75	65	58	53	59	54	49	54	49	45	49	45	42	39
5	73	61	53	47	69	59	51	46	54	47	43	49	44	40	44	40	37	34
6	68	55	47	41	64	53	45	40	48	42	37	44	39	35	40	36	33	30
7	63	50	42	36	59	48	41	35	44	38	33	40	35	31	37	33	29	27
8	58	46	38	33	55	44	37	32	40	34	30	37	32	28	34	30	26	24
9	55	42	34	29	52	40	33	28	37	31	27	34	29	25	32	27	24	22
10	51	39	31	27	49	37	30	26	34	29	24	32	27	23	29	25	22	20

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	3.0
10°-20°	438.5	8.4
20°-30°	631.4	12.0
30°-40°	711.2	13.6
40°-50°	680.4	13.0
50°-60°	557.2	10.6
60°-70°	375.9	7.2
70°-80°	189.1	3.6
80°-90°	51.4	1.0
90°-100°	17.3	0.3
100°-110°	82.4	1.6
110°-120°	198.0	3.8
120°-130°	252.1	4.8
130°-140°	269.3	5.1
140°-150°	251.9	4.8
150°-160°	203.2	3.9
160°-170°	131.1	2.5
170°-180°	45.2	0.9
0°-30°	1227.4	23.4
0°-40°	1938.6	37.0
0°-60°	3176.1	60.6
0°-90°	3792.4	72.3
90°-120°	297.7	5.7
90°-150°	1071.0	20.4
90°-180°	1450.0	27.7
0°-180°	5242.9	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	4	8	10	11	5
95°	22	8	11	13	13	27
105°	105	107	77	18	16	112
115°	198	200	203	206	208	195
125°	278	281	283	283	284	249
135°	347	349	350	351	350	267
145°	400	402	403	404	404	250
155°	441	440	440	442	440	203
165°	465	464	463	466	464	131
175°	476	474	474	476	474	45
180°	476	476	476	476	476	



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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	23.7	21.2	18.7	16.2	15.0	15.2	15.4	15.6	15.9	15.7
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.4	6.4	7.5	8.5	8.8
92.5°	6.6	6.4	6.1	5.9	5.7	6.0	6.7	7.5	8.3	9.0	9.5
95°	21.6	18.3	15.1	11.9	8.7	7.5	8.4	9.2	10.1	11.0	11.5
97.5°	43.3	41.9	40.4	39.0	37.5	34.0	28.3	22.7	17.0	11.4	12.0
100°	59.7	61.3	62.9	64.4	66.0	60.7	48.4	36.2	23.9	11.7	12.3
102.5°	78.4	79.5	80.6	81.8	82.9	76.8	63.4	50.0	36.6	23.3	21.3
105°	105.3	106.2	107.0	107.9	108.8	105.7	98.6	91.5	84.5	77.4	63.5
107.5°	133.7	134.4	135.1	135.8	136.5	137.4	138.5	139.6	140.7	141.8	131.6
110°	152.7	153.3	153.9	154.5	155.2	155.9	156.8	157.6	158.5	159.4	156.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.7	171.3	171.9	172.4	173.0	173.7	174.6	175.5	176.3	177.2	177.2
115°	197.5	198.0	198.5	198.9	199.4	200.0	200.7	201.4	202.1	202.8	203.6
117.5°	223.5	224.1	224.6	225.2	225.8	226.3	226.6	227.0	227.4	227.7	228.3
120°	239.6	240.3	241.0	241.7	242.4	242.9	243.1	243.4	243.6	243.8	244.5
122.5°	256.0	256.6	257.1	257.7	258.3	258.7	259.0	259.3	259.6	259.9	260.4
125°	278.5	279.1	279.7	280.3	281.0	281.4	281.8	282.1	282.4	282.7	282.9
127.5°	300.2	300.9	301.5	302.1	302.7	303.2	303.6	304.0	304.4	304.7	305.0
130°	313.8	314.4	315.0	315.7	316.3	316.8	317.1	317.4	317.7	318.0	318.3
132.5°	326.8	327.4	328.1	328.7	329.3	329.7	330.0	330.3	330.5	330.8	331.1
135°	346.7	347.1	347.6	348.1	348.5	348.9	349.2	349.6	349.9	350.2	350.4
137.5°	363.6	364.2	364.8	365.4	366.0	366.4	366.6	366.7	366.9	367.1	367.5
140°	374.9	375.4	375.9	376.3	376.8	377.2	377.4	377.6	377.9	378.1	378.4
142.5°	385.4	385.9	386.3	386.8	387.3	387.6	387.9	388.1	388.3	388.6	388.8
145°	400.0	400.6	401.1	401.7	402.2	402.6	402.7	402.9	403.0	403.2	403.4
147.5°	413.8	414.2	414.5	414.9	415.2	415.5	415.7	415.8	416.0	416.1	416.3
150°	422.3	422.5	422.7	423.0	423.2	423.4	423.6	423.7	423.9	424.0	424.2
152.5°	429.9	430.0	430.1	430.2	430.3	430.5	430.5	430.6	430.7	430.8	431.1
155°	440.7	440.5	440.3	440.2	440.0	440.0	440.1	440.1	440.2	440.3	440.7
157.5°	449.0	449.0	449.0	448.9	448.9	448.9	448.8	448.7	448.6	448.6	449.0
160°	454.1	454.0	453.9	453.8	453.8	453.7	453.6	453.5	453.5	453.4	453.8
162.5°	458.9	458.7	458.5	458.3	458.1	457.9	457.8	457.8	457.7	457.6	458.1
165°	464.7	464.4	464.2	464.0	463.7	463.6	463.5	463.4	463.3	463.3	463.9
167.5°	469.2	468.9	468.6	468.3	467.9	467.8	467.8	467.8	467.8	467.8	468.4
170°	471.7	471.4	471.1	470.8	470.5	470.3	470.3	470.3	470.3	470.3	471.0
172.5°	473.4	473.1	472.7	472.3	471.9	471.8	471.8	471.9	472.0	472.0	472.7
175°	475.6	475.2	474.8	474.5	474.1	473.9	474.0	474.1	474.1	474.2	474.8
177.5°	476.2	475.9	475.6	475.3	474.9	474.8	474.9	474.9	475.0	475.1	475.6
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6



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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°	15.5	15.3	15.1	14.9	14.7	14.5	14.3	14.1
90°	9.1	9.4	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	10.1	10.6	11.1	11.4	11.4	11.5	11.6	11.7
95°	12.1	12.6	13.2	13.4	13.4	13.4	13.4	13.4
97.5°	12.6	13.3	13.9	14.2	14.3	14.4	14.5	14.6
100°	12.9	13.5	14.2	14.5	14.6	14.7	14.8	14.8
102.5°	19.4	17.4	15.5	14.6	14.7	14.8	15.0	15.1
105°	49.6	35.7	21.8	14.9	15.1	15.2	15.4	15.5
107.5°	121.5	111.3	101.1	90.7	80.3	69.8	59.3	48.8
110°	154.2	151.6	149.0	142.1	130.9	119.6	108.4	97.2



TEST NUMBER: P332333

CATALOG NUMBER: S123RDIP-S1000D365U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	177.3	177.3	177.4	176.2	173.8	171.5	169.1	166.7
115°	204.4	205.2	206.0	206.5	206.8	207.2	207.5	207.8
117.5°	229.0	229.6	230.2	230.6	230.6	230.7	230.8	230.8
120°	245.1	245.7	246.3	246.7	246.7	246.7	246.7	246.7
122.5°	260.8	261.3	261.7	261.9	262.0	262.1	262.1	262.2
125°	283.0	283.2	283.3	283.5	283.6	283.8	284.0	284.1
127.5°	305.2	305.5	305.8	305.8	305.6	305.5	305.3	305.2
130°	318.7	319.0	319.3	319.4	319.2	319.1	318.9	318.7
132.5°	331.4	331.7	332.0	332.1	331.8	331.6	331.4	331.2
135°	350.7	350.9	351.1	351.1	350.9	350.7	350.4	350.2
137.5°	367.8	368.2	368.6	368.7	368.5	368.4	368.2	368.1
140°	378.7	379.0	379.4	379.4	379.3	379.1	379.0	378.8
142.5°	389.1	389.3	389.6	389.6	389.4	389.1	388.9	388.7
145°	403.5	403.7	403.8	403.9	403.9	403.9	403.9	403.9
147.5°	416.4	416.6	416.8	416.7	416.3	415.9	415.6	415.2
150°	424.4	424.5	424.7	424.6	424.4	424.2	423.9	423.7
152.5°	431.4	431.7	432.0	431.9	431.6	431.2	430.8	430.5
155°	441.1	441.5	441.9	441.8	441.4	440.9	440.4	439.9
157.5°	449.5	450.0	450.5	450.4	449.8	449.2	448.5	447.9
160°	454.3	454.8	455.3	455.2	454.7	454.1	453.6	453.0
162.5°	458.7	459.2	459.7	459.8	459.3	458.8	458.3	457.8
165°	464.5	465.2	465.8	465.8	465.3	464.7	464.2	463.6
167.5°	469.0	469.7	470.3	470.3	469.7	469.0	468.4	467.8
170°	471.6	472.2	472.8	472.8	472.2	471.6	471.0	470.3
172.5°	473.3	473.9	474.5	474.5	473.8	473.1	472.4	471.7
175°	475.3	475.9	476.4	476.4	475.8	475.1	474.5	473.9
177.5°	476.1	476.6	477.1	477.0	476.4	475.8	475.1	474.5
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6

(END OF REPORT)