

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: P332771-940

Luminaire Tested: **S124DIW-S575D1560U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332771-940  
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-S575D1560U940-4F0-1E-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: 7679.0 lumens  
Efficiency: N/A  
Efficacy: 126.7 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

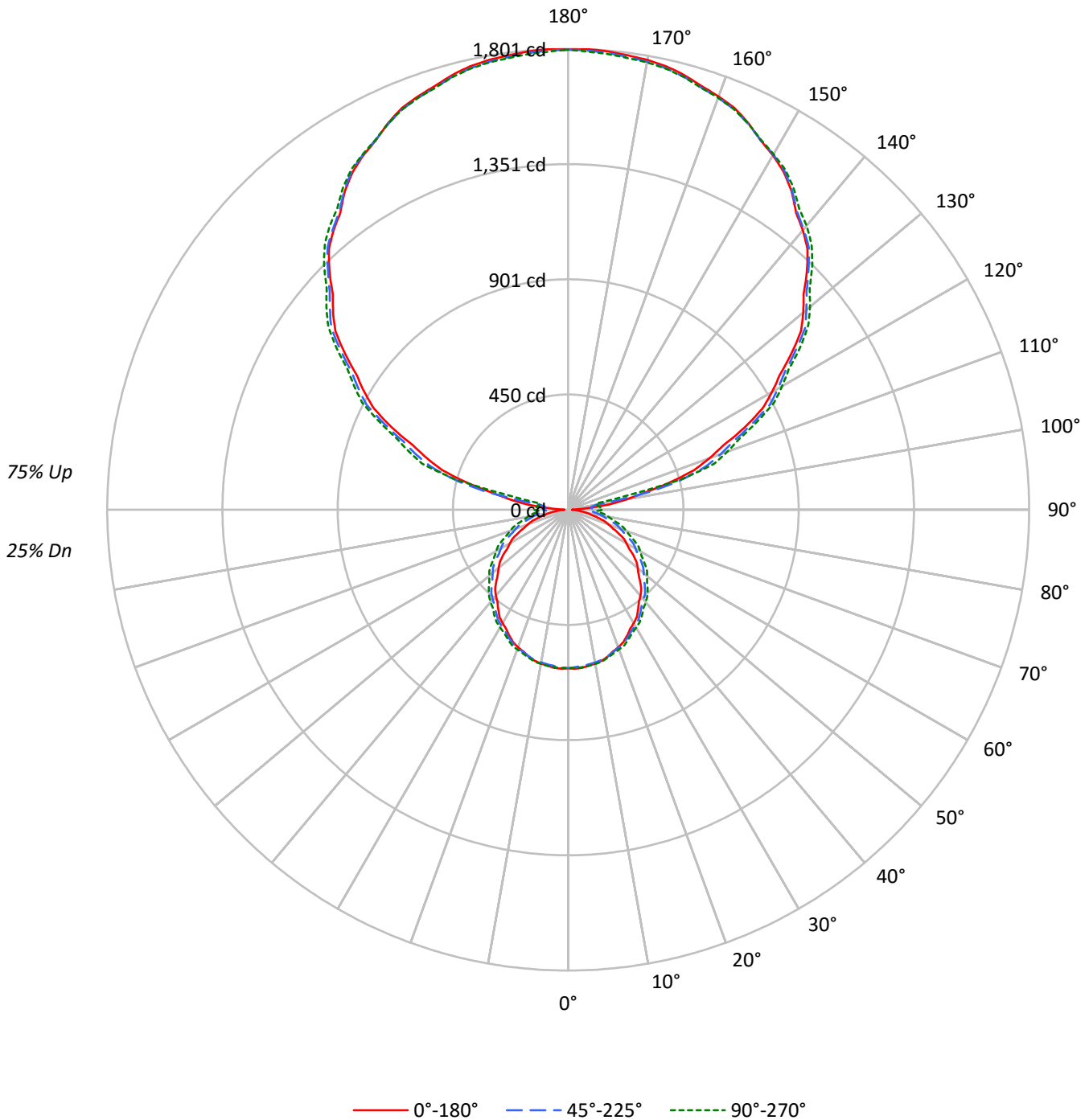
Input Watts (W): 60.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	5002	5002	5002
5°	5018	4889	4903
10°	4987	4809	4805
15°	4943	4717	4690
20°	4875	4614	4579
25°	4799	4500	4456
30°	4717	4386	4330
35°	4624	4269	4220
40°	4550	4158	4105
45°	4439	4056	4005
50°	4344	3938	3901
55°	4249	3827	3778
60°	4098	3685	3667
65°	3933	3533	3529
70°	3733	3359	3369
75°	3453	3169	3224
80°	3143	2984	3082
85°	2746	2820	2999



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.7	0.8
10°-20°	168.1	2.2
20°-30°	254.2	3.3
30°-40°	307.6	4.0
40°-50°	325.2	4.2
50°-60°	306.0	4.0
60°-70°	253.9	3.3
70°-80°	178.3	2.3
80°-90°	106.0	1.4
90°-100°	121.4	1.6
100°-110°	436.4	5.7
110°-120°	779.8	10.2
120°-130°	968.9	12.6
130°-140°	1025.9	13.4
140°-150°	954.1	12.4
150°-160°	768.2	10.0
160°-170°	495.5	6.5
170°-180°	170.8	2.2
0°-30°	481.0	6.3
0°-40°	788.6	10.3
0°-60°	1419.8	18.5
0°-90°	1958.0	25.5
90°-120°	1337.5	17.4
90°-150°	4286.5	55.8
90°-180°	5721.0	74.5
0°-180°	7679.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	620	620	620	620	620	
5°	620	618	613	619	618	59
15°	595	595	593	599	599	167
25°	544	548	550	558	559	250
35°	476	484	491	501	503	298
45°	397	410	423	435	438	307
55°	311	326	346	360	364	277
65°	215	237	261	278	284	213
75°	119	145	174	193	200	127
85°	37	66	97	117	125	39
90°	15	58	98	125	135	11
95°	83	63	90	116	124	102
105°	411	434	465	491	452	431
115°	760	771	791	808	814	748
125°	1065	1070	1084	1101	1107	951
135°	1319	1318	1328	1342	1349	1016
145°	1520	1523	1524	1529	1534	950
155°	1666	1667	1663	1668	1665	768
165°	1758	1751	1751	1760	1750	496
175°	1798	1790	1791	1802	1787	171
180°	1798	1798	1798	1798	1798	



TEST NUMBER: P332771-940

CATALOG NUMBER: S124DIW-S575D1560U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	621.9	621.5	621.2	620.7	620.4	619.7	618.8	617.8	616.7	615.7	616.6
5°	620.4	619.9	619.4	618.9	618.5	617.7	616.6	615.5	614.5	613.4	614.7
7.5°	615.1	614.7	614.5	614.2	613.9	613.4	612.5	611.6	610.6	609.8	611.2
10°	610.6	610.5	610.3	610.2	610.0	609.6	608.8	608.0	607.3	606.5	607.9
12.5°	604.5	604.5	604.5	604.4	604.4	604.1	603.6	603.1	602.5	602.0	603.2
15°	594.7	594.9	594.9	595.1	595.3	595.1	594.7	594.2	593.7	593.3	594.7
17.5°	581.2	581.7	582.1	582.6	583.1	583.3	583.2	583.1	583.0	582.9	584.2
20°	571.8	572.2	572.7	573.2	573.6	573.9	574.1	574.3	574.4	574.5	576.0
22.5°	561.2	561.8	562.4	562.9	563.6	564.0	564.3	564.5	564.8	565.1	566.7
25°	544.0	544.9	545.9	546.8	547.7	548.4	548.8	549.3	549.8	550.3	552.0
27.5°	524.9	526.2	527.5	529.0	530.3	531.3	532.0	532.7	533.4	534.1	535.7
30°	512.1	513.4	514.5	515.8	517.0	518.2	519.2	520.3	521.4	522.5	524.2
32.5°	498.2	499.7	501.1	502.7	504.2	505.5	506.7	507.9	509.1	510.3	512.2
35°	476.0	477.9	479.7	481.5	483.4	485.1	486.6	488.2	489.7	491.2	493.5
37.5°	453.7	455.8	457.9	460.0	462.2	464.2	466.1	468.1	469.9	471.8	474.0
40°	439.3	441.2	443.3	445.2	447.3	449.3	451.5	453.6	455.8	458.0	460.3
42.5°	422.6	424.8	427.0	429.4	431.6	434.0	436.5	439.0	441.6	444.1	446.7
45°	396.9	399.8	402.8	405.7	408.6	411.5	414.5	417.4	420.4	423.3	425.9
47.5°	372.4	375.3	378.4	381.4	384.4	387.6	391.0	394.4	397.8	401.2	403.9
50°	354.5	357.9	361.3	364.8	368.2	371.6	375.0	378.4	381.7	385.1	388.2
52.5°	336.8	340.2	343.6	347.0	350.4	354.0	357.9	361.8	365.7	369.5	372.6
55°	310.9	314.1	317.4	320.6	323.8	327.7	332.3	337.0	341.6	346.3	349.4
57.5°	281.9	285.9	289.9	293.9	297.9	302.2	306.7	311.4	316.0	320.6	324.2
60°	263.0	267.0	271.0	275.0	279.0	283.6	288.6	293.7	298.8	303.9	307.5
62.5°	244.7	249.1	253.4	257.8	262.2	266.9	272.0	277.1	282.2	287.3	290.8
65°	215.1	220.1	225.0	229.9	234.9	240.0	245.1	250.4	255.7	260.9	264.7
67.5°	186.6	191.9	197.2	202.4	207.6	213.0	218.6	224.3	229.9	235.5	239.4
70°	167.2	172.5	177.7	183.0	188.2	193.8	199.6	205.5	211.3	217.2	221.3
72.5°	148.4	153.7	159.1	164.4	169.8	175.6	181.8	188.1	194.3	200.5	204.6
75°	119.3	125.0	130.7	136.4	142.1	148.3	154.7	161.2	167.7	174.2	178.5
77.5°	92.3	98.4	104.4	110.4	116.5	122.9	129.7	136.4	143.2	150.0	154.4
80°	75.6	81.8	88.0	94.2	100.3	106.7	113.6	120.4	127.2	133.9	138.6
82.5°	58.9	65.4	71.8	78.2	84.6	91.2	98.0	104.8	111.6	118.4	123.1
85°	36.7	43.2	49.8	56.2	62.7	69.4	76.3	83.3	90.2	97.1	101.7
87.5°	21.3	28.3	35.2	42.2	49.1	56.3	63.5	70.7	77.9	85.2	90.0
90°	15.2	24.6	34.1	43.5	53.0	62.2	71.2	80.3	89.3	98.3	104.5
92.5°	27.5	33.3	39.0	44.7	50.4	57.8	66.8	75.8	84.9	93.9	100.0
95°	83.0	77.9	72.9	67.8	62.7	63.5	70.1	76.7	83.4	90.0	95.9
97.5°	165.2	175.9	186.7	197.4	208.1	199.9	172.8	145.7	118.7	91.6	95.8
100°	228.2	237.6	246.9	256.4	265.7	252.8	217.6	182.4	147.1	111.9	111.0
102.5°	299.2	306.7	314.1	321.6	329.0	333.0	333.5	334.0	334.6	335.0	284.3
105°	411.0	415.9	420.8	425.6	430.5	436.6	443.7	450.9	458.2	465.4	471.9
107.5°	516.0	519.4	522.9	526.3	529.8	535.1	542.6	550.0	557.4	564.9	570.0
110°	586.5	589.5	592.6	595.7	598.7	603.8	611.0	618.2	625.4	632.6	636.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	654.8	658.3	661.8	665.3	668.9	673.6	679.7	685.6	691.6	697.6	700.9
115°	759.9	762.1	764.5	766.8	769.0	772.5	777.1	781.8	786.4	791.0	795.0
117.5°	855.2	857.3	859.3	861.3	863.4	867.0	872.3	877.5	882.8	888.0	891.1
120°	919.3	920.9	922.6	924.2	925.9	928.8	933.0	937.1	941.3	945.5	949.1
122.5°	979.5	980.3	981.1	982.0	982.8	985.4	990.1	994.7	999.3	1004.0	1007.5
125°	1065.1	1066.1	1067.2	1068.3	1069.3	1071.4	1074.7	1078.0	1081.2	1084.5	1088.2
127.5°	1146.7	1146.9	1147.0	1147.2	1147.3	1149.6	1153.9	1158.2	1162.5	1166.9	1169.5
130°	1198.9	1199.1	1199.2	1199.4	1199.4	1201.2	1204.6	1207.9	1211.3	1214.7	1217.7
132.5°	1247.3	1247.7	1248.0	1248.5	1248.8	1250.6	1253.7	1256.8	1259.9	1263.0	1266.0
135°	1319.2	1318.9	1318.7	1318.3	1318.0	1319.0	1321.3	1323.6	1325.9	1328.1	1331.1
137.5°	1383.5	1383.5	1383.4	1383.4	1383.4	1384.3	1386.1	1387.9	1389.8	1391.6	1394.5
140°	1425.5	1425.9	1426.4	1426.8	1427.3	1427.8	1428.6	1429.3	1430.1	1430.8	1433.8
142.5°	1462.6	1463.6	1464.6	1465.7	1466.8	1467.4	1467.7	1467.9	1468.2	1468.5	1470.9
145°	1520.3	1521.0	1521.7	1522.5	1523.2	1523.6	1523.6	1523.6	1523.6	1523.6	1524.8
147.5°	1566.2	1567.7	1569.2	1570.7	1572.4	1572.9	1572.6	1572.4	1572.0	1571.7	1572.1
150°	1599.6	1600.6	1601.7	1602.7	1603.7	1604.1	1603.8	1603.6	1603.2	1602.9	1602.9
152.5°	1627.0	1627.9	1628.9	1629.8	1630.7	1630.9	1630.3	1629.8	1629.2	1628.7	1629.2
155°	1666.2	1666.4	1666.7	1667.1	1667.3	1667.1	1666.2	1665.3	1664.4	1663.4	1664.6
157.5°	1699.2	1699.1	1698.9	1698.7	1698.5	1697.9	1696.8	1695.9	1694.9	1693.8	1695.4
160°	1718.6	1717.7	1716.8	1715.9	1715.0	1714.4	1714.0	1713.8	1713.5	1713.2	1715.0
162.5°	1735.8	1734.6	1733.5	1732.4	1731.3	1730.5	1730.2	1729.9	1729.7	1729.3	1731.1
165°	1757.6	1756.0	1754.6	1753.1	1751.6	1750.9	1750.9	1750.9	1750.9	1750.9	1753.2
167.5°	1774.8	1773.3	1771.7	1770.1	1768.5	1767.7	1767.5	1767.4	1767.2	1767.0	1769.6
170°	1784.5	1782.7	1780.8	1779.1	1777.3	1776.6	1776.8	1777.2	1777.4	1777.7	1780.1
172.5°	1790.9	1789.1	1787.3	1785.6	1783.8	1783.0	1783.3	1783.6	1783.9	1784.2	1786.5
175°	1797.9	1796.1	1794.3	1792.5	1790.7	1790.0	1790.3	1790.6	1790.9	1791.2	1793.9
177.5°	1801.2	1799.5	1797.8	1796.1	1794.5	1793.9	1794.3	1794.8	1795.3	1795.7	1797.7
180°	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	617.5	618.3	619.2	619.6	619.5	619.3	619.2	619.1
5°	615.9	617.1	618.3	618.8	618.8	618.6	618.4	618.2
7.5°	612.6	613.9	615.4	616.0	615.8	615.6	615.5	615.4
10°	609.2	610.6	612.0	612.6	612.5	612.3	612.2	612.0
12.5°	604.6	605.8	607.1	607.7	607.7	607.6	607.6	607.6
15°	596.0	597.4	598.8	599.4	599.3	599.1	599.0	598.8
17.5°	585.7	587.1	588.5	589.2	589.1	589.0	588.8	588.7
20°	577.7	579.2	580.7	581.5	581.5	581.5	581.5	581.5
22.5°	568.2	569.7	571.2	572.2	572.4	572.7	572.9	573.2
25°	553.7	555.4	557.1	557.9	558.1	558.3	558.4	558.6
27.5°	537.3	538.9	540.5	541.4	541.5	541.7	541.9	542.1
30°	525.9	527.6	529.3	530.3	530.6	530.9	531.2	531.5
32.5°	514.2	516.1	518.1	519.2	519.5	519.8	520.1	520.4
35°	495.6	497.8	499.9	501.2	501.7	502.1	502.6	503.1
37.5°	476.3	478.4	480.6	482.0	482.4	483.0	483.4	483.9
40°	462.6	464.9	467.3	468.7	469.3	469.9	470.6	471.2
42.5°	449.2	451.7	454.3	455.8	456.4	456.8	457.4	457.8
45°	428.6	431.1	433.7	435.4	436.2	437.0	437.7	438.5
47.5°	406.6	409.4	412.1	413.8	414.8	415.7	416.7	417.6
50°	391.3	394.4	397.4	399.5	400.4	401.3	402.3	403.1
52.5°	375.8	378.8	381.9	383.9	384.9	385.8	386.6	387.6
55°	352.4	355.5	358.6	360.6	361.5	362.5	363.4	364.3
57.5°	327.9	331.6	335.3	337.5	338.4	339.2	340.1	341.0
60°	311.0	314.6	318.1	320.5	321.7	323.0	324.2	325.5
62.5°	294.4	297.9	301.5	303.8	305.1	306.3	307.6	308.8
65°	268.6	272.5	276.3	278.8	280.1	281.3	282.6	283.8
67.5°	243.3	247.3	251.2	253.7	254.9	256.1	257.3	258.5
70°	225.5	229.7	233.8	236.5	237.6	238.6	239.7	240.8
72.5°	208.6	212.7	216.7	219.3	220.5	221.7	222.9	224.1
75°	182.8	187.1	191.5	194.3	195.6	197.1	198.5	199.8
77.5°	158.8	163.2	167.6	170.5	171.9	173.4	174.9	176.4
80°	143.2	147.8	152.4	155.3	156.6	157.8	159.1	160.3
82.5°	127.9	132.6	137.4	140.4	141.8	143.1	144.5	145.9
85°	106.4	111.0	115.7	118.8	120.3	121.8	123.3	124.9
87.5°	94.8	99.7	104.5	107.6	109.1	110.6	112.1	113.5
90°	110.8	117.1	123.3	127.4	129.2	131.1	132.9	134.7
92.5°	106.1	112.3	118.4	122.2	123.5	124.9	126.3	127.6
95°	101.8	107.8	113.8	117.6	119.3	121.0	122.7	124.3
97.5°	100.0	104.2	108.4	111.4	113.0	114.6	116.3	117.9
100°	110.0	109.1	108.3	108.4	109.9	111.2	112.6	114.0
102.5°	233.5	182.7	132.0	107.3	108.5	109.8	111.0	112.3
105°	478.4	485.0	491.5	490.1	480.5	471.0	461.5	451.9
107.5°	575.1	580.2	585.3	589.0	591.2	593.4	595.8	598.0
110°	640.9	645.0	649.2	652.3	654.4	656.6	658.7	660.8





TEST NUMBER: P332771-940

CATALOG NUMBER: S124DIW-S575D1560U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	704.2	707.5	710.8	713.6	716.0	718.4	720.8	723.1
115°	799.1	803.0	807.0	809.5	810.7	811.7	812.8	813.9
117.5°	894.2	897.2	900.4	902.5	903.6	904.6	905.8	906.9
120°	952.8	956.5	960.2	962.3	963.0	963.7	964.3	964.9
122.5°	1010.9	1014.3	1017.8	1019.8	1020.3	1020.8	1021.3	1021.8
125°	1092.1	1095.9	1099.7	1102.3	1103.5	1104.7	1106.0	1107.1
127.5°	1172.1	1174.7	1177.3	1179.0	1179.8	1180.6	1181.4	1182.2
130°	1220.8	1223.9	1227.0	1229.0	1229.9	1230.8	1231.7	1232.7
132.5°	1268.9	1271.8	1274.8	1276.7	1277.4	1278.0	1278.7	1279.4
135°	1334.3	1337.3	1340.4	1342.6	1344.2	1345.7	1347.3	1348.8
137.5°	1397.4	1400.3	1403.3	1405.0	1405.6	1406.2	1406.8	1407.4
140°	1436.6	1439.6	1442.4	1444.4	1445.5	1446.5	1447.6	1448.7
142.5°	1473.3	1475.7	1478.1	1479.7	1480.4	1481.1	1481.8	1482.5
145°	1526.1	1527.2	1528.5	1529.7	1530.9	1532.1	1533.4	1534.5
147.5°	1572.4	1572.8	1573.2	1573.8	1574.6	1575.3	1576.1	1576.9
150°	1602.9	1602.9	1602.9	1603.1	1603.4	1603.7	1604.0	1604.3
152.5°	1629.7	1630.1	1630.7	1630.8	1630.6	1630.4	1630.2	1630.0
155°	1665.8	1667.1	1668.2	1668.4	1667.5	1666.6	1665.7	1664.8
157.5°	1696.9	1698.5	1700.0	1700.0	1698.5	1696.9	1695.4	1693.8
160°	1716.8	1718.6	1720.4	1720.4	1718.6	1716.8	1715.0	1713.2
162.5°	1733.0	1734.7	1736.5	1736.3	1734.4	1732.3	1730.3	1728.2
165°	1755.6	1758.0	1760.4	1760.2	1757.6	1754.9	1752.2	1749.5
167.5°	1772.3	1774.9	1777.5	1777.4	1774.3	1771.4	1768.4	1765.4
170°	1782.5	1784.9	1787.3	1787.0	1784.0	1781.0	1778.1	1775.0
172.5°	1789.0	1791.4	1793.8	1793.3	1790.1	1786.9	1783.7	1780.4
175°	1796.5	1799.3	1802.0	1801.5	1797.9	1794.3	1790.7	1787.2
177.5°	1799.6	1801.5	1803.4	1803.0	1800.1	1797.2	1794.3	1791.4
180°	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9

(END OF REPORT)