

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: P332861-927

Luminaire Tested: **S124DIW-S1195D1560U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332861-927  
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-S1195D1560U927-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1195 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: 8796.1 lumens  
Efficiency: N/A  
Efficacy: 106.1 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: General Diffuse

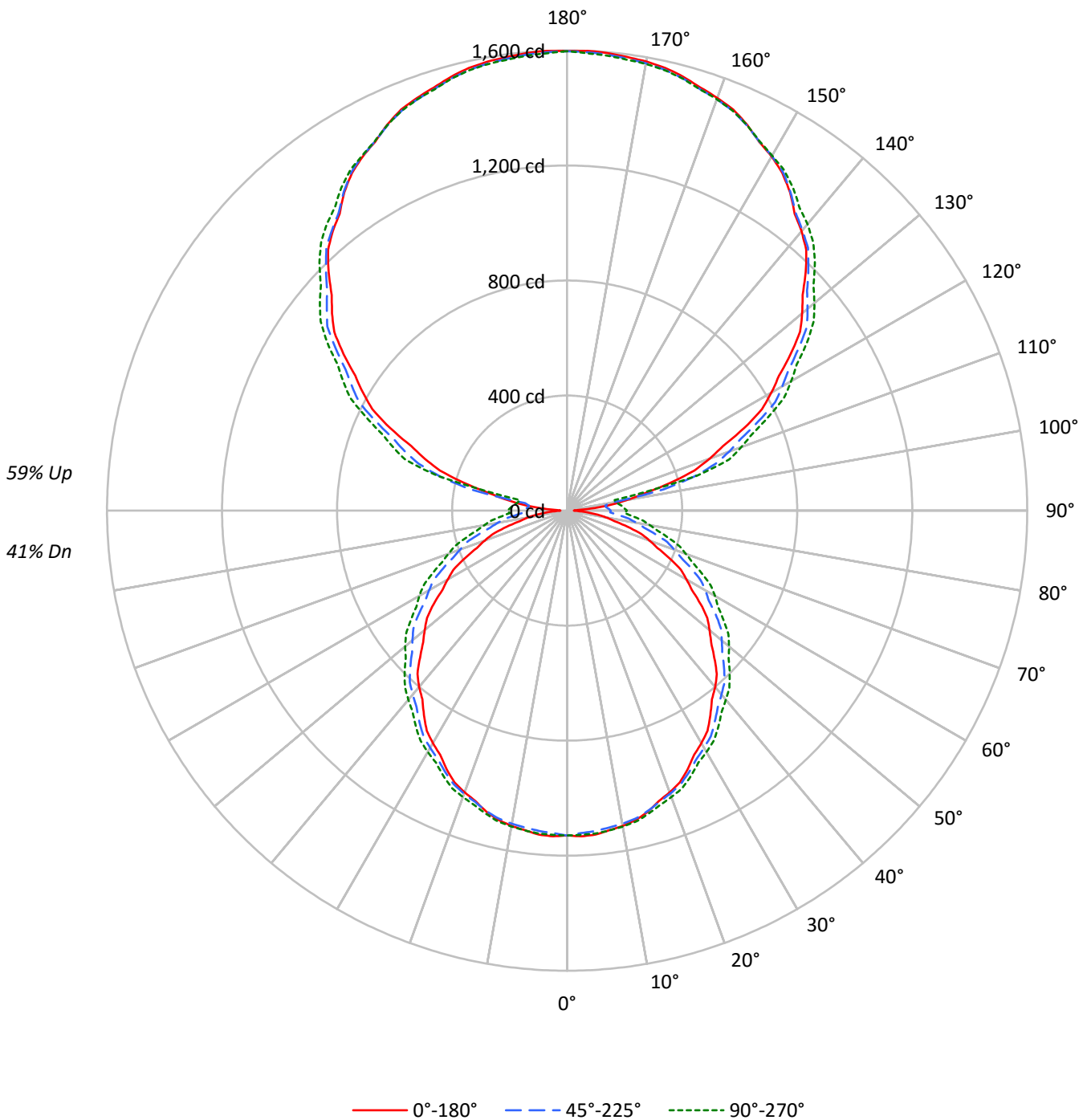
Input Watts (W): 82.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332861-927

CATALOG NUMBER: S124DIW-S1195D1560U927-4F0-1E-UDD-D

**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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	41
1	95	90	86	82	86	82	79	75	67	65	62	53	52	50	41	39	38	32
2	86	78	72	67	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	29	27	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

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

	0°	45°	90°
0°	9120	9120	9120
5°	9147	8912	8938
10°	9092	8767	8760
15°	9010	8598	8551
20°	8888	8412	8347
25°	8749	8203	8124
30°	8599	7995	7894
35°	8429	7783	7692
40°	8293	7580	7482
45°	8093	7394	7302
50°	7922	7178	7111
55°	7746	6976	6888
60°	7471	6718	6685
65°	7170	6440	6434
70°	6805	6123	6141
75°	6298	5775	5878
80°	5734	5442	5618
85°	5012	5144	5468



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.0	1.2
10°-20°	306.5	3.5
20°-30°	463.4	5.3
30°-40°	560.7	6.4
40°-50°	592.8	6.7
50°-60°	557.9	6.3
60°-70°	462.9	5.3
70°-80°	325.1	3.7
80°-90°	188.4	2.1
90°-100°	163.8	1.9
100°-110°	429.1	4.9
110°-120°	720.5	8.2
120°-130°	876.5	10.0
130°-140°	918.2	10.4
140°-150°	849.0	9.7
150°-160°	682.5	7.8
160°-170°	440.2	5.0
170°-180°	151.7	1.7
0°-30°	876.9	10.0
0°-40°	1437.6	16.3
0°-60°	2588.3	29.4
0°-90°	3564.7	40.5
90°-120°	1313.4	14.9
90°-150°	3957.0	45.0
90°-180°	5231.0	59.5
0°-180°	8796.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1130	1130	1130	1130	1130	
5°	1131	1127	1118	1128	1127	107
15°	1084	1085	1082	1092	1092	305
25°	992	999	1003	1016	1018	457
35°	868	883	896	912	917	543
45°	724	748	772	792	800	559
55°	567	594	631	656	664	505
65°	392	433	476	506	517	389
75°	218	265	318	352	364	231
85°	67	120	177	214	228	71
90°	24	88	152	194	208	16
95°	82	86	136	176	190	98
105°	371	405	456	494	466	389
115°	679	695	733	762	772	669
125°	949	954	982	1008	1018	847
135°	1173	1173	1186	1208	1218	904
145°	1351	1353	1354	1362	1370	844
155°	1480	1481	1478	1482	1479	682
165°	1561	1556	1555	1564	1554	441
175°	1597	1591	1591	1601	1588	152
180°	1597	1597	1597	1597	1597	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1133.7	1133.0	1132.3	1131.6	1131.0	1129.7	1127.9	1126.2	1124.3	1122.5	1124.1
5°	1130.8	1130.0	1129.2	1128.4	1127.5	1126.1	1124.1	1122.1	1120.2	1118.2	1120.5
7.5°	1121.3	1120.8	1120.2	1119.7	1119.3	1118.2	1116.6	1114.9	1113.3	1111.7	1114.2
10°	1113.2	1112.9	1112.6	1112.3	1112.1	1111.2	1109.8	1108.4	1107.0	1105.6	1108.1
12.5°	1102.0	1102.0	1101.9	1101.8	1101.8	1101.3	1100.3	1099.4	1098.4	1097.5	1099.8
15°	1084.1	1084.3	1084.7	1084.9	1085.2	1084.9	1084.1	1083.2	1082.4	1081.6	1084.1
17.5°	1059.5	1060.4	1061.2	1062.1	1062.9	1063.3	1063.1	1062.9	1062.7	1062.6	1065.2
20°	1042.4	1043.1	1044.0	1044.9	1045.7	1046.2	1046.6	1046.9	1047.1	1047.4	1050.2
22.5°	1023.1	1024.1	1025.2	1026.3	1027.4	1028.2	1028.6	1029.2	1029.7	1030.2	1033.0
25°	991.7	993.4	995.1	996.8	998.5	999.7	1000.6	1001.4	1002.3	1003.1	1006.2
27.5°	956.8	959.3	961.8	964.2	966.7	968.6	969.9	971.2	972.5	973.8	976.6
30°	933.5	935.8	938.0	940.3	942.5	944.7	946.6	948.6	950.5	952.5	955.6
32.5°	908.2	910.9	913.6	916.3	919.0	921.5	923.7	925.9	928.0	930.3	933.8
35°	867.8	871.2	874.5	877.9	881.2	884.3	887.2	889.9	892.8	895.6	899.5
37.5°	827.0	830.9	834.8	838.7	842.6	846.2	849.7	853.2	856.7	860.2	864.2
40°	800.7	804.4	808.0	811.7	815.3	819.1	823.1	827.0	830.9	834.9	839.1
42.5°	770.4	774.4	778.6	782.7	786.8	791.2	795.7	800.3	804.9	809.6	814.3
45°	723.6	728.9	734.3	739.6	744.9	750.3	755.6	761.0	766.3	771.7	776.4
47.5°	678.7	684.3	689.8	695.3	700.8	706.7	712.9	719.1	725.2	731.4	736.3
50°	646.4	652.6	658.8	665.0	671.1	677.3	683.5	689.7	695.9	702.0	707.7
52.5°	614.0	620.2	626.4	632.6	638.7	645.4	652.4	659.6	666.6	673.8	679.4
55°	566.7	572.6	578.5	584.4	590.3	597.5	605.9	614.3	622.8	631.2	636.8
57.5°	513.8	521.2	528.5	535.8	543.0	550.9	559.3	567.7	576.1	584.4	591.1
60°	479.4	486.7	494.0	501.4	508.7	517.0	526.2	535.5	544.8	554.1	560.5
62.5°	446.0	454.0	462.0	470.0	477.9	486.6	495.9	505.2	514.4	523.7	530.1
65°	392.1	401.2	410.1	419.1	428.1	437.4	446.9	456.5	466.0	475.6	482.7
67.5°	340.2	349.8	359.4	368.9	378.5	388.4	398.6	408.8	419.1	429.4	436.5
70°	304.8	314.4	324.0	333.5	343.1	353.2	363.8	374.5	385.2	395.9	403.5
72.5°	270.5	280.2	290.0	299.8	309.6	320.1	331.5	342.9	354.2	365.6	373.0
75°	217.6	228.0	238.4	248.7	259.2	270.3	282.1	293.9	305.7	317.5	325.3
77.5°	168.3	179.3	190.3	201.3	212.3	224.0	236.4	248.7	261.1	273.5	281.5
80°	137.9	149.1	160.3	171.6	182.8	194.6	207.0	219.4	231.8	244.2	252.5
82.5°	107.5	119.2	130.9	142.6	154.3	166.4	178.7	191.1	203.4	215.8	224.4
85°	67.0	78.8	90.6	102.4	114.2	126.5	139.1	151.8	164.5	177.1	185.5
87.5°	38.2	50.2	62.3	74.3	86.3	98.8	111.5	124.2	137.0	149.7	158.2
90°	23.8	38.0	52.1	66.3	80.5	94.7	108.8	123.1	137.3	151.5	161.3
92.5°	34.3	44.5	54.8	65.1	75.4	87.6	101.9	116.1	130.3	144.5	154.0
95°	82.1	82.4	82.6	82.9	83.2	89.2	100.9	112.7	124.5	136.3	145.5
97.5°	154.5	168.1	181.6	195.3	208.9	206.6	188.4	170.2	151.9	133.7	141.2
100°	209.8	221.9	234.0	246.1	258.2	251.4	225.7	200.0	174.4	148.7	151.8
102.5°	272.9	282.8	292.7	302.7	312.6	320.5	326.5	332.4	338.4	344.4	303.0
105°	371.0	378.2	385.4	392.6	399.8	409.3	421.0	432.8	444.5	456.2	465.6
107.5°	464.1	469.5	475.0	480.4	485.8	494.3	506.0	517.6	529.3	540.9	549.0
110°	526.2	530.9	535.7	540.4	545.1	553.2	564.7	576.1	587.5	599.0	605.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	586.4	591.3	596.2	601.1	606.0	613.5	623.7	633.8	644.0	654.1	660.2
115°	679.0	682.3	685.6	689.0	692.3	698.3	707.0	715.7	724.5	733.2	740.0
117.5°	763.6	766.1	768.7	771.3	773.9	779.7	788.6	797.6	806.5	815.5	821.3
120°	819.9	821.8	823.7	825.6	827.5	832.4	840.3	848.2	856.0	864.0	870.1
122.5°	873.4	874.2	875.0	875.8	876.6	881.1	889.1	897.2	905.3	913.4	919.3
125°	948.8	949.6	950.4	951.2	952.0	955.6	962.1	968.6	975.1	981.6	987.7
127.5°	1021.2	1021.2	1021.2	1021.1	1021.1	1024.5	1031.1	1037.7	1044.3	1050.9	1055.8
130°	1067.0	1067.0	1067.0	1067.0	1067.0	1069.6	1074.9	1080.2	1085.4	1090.8	1096.1
132.5°	1110.0	1110.2	1110.4	1110.6	1110.8	1113.3	1117.8	1122.4	1127.0	1131.6	1136.8
135°	1173.3	1173.0	1172.7	1172.5	1172.2	1173.6	1176.6	1179.6	1182.6	1185.7	1190.7
137.5°	1230.4	1230.2	1230.0	1229.9	1229.7	1230.7	1232.8	1234.9	1237.0	1239.1	1243.8
140°	1267.7	1267.9	1268.1	1268.4	1268.7	1269.2	1270.0	1270.8	1271.6	1272.4	1276.9
142.5°	1300.1	1301.0	1301.9	1302.8	1303.7	1304.2	1304.3	1304.5	1304.6	1304.8	1308.6
145°	1351.2	1351.7	1352.3	1352.7	1353.3	1353.5	1353.5	1353.5	1353.5	1353.5	1355.5
147.5°	1392.1	1393.3	1394.5	1395.7	1396.9	1397.3	1397.1	1396.9	1396.5	1396.3	1396.7
150°	1421.7	1422.4	1423.2	1424.0	1424.8	1425.1	1424.8	1424.6	1424.3	1424.0	1424.0
152.5°	1445.5	1446.3	1447.1	1447.9	1448.7	1448.9	1448.3	1447.9	1447.4	1446.9	1447.4
155°	1480.2	1480.4	1480.7	1481.0	1481.2	1481.0	1480.2	1479.4	1478.6	1477.7	1478.8
157.5°	1509.6	1509.4	1509.3	1509.1	1508.9	1508.4	1507.4	1506.6	1505.7	1504.8	1506.2
160°	1526.8	1526.0	1525.2	1524.4	1523.6	1523.0	1522.7	1522.5	1522.3	1521.9	1523.6
162.5°	1542.1	1541.0	1540.0	1539.1	1538.0	1537.4	1537.1	1536.8	1536.6	1536.3	1537.9
165°	1561.4	1560.0	1558.8	1557.4	1556.1	1555.4	1555.4	1555.4	1555.4	1555.4	1557.5
167.5°	1576.7	1575.3	1573.9	1572.6	1571.1	1570.4	1570.3	1570.1	1569.9	1569.8	1572.1
170°	1585.3	1583.7	1582.1	1580.5	1578.9	1578.3	1578.5	1578.8	1579.1	1579.3	1581.4
172.5°	1591.0	1589.4	1587.9	1586.3	1584.7	1584.0	1584.3	1584.5	1584.8	1585.1	1587.1
175°	1597.2	1595.6	1594.0	1592.4	1590.9	1590.2	1590.5	1590.7	1591.0	1591.3	1593.6
177.5°	1600.1	1598.6	1597.1	1595.6	1594.2	1593.6	1594.0	1594.5	1594.9	1595.3	1597.0
180°	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7	1129.7
2.5°	1125.7	1127.3	1128.9	1129.5	1129.3	1129.0	1128.9	1128.6
5°	1122.8	1125.0	1127.2	1128.2	1127.9	1127.7	1127.4	1127.1
7.5°	1116.7	1119.3	1121.8	1122.9	1122.6	1122.4	1122.0	1121.8
10°	1110.6	1113.2	1115.7	1116.8	1116.6	1116.3	1115.9	1115.7
12.5°	1102.1	1104.4	1106.7	1107.9	1107.8	1107.7	1107.6	1107.6
15°	1086.6	1089.2	1091.6	1092.8	1092.5	1092.3	1091.9	1091.6
17.5°	1067.8	1070.3	1072.9	1074.1	1073.9	1073.6	1073.4	1073.2
20°	1053.0	1055.8	1058.7	1060.0	1060.0	1060.0	1060.0	1060.0
22.5°	1035.8	1038.6	1041.4	1043.1	1043.5	1043.9	1044.4	1044.9
25°	1009.3	1012.4	1015.5	1017.2	1017.5	1017.7	1018.0	1018.3
27.5°	979.5	982.4	985.2	986.8	987.2	987.5	987.9	988.2
30°	958.7	961.8	964.9	966.7	967.3	967.8	968.4	969.0
32.5°	937.3	940.9	944.4	946.5	947.1	947.6	948.2	948.7
35°	903.5	907.4	911.3	913.7	914.6	915.4	916.2	917.1
37.5°	868.2	872.1	876.2	878.6	879.5	880.4	881.3	882.2
40°	843.3	847.6	851.8	854.4	855.6	856.7	857.8	858.9
42.5°	818.9	823.6	828.2	831.0	831.9	832.8	833.7	834.6
45°	781.2	786.0	790.8	793.8	795.3	796.6	798.0	799.5
47.5°	741.3	746.2	751.2	754.5	756.2	757.9	759.5	761.3
50°	713.3	718.9	724.5	728.2	729.9	731.6	733.2	734.9
52.5°	685.0	690.6	696.2	699.9	701.6	703.2	704.9	706.6
55°	642.5	648.1	653.7	657.4	659.0	660.8	662.4	664.1
57.5°	597.8	604.5	611.2	615.3	616.9	618.5	620.0	621.6
60°	567.0	573.5	579.9	584.2	586.5	588.7	591.0	593.3
62.5°	536.6	543.1	549.5	553.9	556.2	558.4	560.6	562.9
65°	489.6	496.7	503.7	508.3	510.6	512.9	515.2	517.4
67.5°	443.6	450.8	457.9	462.6	464.8	466.9	469.1	471.3
70°	411.1	418.7	426.3	431.1	433.0	435.0	437.0	438.9
72.5°	380.3	387.7	395.1	399.8	402.0	404.2	406.4	408.6
75°	333.3	341.1	349.0	354.2	356.7	359.3	361.8	364.3
77.5°	289.5	297.5	305.4	310.8	313.5	316.2	318.9	321.5
80°	261.0	269.4	277.9	283.2	285.4	287.7	289.9	292.2
82.5°	233.1	241.8	250.4	256.0	258.5	260.9	263.4	265.9
85°	193.9	202.4	210.8	216.4	219.3	222.0	224.9	227.7
87.5°	166.7	175.2	183.6	189.1	191.7	194.3	196.9	199.5
90°	171.0	180.8	190.5	196.8	199.6	202.3	205.1	207.9
92.5°	163.5	173.0	182.6	188.5	190.8	193.2	195.6	197.9
95°	154.7	163.9	173.1	179.0	181.9	184.7	187.4	190.2
97.5°	148.8	156.3	163.8	169.0	171.7	174.3	177.0	179.7
100°	154.9	158.0	161.0	163.7	165.9	168.1	170.4	172.6
102.5°	261.7	220.4	179.0	159.5	161.8	164.0	166.3	168.5
105°	475.1	484.5	493.8	495.0	487.7	480.3	473.0	465.7
107.5°	557.1	565.1	573.2	578.8	581.8	584.8	587.9	590.9
110°	612.9	620.0	626.9	631.9	635.0	638.0	641.1	644.1





TEST NUMBER: P332861-927

CATALOG NUMBER: S124DIW-S1195D1560U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	666.4	672.5	678.7	683.3	686.6	689.8	693.1	696.3
115°	746.6	753.4	760.1	764.5	766.4	768.3	770.3	772.3
117.5°	827.0	832.7	838.4	842.4	844.5	846.7	848.8	851.0
120°	876.2	882.4	888.5	892.5	894.2	896.0	897.6	899.4
122.5°	925.3	931.2	937.2	940.8	942.3	943.8	945.3	946.8
125°	993.9	1000.0	1006.2	1010.2	1012.1	1014.1	1016.1	1018.0
127.5°	1060.7	1065.6	1070.6	1073.8	1075.5	1077.2	1079.0	1080.6
130°	1101.5	1106.8	1112.1	1115.6	1117.3	1119.0	1120.6	1122.4
132.5°	1141.9	1146.9	1152.1	1155.3	1156.8	1158.2	1159.8	1161.3
135°	1195.8	1200.8	1205.9	1209.4	1211.6	1213.9	1216.1	1218.3
137.5°	1248.6	1253.2	1257.9	1260.8	1262.1	1263.4	1264.6	1265.8
140°	1281.4	1285.8	1290.2	1293.3	1295.0	1296.6	1298.3	1300.0
142.5°	1312.4	1316.2	1319.9	1322.5	1323.7	1324.9	1326.2	1327.4
145°	1357.4	1359.4	1361.4	1363.1	1364.8	1366.4	1368.1	1369.8
147.5°	1397.2	1397.6	1398.0	1398.8	1400.0	1401.2	1402.3	1403.5
150°	1424.0	1424.0	1424.0	1424.2	1424.4	1424.7	1425.0	1425.2
152.5°	1447.8	1448.2	1448.7	1448.7	1448.6	1448.4	1448.3	1448.1
155°	1479.9	1481.0	1482.0	1482.2	1481.4	1480.6	1479.8	1479.0
157.5°	1507.5	1508.9	1510.3	1510.3	1508.9	1507.5	1506.2	1504.8
160°	1525.2	1526.8	1528.4	1528.4	1526.8	1525.2	1523.6	1521.9
162.5°	1539.5	1541.1	1542.7	1542.5	1540.8	1539.0	1537.2	1535.3
165°	1559.6	1561.8	1563.9	1563.8	1561.4	1559.0	1556.6	1554.3
167.5°	1574.5	1576.8	1579.1	1579.0	1576.3	1573.7	1571.0	1568.4
170°	1583.6	1585.7	1587.9	1587.5	1584.9	1582.2	1579.6	1576.9
172.5°	1589.3	1591.4	1593.6	1593.2	1590.3	1587.5	1584.6	1581.7
175°	1596.0	1598.5	1600.8	1600.4	1597.2	1594.0	1590.9	1587.7
177.5°	1598.7	1600.4	1602.1	1601.7	1599.2	1596.6	1594.0	1591.5
180°	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2

(END OF REPORT)