

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: P332771-935

Luminaire Tested: **S124DIW-S575D1560U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332771-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S575D1560U935-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1560 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7414.5 lumens  
Efficiency: N/A  
Efficacy: 122.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

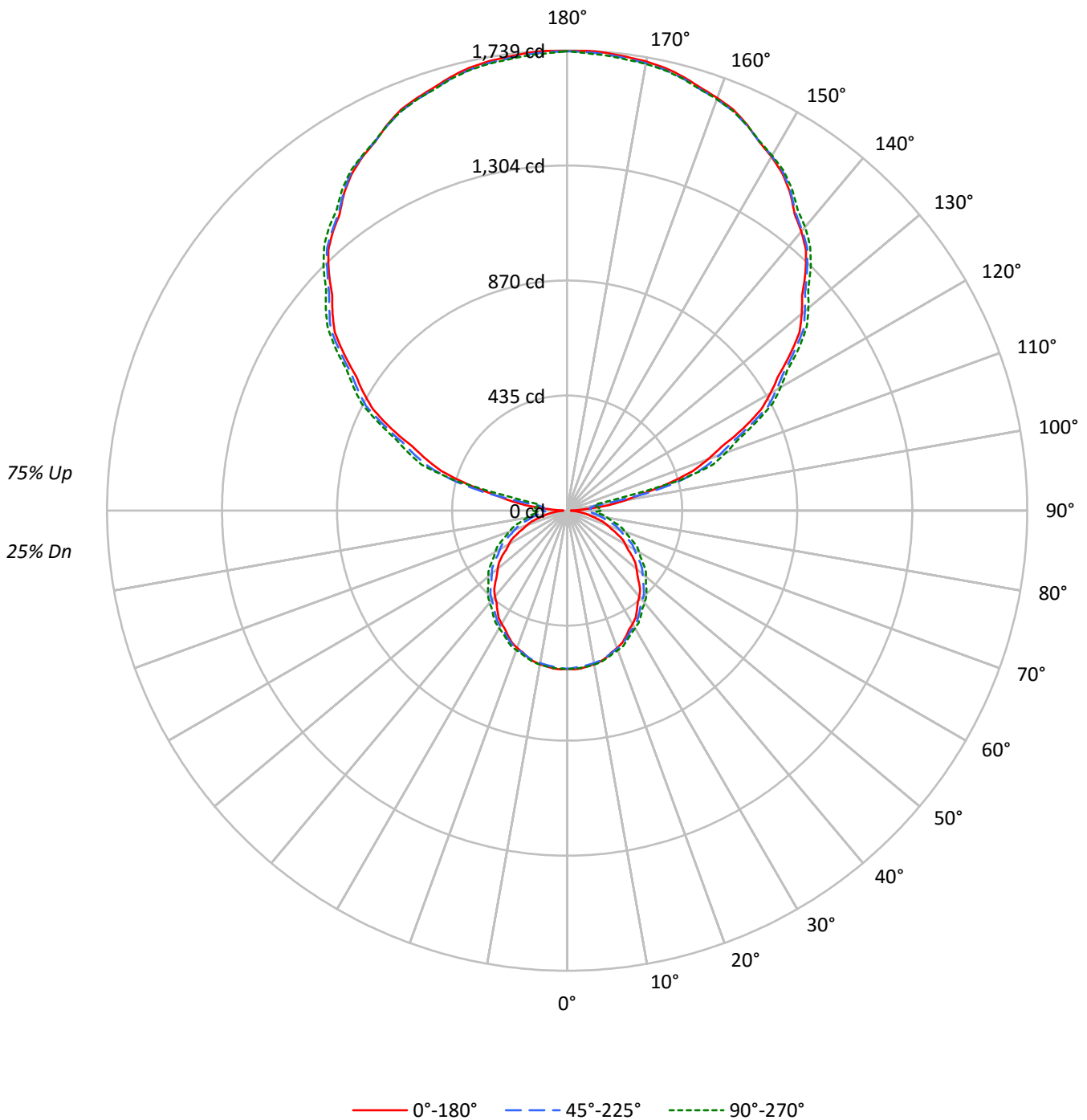
Input Watts (W): 60.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332771-935

CATALOG NUMBER: S124DIW-S575D1560U935-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332771-935

CATALOG NUMBER: S124DIW-S575D1560U935-4F0-1E-UDD-D

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34
1	92	87	83	80	82	78	75	72	60	58	56	44	42	41	29	28	27
2	83	76	70	65	74	68	63	58	52	49	46	38	36	34	25	24	23
3	76	66	59	54	67	59	53	48	46	42	38	34	31	28	22	20	19
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16
5	63	52	44	38	56	46	40	35	36	31	28	26	23	21	17	15	14
6	58	46	38	33	51	42	35	30	32	27	24	24	20	18	16	14	12
7	54	42	34	28	47	37	31	26	29	24	21	22	18	16	14	12	11
8	50	38	30	25	44	34	27	23	26	22	18	20	16	14	13	11	9
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	12	10	8
10	43	31	24	20	38	28	22	18	22	18	14	16	13	11	11	9	8

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

	0°	45°	90°
0°	4830	4830	4830
5°	4845	4721	4734
10°	4816	4644	4639
15°	4772	4554	4529
20°	4707	4455	4422
25°	4634	4345	4302
30°	4555	4235	4181
35°	4464	4122	4074
40°	4393	4015	3964
45°	4286	3916	3867
50°	4195	3803	3767
55°	4102	3695	3648
60°	3957	3557	3541
65°	3798	3411	3409
70°	3603	3243	3253
75°	3334	3060	3114
80°	3035	2882	2977
85°	2656	2725	2896



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.7	0.8
10°-20°	162.3	2.2
20°-30°	245.5	3.3
30°-40°	297.0	4.0
40°-50°	314.0	4.2
50°-60°	295.5	4.0
60°-70°	245.2	3.3
70°-80°	172.2	2.3
80°-90°	102.4	1.4
90°-100°	117.2	1.6
100°-110°	421.4	5.7
110°-120°	752.9	10.2
120°-130°	935.5	12.6
130°-140°	990.6	13.4
140°-150°	921.2	12.4
150°-160°	741.8	10.0
160°-170°	478.4	6.5
170°-180°	164.9	2.2
0°-30°	464.5	6.3
0°-40°	761.4	10.3
0°-60°	1370.9	18.5
0°-90°	1890.6	25.5
90°-120°	1291.5	17.4
90°-150°	4138.8	55.8
90°-180°	5524.0	74.5
0°-180°	7414.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	598	598	598	598	598	
5°	599	597	592	597	597	57
15°	574	575	573	578	578	162
25°	525	529	531	538	539	242
35°	460	468	474	483	486	288
45°	383	396	409	420	423	296
55°	300	314	334	347	352	267
65°	208	229	252	268	274	206
75°	115	140	168	186	193	123
85°	36	64	94	113	121	38
90°	15	56	95	121	130	10
95°	80	61	87	112	120	99
105°	397	419	449	474	436	416
115°	734	744	764	780	786	722
125°	1028	1033	1047	1063	1069	918
135°	1274	1273	1282	1295	1302	981
145°	1468	1471	1471	1476	1482	917
155°	1609	1610	1606	1611	1608	741
165°	1697	1691	1691	1700	1689	479
175°	1736	1729	1730	1740	1726	165
180°	1736	1736	1736	1736	1736	



TEST NUMBER: P332771-935

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	600.5	600.1	599.8	599.3	599.0	598.4	597.4	596.5	595.5	594.5	595.4
5°	599.0	598.6	598.1	597.6	597.2	596.4	595.4	594.3	593.3	592.3	593.5
7.5°	593.9	593.6	593.3	593.1	592.8	592.3	591.4	590.6	589.6	588.8	590.1
10°	589.6	589.4	589.3	589.2	589.0	588.6	587.8	587.0	586.3	585.6	586.9
12.5°	583.7	583.7	583.7	583.6	583.6	583.3	582.8	582.3	581.8	581.3	582.5
15°	574.2	574.4	574.5	574.6	574.8	574.6	574.2	573.8	573.3	572.8	574.2
17.5°	561.2	561.6	562.1	562.5	563.0	563.2	563.1	563.0	562.9	562.8	564.1
20°	552.1	552.5	552.9	553.5	553.9	554.1	554.3	554.5	554.6	554.7	556.2
22.5°	541.9	542.4	543.0	543.5	544.2	544.6	544.8	545.1	545.4	545.6	547.2
25°	525.3	526.2	527.1	528.0	528.8	529.5	529.9	530.4	530.9	531.3	533.0
27.5°	506.8	508.1	509.4	510.7	512.0	513.0	513.7	514.4	515.1	515.7	517.3
30°	494.5	495.7	496.8	498.0	499.2	500.3	501.4	502.4	503.4	504.5	506.2
32.5°	481.0	482.5	483.9	485.3	486.8	488.1	489.2	490.4	491.5	492.8	494.6
35°	459.6	461.4	463.2	464.9	466.7	468.4	469.8	471.4	472.9	474.3	476.5
37.5°	438.1	440.1	442.1	444.2	446.3	448.2	450.0	451.9	453.7	455.6	457.7
40°	424.1	426.0	428.0	429.9	431.9	433.9	435.9	438.0	440.1	442.2	444.4
42.5°	408.0	410.2	412.3	414.6	416.7	419.0	421.5	423.9	426.4	428.8	431.3
45°	383.2	386.1	388.9	391.8	394.5	397.4	400.2	403.0	405.9	408.7	411.2
47.5°	359.6	362.4	365.3	368.2	371.2	374.3	377.5	380.8	384.1	387.4	390.0
50°	342.3	345.6	348.9	352.2	355.5	358.8	362.1	365.3	368.6	371.9	374.8
52.5°	325.2	328.5	331.7	335.0	338.3	341.8	345.6	349.3	353.1	356.8	359.8
55°	300.1	303.2	306.4	309.5	312.6	316.4	320.9	325.4	329.8	334.3	337.3
57.5°	272.2	276.0	279.9	283.8	287.7	291.8	296.2	300.7	305.1	309.5	313.1
60°	253.9	257.8	261.7	265.5	269.4	273.8	278.7	283.6	288.5	293.4	296.9
62.5°	236.3	240.5	244.7	248.9	253.1	257.7	262.6	267.5	272.5	277.4	280.8
65°	207.7	212.5	217.2	222.0	226.8	231.7	236.7	241.8	246.8	251.9	255.6
67.5°	180.2	185.3	190.4	195.4	200.4	205.7	211.1	216.5	222.0	227.4	231.2
70°	161.4	166.5	171.6	176.7	181.8	187.1	192.7	198.4	204.1	209.7	213.7
72.5°	143.3	148.4	153.6	158.8	163.9	169.5	175.6	181.6	187.6	193.6	197.5
75°	115.2	120.7	126.2	131.7	137.2	143.2	149.4	155.7	162.0	168.2	172.4
77.5°	89.1	95.0	100.8	106.6	112.4	118.6	125.2	131.7	138.3	144.8	149.0
80°	73.0	79.0	85.0	90.9	96.9	103.1	109.7	116.2	122.8	129.3	133.8
82.5°	56.9	63.1	69.3	75.5	81.7	88.1	94.6	101.2	107.7	114.3	118.9
85°	35.5	41.8	48.0	54.2	60.5	67.0	73.7	80.4	87.1	93.8	98.2
87.5°	20.6	27.3	34.0	40.7	47.4	54.3	61.3	68.3	75.3	82.2	86.9
90°	14.6	23.8	32.9	42.0	51.1	60.0	68.8	77.5	86.2	94.9	100.9
92.5°	26.5	32.1	37.6	43.1	48.6	55.8	64.5	73.2	82.0	90.7	96.6
95°	80.2	75.3	70.3	65.4	60.5	61.3	67.7	74.0	80.5	86.9	92.6
97.5°	159.5	169.9	180.3	190.6	201.0	193.0	166.9	140.7	114.6	88.4	92.5
100°	220.3	229.4	238.4	247.5	256.6	244.1	210.1	176.1	142.1	108.1	107.2
102.5°	288.9	296.1	303.2	310.5	317.7	321.5	322.0	322.5	323.0	323.5	274.5
105°	396.8	401.6	406.3	411.0	415.7	421.5	428.4	435.4	442.4	449.4	455.6
107.5°	498.3	501.5	504.9	508.2	511.5	516.7	523.9	531.1	538.2	545.4	550.4
110°	566.3	569.2	572.2	575.1	578.1	583.0	590.0	596.9	603.8	610.8	614.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	632.2	635.6	639.0	642.4	645.8	650.4	656.3	662.0	667.8	673.6	676.7
115°	733.7	735.9	738.1	740.4	742.5	745.9	750.4	754.8	759.3	763.8	767.7
117.5°	825.8	827.8	829.7	831.6	833.6	837.2	842.2	847.3	852.4	857.4	860.4
120°	887.6	889.2	890.8	892.3	894.0	896.8	900.9	904.8	908.9	912.9	916.4
122.5°	945.7	946.5	947.3	948.1	948.9	951.5	956.0	960.4	964.9	969.4	972.8
125°	1028.5	1029.4	1030.4	1031.5	1032.4	1034.5	1037.7	1040.9	1044.0	1047.1	1050.8
127.5°	1107.2	1107.4	1107.5	1107.7	1107.8	1110.0	1114.1	1118.4	1122.5	1126.7	1129.2
130°	1157.6	1157.8	1157.9	1158.0	1158.1	1159.9	1163.1	1166.3	1169.6	1172.9	1175.8
132.5°	1204.4	1204.7	1205.1	1205.5	1205.8	1207.6	1210.5	1213.5	1216.5	1219.5	1222.4
135°	1273.8	1273.5	1273.2	1272.9	1272.6	1273.6	1275.8	1278.0	1280.2	1282.4	1285.3
137.5°	1335.8	1335.8	1335.8	1335.8	1335.8	1336.6	1338.3	1340.1	1342.0	1343.7	1346.5
140°	1376.4	1376.8	1377.3	1377.7	1378.1	1378.6	1379.4	1380.1	1380.9	1381.6	1384.4
142.5°	1412.2	1413.2	1414.2	1415.2	1416.3	1416.9	1417.1	1417.4	1417.6	1417.9	1420.2
145°	1467.9	1468.6	1469.3	1470.1	1470.8	1471.1	1471.1	1471.1	1471.1	1471.1	1472.3
147.5°	1512.3	1513.7	1515.2	1516.7	1518.2	1518.7	1518.5	1518.2	1517.9	1517.6	1517.9
150°	1544.5	1545.5	1546.5	1547.5	1548.5	1548.9	1548.6	1548.3	1548.0	1547.7	1547.7
152.5°	1571.0	1571.8	1572.8	1573.6	1574.5	1574.8	1574.2	1573.6	1573.1	1572.6	1573.1
155°	1608.8	1609.0	1609.3	1609.6	1609.9	1609.6	1608.8	1607.9	1607.1	1606.1	1607.3
157.5°	1640.7	1640.5	1640.4	1640.2	1640.0	1639.4	1638.4	1637.4	1636.5	1635.5	1637.0
160°	1659.4	1658.5	1657.7	1656.8	1656.0	1655.4	1655.0	1654.8	1654.5	1654.2	1656.0
162.5°	1676.0	1674.9	1673.8	1672.8	1671.6	1670.9	1670.6	1670.3	1670.1	1669.7	1671.5
165°	1697.0	1695.6	1694.2	1692.7	1691.3	1690.6	1690.6	1690.6	1690.6	1690.6	1692.8
167.5°	1713.6	1712.2	1710.6	1709.2	1707.6	1706.8	1706.7	1706.5	1706.3	1706.2	1708.7
170°	1723.0	1721.3	1719.5	1717.8	1716.1	1715.4	1715.6	1716.0	1716.2	1716.5	1718.8
172.5°	1729.2	1727.5	1725.8	1724.1	1722.3	1721.6	1721.9	1722.2	1722.4	1722.8	1725.0
175°	1735.9	1734.2	1732.5	1730.8	1729.1	1728.4	1728.6	1728.9	1729.2	1729.5	1732.1
177.5°	1739.1	1737.5	1735.9	1734.2	1732.7	1732.1	1732.5	1733.0	1733.5	1733.9	1735.8
180°	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	596.2	597.0	597.9	598.2	598.1	598.0	597.9	597.8
5°	594.7	595.8	597.0	597.5	597.4	597.3	597.1	596.9
7.5°	591.5	592.8	594.2	594.8	594.6	594.4	594.3	594.2
10°	588.2	589.6	590.9	591.5	591.4	591.2	591.1	590.9
12.5°	583.8	585.0	586.2	586.8	586.8	586.7	586.7	586.7
15°	575.5	576.9	578.2	578.8	578.7	578.5	578.3	578.2
17.5°	565.5	566.9	568.3	568.9	568.8	568.7	568.5	568.4
20°	557.8	559.2	560.7	561.5	561.5	561.5	561.5	561.5
22.5°	548.6	550.1	551.6	552.5	552.7	552.9	553.2	553.5
25°	534.6	536.2	537.9	538.7	538.9	539.1	539.2	539.3
27.5°	518.8	520.3	521.9	522.7	522.9	523.1	523.2	523.4
30°	507.8	509.5	511.1	512.0	512.3	512.6	512.9	513.2
32.5°	496.5	498.3	500.2	501.3	501.6	501.9	502.2	502.5
35°	478.5	480.6	482.7	484.0	484.4	484.8	485.3	485.8
37.5°	459.9	461.9	464.1	465.4	465.8	466.3	466.7	467.3
40°	446.7	448.9	451.2	452.5	453.1	453.7	454.3	455.0
42.5°	433.8	436.2	438.7	440.1	440.7	441.1	441.6	442.0
45°	413.8	416.3	418.8	420.4	421.2	422.0	422.7	423.4
47.5°	392.6	395.3	397.9	399.6	400.5	401.4	402.3	403.2
50°	377.8	380.8	383.7	385.7	386.6	387.4	388.4	389.3
52.5°	362.8	365.8	368.8	370.7	371.6	372.5	373.3	374.3
55°	340.3	343.3	346.2	348.2	349.0	350.0	350.9	351.7
57.5°	316.6	320.2	323.7	325.9	326.7	327.5	328.4	329.2
60°	300.3	303.8	307.1	309.4	310.6	311.9	313.1	314.3
62.5°	284.2	287.7	291.1	293.3	294.5	295.8	297.0	298.2
65°	259.3	263.1	266.8	269.2	270.4	271.6	272.9	274.1
67.5°	235.0	238.8	242.5	245.0	246.2	247.3	248.5	249.6
70°	217.7	221.8	225.8	228.3	229.4	230.4	231.4	232.5
72.5°	201.4	205.3	209.2	211.7	212.9	214.0	215.2	216.4
75°	176.5	180.6	184.9	187.6	188.9	190.3	191.7	193.0
77.5°	153.3	157.6	161.8	164.6	166.0	167.5	168.8	170.3
80°	138.3	142.7	147.1	150.0	151.2	152.4	153.6	154.8
82.5°	123.5	128.0	132.7	135.6	136.9	138.2	139.5	140.9
85°	102.7	107.2	111.7	114.7	116.1	117.6	119.1	120.6
87.5°	91.5	96.3	100.9	103.9	105.4	106.8	108.2	109.6
90°	107.0	113.0	119.1	123.0	124.8	126.6	128.3	130.1
92.5°	102.5	108.4	114.3	118.0	119.2	120.6	121.9	123.2
95°	98.3	104.1	109.9	113.6	115.2	116.8	118.5	120.0
97.5°	96.6	100.7	104.7	107.5	109.1	110.6	112.3	113.8
100°	106.2	105.4	104.5	104.7	106.1	107.4	108.7	110.0
102.5°	225.5	176.4	127.4	103.6	104.8	106.0	107.2	108.4
105°	461.9	468.3	474.6	473.2	464.0	454.8	445.6	436.4
107.5°	555.3	560.3	565.2	568.7	570.8	573.0	575.2	577.4
110°	618.8	622.8	626.8	629.8	631.9	634.0	636.0	638.1





TEST NUMBER: P332771-935

CATALOG NUMBER: S124DIW-S575D1560U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	679.9	683.1	686.3	689.1	691.4	693.6	695.9	698.2
115°	771.5	775.3	779.2	781.6	782.7	783.8	784.8	785.8
117.5°	863.4	866.3	869.4	871.4	872.5	873.5	874.6	875.6
120°	920.0	923.6	927.1	929.2	929.8	930.5	931.1	931.7
122.5°	976.1	979.4	982.7	984.6	985.2	985.7	986.1	986.6
125°	1054.5	1058.2	1061.9	1064.4	1065.5	1066.7	1067.9	1069.0
127.5°	1131.7	1134.2	1136.8	1138.4	1139.2	1140.0	1140.7	1141.5
130°	1178.8	1181.7	1184.7	1186.6	1187.6	1188.4	1189.3	1190.2
132.5°	1225.2	1228.0	1230.9	1232.7	1233.4	1234.0	1234.7	1235.4
135°	1288.3	1291.2	1294.3	1296.4	1297.9	1299.3	1300.9	1302.3
137.5°	1349.3	1352.1	1355.0	1356.6	1357.2	1357.8	1358.3	1358.9
140°	1387.2	1390.0	1392.8	1394.6	1395.7	1396.7	1397.7	1398.8
142.5°	1422.5	1424.9	1427.2	1428.7	1429.4	1430.1	1430.8	1431.4
145°	1473.5	1474.6	1475.8	1477.0	1478.2	1479.4	1480.6	1481.7
147.5°	1518.3	1518.6	1519.0	1519.6	1520.4	1521.0	1521.8	1522.6
150°	1547.7	1547.7	1547.7	1547.9	1548.2	1548.4	1548.8	1549.0
152.5°	1573.6	1574.0	1574.5	1574.6	1574.4	1574.3	1574.1	1573.9
155°	1608.4	1609.6	1610.8	1610.9	1610.1	1609.2	1608.3	1607.5
157.5°	1638.5	1640.0	1641.5	1641.5	1640.0	1638.5	1637.0	1635.5
160°	1657.7	1659.4	1661.1	1661.1	1659.4	1657.7	1656.0	1654.2
162.5°	1673.3	1675.0	1676.7	1676.5	1674.6	1672.7	1670.7	1668.7
165°	1695.1	1697.5	1699.8	1699.6	1697.0	1694.4	1691.9	1689.3
167.5°	1711.2	1713.7	1716.3	1716.1	1713.2	1710.4	1707.4	1704.6
170°	1721.1	1723.5	1725.8	1725.4	1722.6	1719.7	1716.8	1713.9
172.5°	1727.3	1729.7	1732.0	1731.6	1728.5	1725.4	1722.3	1719.1
175°	1734.7	1737.3	1739.9	1739.5	1735.9	1732.5	1729.1	1725.6
177.5°	1737.6	1739.5	1741.3	1740.9	1738.1	1735.3	1732.5	1729.7
180°	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9	1735.9

(END OF REPORT)