

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: P332052-935

Luminaire Tested: **S123DIP-S1165D365U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332052-935  
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: S123DIP-S1165D365U935-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5170.1 lumens  
Efficiency: N/A  
Efficacy: 103.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

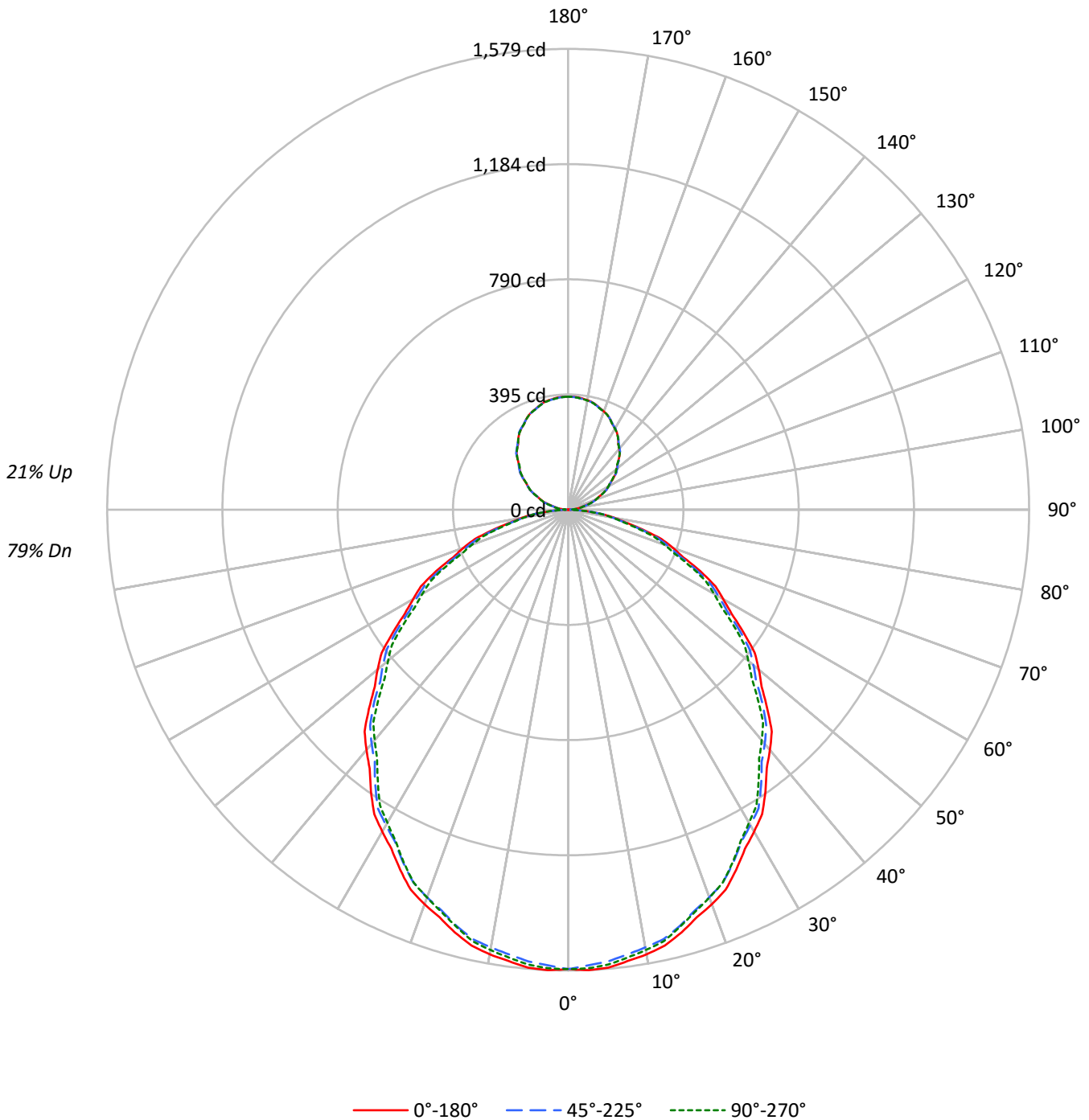
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	79
1	104	100	96	92	99	95	92	88	87	85	82	80	78	76	73	72	70	67
2	95	87	81	75	90	83	78	73	77	72	68	70	67	63	64	61	59	56
3	87	77	69	63	82	73	66	61	68	62	57	62	57	53	57	53	50	47
4	79	68	59	53	75	65	58	52	60	54	49	55	50	46	51	47	43	40
5	73	61	52	46	69	58	50	45	54	47	42	50	44	40	46	41	38	35
6	67	55	46	40	64	53	45	39	49	42	37	45	39	35	42	37	33	31
7	62	49	41	35	59	48	40	34	44	38	33	41	35	31	38	33	30	27
8	58	45	37	31	55	44	36	31	41	34	29	38	32	28	35	30	26	24
9	54	41	33	28	52	40	33	27	37	31	26	35	29	25	32	28	24	22
10	51	38	30	25	49	37	30	25	34	28	24	32	27	23	30	25	22	20

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	16942	16942	16942
5°	17022	16788	16904
10°	16909	16642	16746
15°	16711	16454	16485
20°	16479	16186	16200
25°	16170	15865	15833
30°	15830	15509	15392
35°	15473	15135	14939
40°	15100	14720	14491
45°	14690	14338	13988
50°	14277	13870	13485
55°	13741	13386	12979
60°	13199	12820	12411
65°	12720	12202	11826
70°	12013	11500	10990
75°	10975	10580	10131
80°	9899	9478	9397
85°	8682	8361	8028



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.3	2.9
10°-20°	418.7	8.1
20°-30°	618.4	12.0
30°-40°	722.4	14.0
40°-50°	726.3	14.0
50°-60°	638.0	12.3
60°-70°	475.3	9.2
70°-80°	270.8	5.2
80°-90°	78.9	1.5
90°-100°	25.2	0.5
100°-110°	75.5	1.5
110°-120°	128.5	2.5
120°-130°	169.0	3.3
130°-140°	189.9	3.7
140°-150°	186.7	3.6
150°-160°	157.2	3.0
160°-170°	104.6	2.0
170°-180°	36.6	0.7
0°-30°	1185.3	22.9
0°-40°	1907.7	36.9
0°-60°	3272.0	63.3
0°-90°	4096.9	79.2
90°-120°	229.2	4.4
90°-150°	774.8	15.0
90°-180°	1073.0	20.8
0°-180°	5170.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1574	1574	1574	1574	1574	
5°	1575	1568	1554	1566	1564	149
15°	1500	1494	1476	1486	1479	423
25°	1362	1353	1336	1337	1333	627
35°	1178	1169	1152	1144	1137	736
45°	965	959	942	926	919	745
55°	732	730	713	699	692	656
65°	499	492	479	469	464	493
75°	264	259	254	248	244	282
85°	70	68	68	65	65	77
90°	0	3	7	8	9	5
95°	18	20	23	24	24	20
105°	68	69	72	72	72	73
115°	129	130	130	130	130	128
125°	189	190	190	188	187	169
135°	246	247	247	246	245	189
145°	298	298	299	299	298	186
155°	341	341	341	342	340	157
165°	372	371	371	372	370	105
175°	386	385	385	387	385	37
180°	387	387	387	387	387	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1579.4	1578.5	1577.5	1576.6	1575.5	1573.7	1571.2	1568.5	1565.8	1563.1	1565.6
5°	1575.4	1573.9	1572.4	1570.9	1569.3	1566.9	1563.7	1560.3	1557.0	1553.7	1556.7
7.5°	1560.0	1558.4	1556.9	1555.4	1553.9	1551.4	1548.0	1544.6	1541.2	1537.7	1540.4
10°	1547.0	1545.4	1543.9	1542.4	1540.9	1538.3	1534.3	1530.4	1526.5	1522.6	1525.3
12.5°	1529.7	1528.4	1527.1	1525.9	1524.6	1522.1	1518.5	1514.8	1511.1	1507.4	1509.4
15°	1499.6	1498.4	1497.2	1496.0	1494.8	1492.2	1488.3	1484.4	1480.5	1476.5	1478.9
17.5°	1464.6	1463.1	1461.5	1460.0	1458.4	1455.7	1451.7	1447.9	1443.9	1440.0	1441.7
20°	1438.6	1436.8	1435.0	1433.2	1431.5	1428.6	1424.7	1420.8	1416.9	1413.0	1414.2
22.5°	1409.5	1407.6	1405.8	1404.0	1402.2	1399.4	1395.4	1391.5	1387.7	1383.7	1384.7
25°	1361.5	1359.7	1357.9	1356.1	1354.4	1351.4	1347.6	1343.7	1339.7	1335.8	1336.1
27.5°	1310.4	1308.6	1306.9	1305.1	1303.4	1300.5	1296.2	1292.0	1287.8	1283.6	1283.8
30°	1273.6	1272.0	1270.6	1269.0	1267.6	1264.7	1260.5	1256.3	1252.1	1247.8	1247.8
32.5°	1236.7	1234.8	1232.8	1230.8	1228.8	1226.2	1223.0	1219.7	1216.4	1213.2	1211.5
35°	1177.5	1175.7	1173.9	1172.1	1170.3	1167.4	1163.5	1159.6	1155.6	1151.8	1150.0
37.5°	1116.8	1114.6	1112.2	1110.0	1107.7	1104.6	1100.6	1096.7	1092.7	1088.6	1086.5
40°	1074.6	1072.8	1071.0	1069.2	1067.4	1064.4	1060.1	1055.9	1051.7	1047.6	1045.2
42.5°	1032.3	1030.4	1028.3	1026.2	1024.2	1021.1	1016.8	1012.6	1008.4	1004.3	1001.9
45°	965.0	963.8	962.6	961.4	960.2	957.6	953.7	949.8	945.9	941.9	938.4
47.5°	898.1	896.4	894.7	892.9	891.1	888.5	884.8	881.1	877.4	873.7	870.2
50°	852.6	851.2	849.6	848.2	846.6	844.0	840.0	836.1	832.2	828.3	825.0
52.5°	805.0	804.0	803.0	801.9	800.9	798.3	794.2	790.1	785.9	781.7	778.9
55°	732.2	731.9	731.6	731.3	731.0	728.9	725.0	721.1	717.1	713.3	710.0
57.5°	662.9	661.9	660.8	659.9	658.8	656.8	653.6	650.5	647.4	644.2	641.3
60°	613.1	612.8	612.5	612.2	611.9	609.9	606.3	602.7	599.1	595.5	592.8
62.5°	568.7	567.9	567.1	566.4	565.6	563.4	559.7	556.1	552.6	549.0	546.2
65°	499.4	497.9	496.4	494.9	493.4	491.1	488.1	485.1	482.1	479.1	476.7
67.5°	426.0	424.7	423.4	422.1	420.8	419.0	416.6	414.4	412.1	409.8	407.7
70°	381.7	379.9	378.1	376.3	374.4	372.6	370.8	369.0	367.2	365.4	363.3
72.5°	335.1	333.8	332.4	331.1	329.8	328.1	326.1	324.0	322.0	319.9	318.1
75°	263.9	262.7	261.5	260.3	259.1	258.0	257.2	256.2	255.4	254.4	253.0
77.5°	200.9	200.2	199.5	198.9	198.2	197.3	196.2	195.2	194.1	193.0	192.0
80°	159.7	158.8	157.9	157.0	156.1	155.3	154.7	154.1	153.5	152.9	152.7
82.5°	119.7	119.4	119.2	119.1	118.9	118.7	118.6	118.6	118.4	118.3	117.8
85°	70.3	69.7	69.1	68.5	67.9	67.7	67.7	67.7	67.7	67.7	67.1
87.5°	28.2	27.6	27.0	26.4	25.8	25.6	25.5	25.4	25.3	25.3	25.1
90°	0.3	0.9	1.6	2.3	3.0	3.8	4.6	5.5	6.5	7.3	7.6
92.5°	7.4	7.8	8.3	8.8	9.2	9.6	10.2	10.7	11.2	11.7	11.9
95°	18.0	18.4	18.9	19.4	19.8	20.3	20.9	21.4	22.0	22.6	22.8
97.5°	31.9	32.2	32.6	33.0	33.3	33.7	34.1	34.4	34.9	35.2	35.6
100°	41.4	41.8	42.2	42.6	43.0	43.4	43.7	44.1	44.4	44.7	44.9
102.5°	52.3	52.6	52.8	53.0	53.3	53.6	54.1	54.6	55.0	55.4	55.6
105°	68.4	68.6	68.7	68.9	69.0	69.4	70.0	70.6	71.2	71.8	71.8
107.5°	87.2	87.3	87.4	87.5	87.6	87.6	87.9	88.2	88.4	88.7	88.9
110°	98.9	99.0	99.2	99.3	99.4	99.5	99.7	99.9	100.0	100.1	100.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.1	111.2	111.2	111.3	111.4	111.4	111.5	111.5	111.5	111.6	111.8
115°	129.3	129.5	129.8	129.9	130.1	130.2	130.0	129.9	129.8	129.6	129.7
117.5°	147.7	147.8	148.0	148.1	148.3	148.2	148.0	147.8	147.7	147.5	147.5
120°	159.1	159.5	160.0	160.3	160.7	160.7	160.5	160.1	159.8	159.5	159.4
122.5°	171.1	171.3	171.7	171.9	172.3	172.3	172.1	171.9	171.8	171.6	171.4
125°	189.2	189.4	189.7	189.9	190.1	190.1	189.9	189.9	189.7	189.6	189.2
127.5°	206.0	206.5	206.9	207.3	207.8	207.9	207.8	207.6	207.5	207.3	207.0
130°	217.2	217.7	218.3	218.9	219.4	219.6	219.4	219.2	219.0	218.8	218.5
132.5°	228.4	229.0	229.5	230.1	230.6	230.8	230.7	230.5	230.3	230.2	229.9
135°	245.6	246.0	246.3	246.8	247.2	247.4	247.3	247.2	247.1	247.1	246.8
137.5°	261.4	261.7	262.0	262.3	262.7	262.9	263.1	263.3	263.5	263.6	263.4
140°	272.3	272.7	273.0	273.4	273.7	273.9	274.0	274.0	274.1	274.1	274.1
142.5°	282.3	282.7	283.0	283.4	283.6	283.9	284.0	284.1	284.2	284.4	284.3
145°	297.9	298.0	298.2	298.3	298.4	298.6	298.8	299.0	299.2	299.4	299.4
147.5°	311.5	311.8	312.0	312.3	312.5	312.7	312.9	313.1	313.2	313.5	313.5
150°	321.0	321.2	321.2	321.4	321.6	321.7	321.8	321.9	322.1	322.2	322.2
152.5°	328.8	329.0	329.2	329.3	329.6	329.7	329.8	329.8	329.9	330.0	330.1
155°	341.1	341.1	341.1	341.1	341.1	341.1	341.2	341.2	341.3	341.4	341.6
157.5°	351.5	351.5	351.4	351.3	351.2	351.2	351.3	351.3	351.4	351.5	351.7
160°	358.1	358.0	357.8	357.7	357.6	357.5	357.5	357.5	357.5	357.5	357.8
162.5°	363.9	363.8	363.6	363.4	363.2	363.2	363.2	363.3	363.3	363.3	363.7
165°	371.5	371.3	371.1	370.9	370.7	370.6	370.6	370.6	370.6	370.6	371.0
167.5°	377.5	377.3	377.0	376.7	376.4	376.3	376.4	376.4	376.5	376.6	376.9
170°	380.9	380.6	380.4	380.1	379.9	379.7	379.7	379.7	379.7	379.7	380.2
172.5°	383.7	383.3	383.1	382.8	382.5	382.4	382.4	382.4	382.4	382.4	382.8
175°	386.4	386.2	385.9	385.6	385.4	385.2	385.2	385.2	385.2	385.2	385.6
177.5°	387.5	387.4	387.1	386.9	386.7	386.6	386.6	386.6	386.6	386.6	386.9
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1568.0	1570.4	1572.8	1573.9	1573.6	1573.4	1573.1	1573.0
5°	1559.7	1562.7	1565.7	1566.9	1566.3	1565.7	1565.1	1564.5
7.5°	1543.2	1545.8	1548.6	1549.7	1549.4	1549.0	1548.7	1548.3
10°	1528.0	1530.7	1533.4	1534.5	1533.9	1533.3	1532.7	1532.1
12.5°	1511.4	1513.4	1515.4	1516.2	1515.8	1515.4	1515.1	1514.8
15°	1481.4	1483.8	1486.2	1486.5	1484.7	1482.9	1481.1	1479.3
17.5°	1443.4	1445.1	1446.7	1447.3	1446.7	1446.0	1445.3	1444.7
20°	1415.4	1416.6	1417.8	1417.9	1417.0	1416.1	1415.2	1414.3
22.5°	1385.7	1386.6	1387.6	1387.5	1386.4	1385.2	1384.1	1382.9
25°	1336.4	1336.7	1337.0	1336.7	1335.8	1334.9	1334.0	1333.1
27.5°	1284.1	1284.3	1284.5	1284.1	1283.0	1281.8	1280.7	1279.5
30°	1247.8	1247.8	1247.8	1246.8	1244.7	1242.6	1240.4	1238.4
32.5°	1209.8	1208.2	1206.4	1205.1	1203.9	1202.7	1201.6	1200.5
35°	1148.1	1146.3	1144.5	1142.9	1141.3	1139.9	1138.3	1136.9
37.5°	1084.3	1082.2	1080.0	1078.5	1077.5	1076.5	1075.6	1074.6
40°	1042.8	1040.3	1037.9	1036.1	1034.9	1033.7	1032.5	1031.3
42.5°	999.4	997.0	994.6	992.8	991.6	990.4	989.2	988.0
45°	934.8	931.2	927.6	925.0	923.5	922.0	920.5	918.9
47.5°	866.7	863.2	859.5	857.1	855.8	854.5	853.2	851.9
50°	821.7	818.4	815.0	812.5	810.7	808.9	807.1	805.3
52.5°	776.1	773.3	770.4	768.1	766.3	764.5	762.7	760.9
55°	706.6	703.4	700.0	697.6	696.1	694.6	693.1	691.6
57.5°	638.3	635.4	632.4	630.1	628.4	626.6	624.8	623.1
60°	590.1	587.4	584.7	582.6	581.1	579.5	578.1	576.5
62.5°	543.5	540.8	538.1	536.2	535.2	534.2	533.2	532.2
65°	474.3	471.9	469.5	467.9	466.9	466.1	465.1	464.3
67.5°	405.6	403.5	401.4	399.7	398.5	397.2	395.9	394.7
70°	361.2	359.1	357.0	355.2	353.7	352.1	350.7	349.2
72.5°	316.2	314.4	312.5	311.2	310.4	309.6	308.8	308.1
75°	251.4	249.9	248.4	247.2	246.3	245.4	244.5	243.6
77.5°	191.0	189.9	188.9	188.4	188.4	188.4	188.4	188.4
80°	152.3	152.1	151.7	151.6	151.6	151.6	151.6	151.6
82.5°	117.2	116.7	116.1	115.7	115.5	115.3	115.0	114.8
85°	66.5	65.9	65.3	65.0	65.0	65.0	65.0	65.0
87.5°	24.9	24.7	24.5	24.5	24.5	24.5	24.5	24.5
90°	7.8	8.1	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	12.1	12.3	12.6	12.7	12.6	12.5	12.4	12.3
95°	23.1	23.3	23.6	23.8	23.8	23.8	23.8	23.8
97.5°	35.8	36.2	36.5	36.6	36.6	36.6	36.5	36.5
100°	45.1	45.4	45.5	45.7	45.8	46.0	46.1	46.2
102.5°	55.9	56.1	56.2	56.3	56.3	56.3	56.2	56.2
105°	71.8	71.8	71.8	71.9	72.0	72.2	72.3	72.4
107.5°	89.1	89.3	89.5	89.6	89.5	89.5	89.4	89.3
110°	100.7	100.9	101.2	101.3	101.1	101.0	100.8	100.7





TEST NUMBER: P332052-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	112.2	112.5	112.9	113.0	113.0	113.0	112.9	112.9
115°	129.8	129.8	129.9	129.9	129.8	129.8	129.7	129.6
117.5°	147.5	147.5	147.5	147.3	147.1	147.0	146.8	146.6
120°	159.3	159.2	159.2	159.0	158.9	158.8	158.7	158.5
122.5°	171.3	171.1	170.9	170.7	170.6	170.3	170.1	170.0
125°	189.0	188.7	188.5	188.2	188.0	187.7	187.4	187.1
127.5°	206.6	206.2	205.8	205.4	205.2	204.8	204.6	204.2
130°	218.3	217.9	217.7	217.3	216.9	216.4	215.9	215.4
132.5°	229.5	229.2	228.9	228.6	228.2	227.8	227.5	227.1
135°	246.5	246.2	246.0	245.8	245.6	245.5	245.4	245.2
137.5°	263.1	262.9	262.5	262.3	262.0	261.7	261.5	261.2
140°	274.0	274.0	273.9	273.6	273.1	272.7	272.2	271.7
142.5°	284.2	284.1	284.1	283.9	283.5	283.2	282.8	282.4
145°	299.3	299.2	299.1	298.9	298.7	298.4	298.2	297.9
147.5°	313.5	313.5	313.5	313.2	312.9	312.5	312.0	311.6
150°	322.2	322.2	322.2	322.0	321.6	321.2	320.8	320.4
152.5°	330.2	330.4	330.5	330.3	329.9	329.6	329.2	328.9
155°	341.9	342.2	342.5	342.3	341.9	341.4	341.0	340.4
157.5°	352.0	352.3	352.6	352.5	352.1	351.8	351.4	351.0
160°	358.2	358.5	358.9	358.9	358.6	358.3	358.1	357.8
162.5°	364.0	364.4	364.7	364.6	364.2	363.8	363.3	362.9
165°	371.4	371.8	372.2	372.2	371.7	371.3	370.7	370.3
167.5°	377.4	377.8	378.2	378.2	377.8	377.4	376.9	376.6
170°	380.6	381.2	381.6	381.6	381.2	380.6	380.2	379.7
172.5°	383.2	383.7	384.1	384.1	383.6	383.1	382.6	382.2
175°	386.0	386.4	386.8	386.8	386.3	385.8	385.4	384.9
177.5°	387.3	387.5	387.9	387.9	387.5	387.1	386.8	386.3
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4

(END OF REPORT)