

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: P332334

Luminaire Tested: **S123RDIP-S1000D365U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332334  
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: S123RDIP-S1000D365U835-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5038.9 lumens  
Efficiency: N/A  
Efficacy: 115.8 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

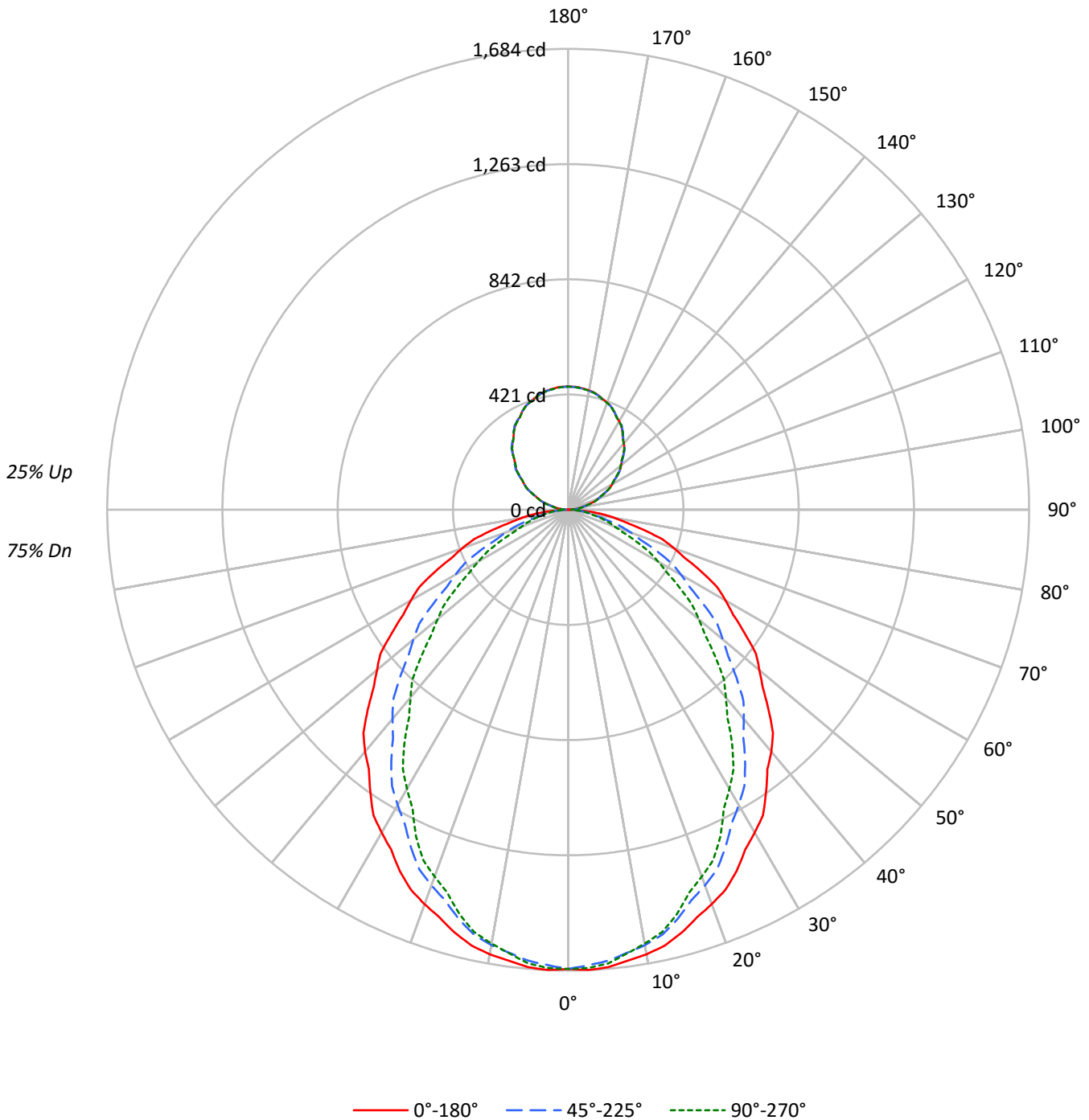
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	104	100	96	92	99	95	92	89	86	84	81	78	76	74	71	69	68	64
2	95	88	81	76	90	84	78	73	76	72	68	69	66	63	63	60	58	55
3	87	77	70	64	83	74	67	62	68	62	58	62	57	54	56	53	50	47
4	80	69	61	55	76	66	59	53	61	55	50	55	51	47	51	47	43	41
5	74	62	54	47	70	59	52	46	54	48	43	50	45	41	46	42	38	36
6	68	56	48	42	65	54	46	40	49	43	38	45	40	36	42	37	34	31
7	63	51	43	37	60	49	41	36	45	39	34	42	36	32	38	34	30	28
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	35	31	27	25
9	55	42	35	30	52	41	34	29	38	32	28	35	30	26	33	28	25	23
10	52	39	32	27	49	38	31	26	35	29	25	33	27	24	30	26	23	21

**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	3.1
10°-20°	438.5	8.7
20°-30°	631.4	12.5
30°-40°	711.2	14.1
40°-50°	680.4	13.5
50°-60°	557.2	11.1
60°-70°	375.9	7.5
70°-80°	189.1	3.8
80°-90°	51.4	1.0
90°-100°	29.3	0.6
100°-110°	87.7	1.7
110°-120°	149.2	3.0
120°-130°	196.2	3.9
130°-140°	220.6	4.4
140°-150°	216.8	4.3
150°-160°	182.5	3.6
160°-170°	121.5	2.4
170°-180°	42.5	0.8
0°-30°	1227.4	24.4
0°-40°	1938.6	38.5
0°-60°	3176.1	63.0
0°-90°	3792.4	75.3
90°-120°	266.2	5.3
90°-150°	899.9	17.9
90°-180°	1246.0	24.7
0°-180°	5038.9	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°	21	23	26	28	28	23
105°	80	80	83	83	84	85
115°	150	151	150	151	150	149
125°	220	221	220	219	217	196
135°	285	287	287	286	285	220
145°	346	347	348	347	346	216
155°	396	396	396	398	395	182
165°	432	430	430	432	430	122
175°	449	448	447	449	447	43
180°	450	450	450	450	450	



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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°	8.6	9.1	9.6	10.2	10.7	11.2	11.8	12.4	13.0	13.6	13.8
95°	20.9	21.4	21.9	22.5	23.0	23.6	24.3	24.9	25.5	26.2	26.5
97.5°	37.0	37.4	37.9	38.3	38.7	39.1	39.6	40.0	40.5	40.9	41.3
100°	48.1	48.5	49.0	49.5	49.9	50.4	50.8	51.2	51.6	51.9	52.2
102.5°	60.8	61.1	61.3	61.6	61.9	62.3	62.8	63.4	63.9	64.4	64.6
105°	79.5	79.7	79.8	80.0	80.1	80.6	81.3	82.0	82.7	83.4	83.4
107.5°	101.3	101.4	101.5	101.6	101.7	101.8	102.1	102.4	102.7	103.0	103.2
110°	114.9	115.0	115.2	115.3	115.5	115.6	115.8	116.0	116.1	116.3	116.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	129.0	129.1	129.2	129.3	129.4	129.4	129.5	129.5	129.5	129.6	129.9
115°	150.2	150.4	150.7	150.9	151.1	151.2	151.0	150.9	150.7	150.5	150.6
117.5°	171.5	171.7	171.9	172.0	172.2	172.1	171.9	171.7	171.5	171.3	171.3
120°	184.8	185.3	185.8	186.2	186.7	186.7	186.4	186.0	185.6	185.2	185.1
122.5°	198.7	199.0	199.4	199.7	200.1	200.1	199.9	199.7	199.5	199.3	199.1
125°	219.8	220.0	220.3	220.5	220.8	220.8	220.6	220.5	220.3	220.2	219.8
127.5°	239.3	239.8	240.3	240.8	241.3	241.5	241.3	241.1	241.0	240.8	240.4
130°	252.3	252.9	253.6	254.2	254.8	255.0	254.8	254.6	254.3	254.1	253.8
132.5°	265.3	266.0	266.6	267.2	267.8	268.1	267.9	267.7	267.5	267.4	267.0
135°	285.2	285.7	286.1	286.6	287.1	287.3	287.2	287.1	287.0	287.0	286.6
137.5°	303.6	304.0	304.3	304.7	305.1	305.4	305.6	305.8	306.0	306.2	305.9
140°	316.3	316.7	317.1	317.5	317.9	318.1	318.2	318.2	318.3	318.4	318.3
142.5°	327.9	328.3	328.7	329.1	329.4	329.7	329.9	330.0	330.1	330.3	330.2
145°	346.0	346.1	346.3	346.4	346.6	346.8	347.0	347.3	347.5	347.7	347.7
147.5°	361.8	362.1	362.4	362.7	362.9	363.2	363.4	363.6	363.8	364.1	364.1
150°	372.8	373.0	373.1	373.3	373.5	373.6	373.8	373.9	374.1	374.2	374.2
152.5°	381.9	382.1	382.3	382.5	382.8	382.9	383.0	383.1	383.2	383.3	383.4
155°	396.2	396.2	396.2	396.2	396.2	396.2	396.3	396.3	396.4	396.5	396.8
157.5°	408.3	408.2	408.1	408.0	407.9	407.9	408.0	408.0	408.1	408.2	408.5
160°	415.9	415.8	415.6	415.5	415.3	415.2	415.2	415.2	415.2	415.2	415.6
162.5°	422.7	422.5	422.3	422.1	421.8	421.8	421.8	421.9	422.0	422.0	422.4
165°	431.5	431.3	431.0	430.8	430.5	430.4	430.4	430.4	430.4	430.4	430.9
167.5°	438.5	438.2	437.9	437.5	437.2	437.1	437.2	437.2	437.3	437.4	437.8
170°	442.4	442.1	441.8	441.5	441.2	441.0	441.0	441.0	441.0	441.0	441.6
172.5°	445.6	445.2	444.9	444.6	444.3	444.1	444.1	444.1	444.1	444.1	444.6
175°	448.8	448.5	448.2	447.9	447.6	447.4	447.4	447.4	447.4	447.4	447.9
177.5°	450.1	449.9	449.6	449.4	449.1	449.0	449.0	449.0	449.0	449.0	449.4
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



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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°	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°	14.1	14.3	14.6	14.7	14.6	14.5	14.4	14.3
95°	26.8	27.1	27.4	27.6	27.6	27.6	27.6	27.6
97.5°	41.6	42.0	42.4	42.5	42.5	42.5	42.4	42.4
100°	52.4	52.7	52.9	53.1	53.2	53.4	53.6	53.7
102.5°	64.9	65.1	65.3	65.4	65.4	65.4	65.3	65.3
105°	83.4	83.4	83.4	83.5	83.6	83.8	84.0	84.1
107.5°	103.5	103.7	104.0	104.1	104.0	103.9	103.8	103.7
110°	116.9	117.2	117.5	117.6	117.4	117.3	117.1	117.0





TEST NUMBER: P332334

CATALOG NUMBER: S123RDIP-S1000D365U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	130.3	130.7	131.1	131.2	131.2	131.2	131.1	131.1
115°	150.7	150.8	150.9	150.9	150.8	150.7	150.6	150.5
117.5°	171.3	171.3	171.3	171.1	170.9	170.7	170.5	170.3
120°	185.0	184.9	184.9	184.7	184.6	184.4	184.3	184.1
122.5°	198.9	198.7	198.5	198.3	198.1	197.8	197.6	197.4
125°	219.5	219.2	218.9	218.6	218.3	218.0	217.6	217.3
127.5°	239.9	239.5	239.0	238.6	238.3	237.9	237.6	237.2
130°	253.5	253.1	252.8	252.4	251.9	251.3	250.8	250.2
132.5°	266.6	266.2	265.9	265.5	265.0	264.6	264.2	263.8
135°	286.3	286.0	285.7	285.5	285.3	285.1	285.0	284.8
137.5°	305.6	305.3	304.9	304.6	304.3	304.0	303.7	303.4
140°	318.2	318.2	318.1	317.8	317.2	316.7	316.1	315.6
142.5°	330.1	330.0	330.0	329.7	329.3	328.9	328.4	328.0
145°	347.6	347.5	347.4	347.2	346.9	346.6	346.3	346.0
147.5°	364.1	364.1	364.1	363.8	363.4	362.9	362.4	361.9
150°	374.2	374.2	374.2	374.0	373.5	373.1	372.6	372.1
152.5°	383.5	383.7	383.8	383.6	383.2	382.8	382.4	382.0
155°	397.1	397.4	397.8	397.6	397.1	396.5	396.0	395.4
157.5°	408.8	409.2	409.5	409.4	409.0	408.6	408.1	407.7
160°	416.0	416.4	416.8	416.8	416.5	416.2	415.9	415.6
162.5°	422.8	423.2	423.6	423.5	423.0	422.5	422.0	421.5
165°	431.4	431.8	432.3	432.3	431.7	431.2	430.6	430.1
167.5°	438.3	438.8	439.3	439.3	438.8	438.3	437.8	437.4
170°	442.1	442.7	443.2	443.2	442.7	442.1	441.6	441.0
172.5°	445.1	445.6	446.1	446.1	445.5	445.0	444.4	443.9
175°	448.3	448.8	449.3	449.2	448.7	448.1	447.6	447.0
177.5°	449.8	450.1	450.5	450.5	450.1	449.6	449.2	448.7
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9

(END OF REPORT)