

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: P332711-927

Luminaire Tested: **S124DIP-S1195D1205U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332711-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1205U927-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7260.9 lumens  
Efficiency: N/A  
Efficacy: 101.3 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

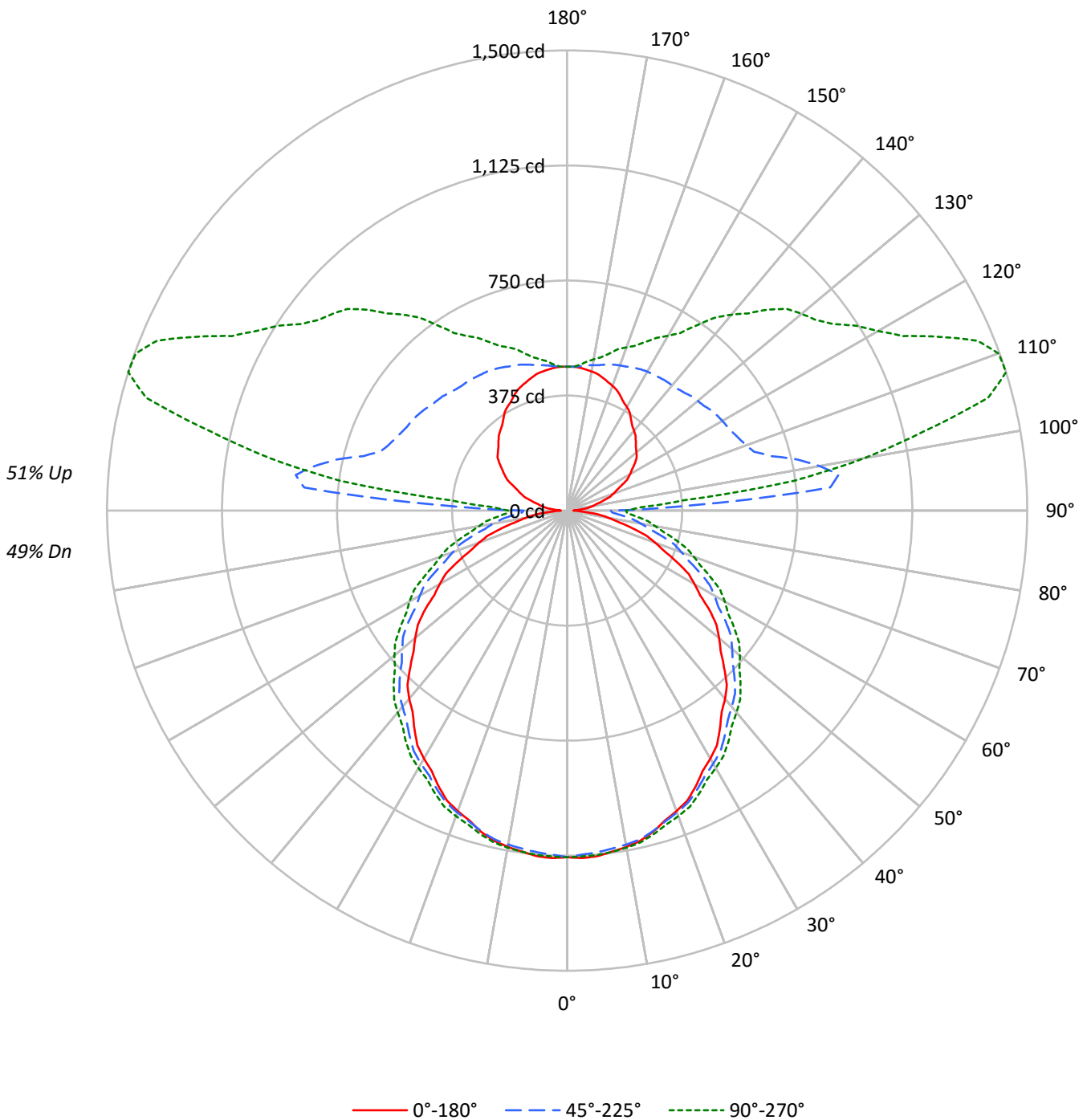
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	54	46	40	61	50	43	37	43	37	32	35	31	27	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	18	15	13	11

**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	1.5
10°-20°	306.5	4.2
20°-30°	463.4	6.4
30°-40°	560.7	7.7
40°-50°	592.8	8.2
50°-60°	557.9	7.7
60°-70°	462.9	6.4
70°-80°	325.1	4.5
80°-90°	186.4	2.6
90°-100°	447.5	6.2
100°-110°	785.1	10.8
110°-120°	685.1	9.4
120°-130°	561.3	7.7
130°-140°	455.7	6.3
140°-150°	340.7	4.7
150°-160°	237.6	3.3
160°-170°	139.8	1.9
170°-180°	45.5	0.6
0°-30°	876.9	12.1
0°-40°	1437.6	19.8
0°-60°	2588.3	35.6
0°-90°	3562.6	49.1
90°-120°	1917.8	26.4
90°-150°	3275.4	45.1
90°-180°	3698.0	50.9
0°-180°	7260.9	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°	21	78	142	179	191	15
95°	47	154	860	514	380	47
105°	119	194	687	1414	1420	128
115°	197	259	598	1121	1340	196
125°	269	320	571	939	1059	240
135°	316	377	542	812	927	245
145°	363	414	528	667	737	228
155°	412	444	514	582	607	190
165°	448	462	492	522	529	127
175°	468	469	472	479	477	44
180°	469	469	469	469	469	



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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°	37.6	49.4	61.5	73.1	84.8	96.6	110.1	122.4	135.1	147.7	155.7
90°	21.2	34.2	48.2	60.4	72.6	84.2	101.9	113.9	127.9	141.8	149.0
92.5°	29.7	44.6	63.4	84.8	108.3	138.6	197.4	280.9	362.6	411.1	370.3
95°	46.8	58.9	77.3	98.5	129.9	179.0	270.6	433.1	664.6	860.3	889.1
97.5°	69.4	77.4	93.3	112.3	139.3	181.4	254.4	390.5	620.7	892.4	1078.7
100°	83.9	91.2	105.0	123.3	148.1	186.7	252.0	366.9	565.7	836.2	1079.5
102.5°	98.6	106.5	118.6	135.3	158.5	195.0	254.9	357.2	527.7	768.6	1019.0
105°	119.1	127.5	137.7	154.4	176.6	211.3	265.9	352.7	491.9	687.4	910.7
107.5°	144.3	150.7	159.9	176.3	196.7	230.3	280.6	360.0	480.0	638.7	822.2
110°	160.2	166.0	174.5	189.5	209.9	241.7	292.1	366.3	477.4	620.8	777.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	175.4	180.7	189.5	203.3	223.3	254.6	303.1	373.2	477.2	609.0	749.1
115°	197.3	202.5	211.5	223.2	243.2	273.9	319.6	383.9	478.5	597.9	720.1
117.5°	221.3	225.4	232.6	244.2	262.1	292.9	336.2	395.4	480.5	589.5	702.6
120°	236.5	239.2	246.4	257.4	273.9	304.1	347.3	403.3	482.4	584.4	692.2
122.5°	251.2	253.2	259.8	269.3	286.7	315.6	358.3	410.9	484.3	578.6	681.2
125°	269.3	272.7	277.9	287.7	304.9	334.1	374.2	423.7	488.6	571.2	664.9
127.5°	286.1	288.8	295.2	306.4	324.4	352.9	390.3	434.6	490.6	561.6	644.0
130°	294.7	298.1	305.1	318.7	335.9	364.7	400.5	440.9	492.3	555.7	630.7
132.5°	304.3	306.9	316.2	329.0	347.7	374.5	409.5	448.2	494.3	551.0	619.2
135°	316.4	320.1	329.3	345.0	364.3	389.2	421.5	456.7	496.4	542.5	600.4
137.5°	329.9	333.1	342.9	357.6	377.3	400.5	429.8	461.7	496.1	536.5	584.6
140°	339.5	341.9	351.7	367.1	386.2	408.3	436.2	465.9	497.5	532.7	576.0
142.5°	348.7	351.4	360.8	375.7	394.2	415.4	442.1	469.2	498.8	530.8	569.1
145°	363.1	365.5	374.5	387.1	404.3	424.4	448.3	473.2	499.9	528.4	559.5
147.5°	379.4	380.1	387.9	400.8	415.1	433.2	455.7	477.4	500.7	525.1	551.3
150°	389.8	390.4	397.4	408.2	421.8	439.1	459.3	479.6	500.7	522.8	545.9
152.5°	398.3	398.4	405.8	416.0	428.3	444.3	462.3	481.1	499.3	519.2	540.0
155°	411.5	412.4	417.9	427.1	437.3	451.1	466.7	482.4	497.1	513.7	531.2
157.5°	424.5	424.5	429.7	436.9	445.7	456.6	469.8	482.4	494.7	507.9	522.1
160°	432.6	432.6	436.3	442.8	450.1	460.3	471.3	482.4	492.5	503.5	515.5
162.5°	440.0	439.3	442.2	447.9	454.6	462.5	472.8	482.4	490.3	499.1	509.6
165°	448.3	448.3	450.1	454.7	459.3	464.9	473.2	480.5	486.0	492.5	499.9
167.5°	456.6	455.7	456.6	460.1	462.6	466.9	472.9	478.3	481.6	485.8	491.0
170°	460.3	459.3	460.3	463.0	464.9	467.6	472.2	476.8	478.6	481.4	485.1
172.5°	463.9	463.0	463.2	465.2	466.4	468.3	471.5	475.4	475.7	477.0	480.0
175°	467.6	466.7	466.7	467.6	468.6	468.6	470.4	473.2	472.2	472.2	474.0
177.5°	469.3	468.6	467.8	468.6	468.6	468.6	469.3	470.7	469.3	469.3	470.0
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6



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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°	164.1	172.4	180.8	186.1	188.7	191.4	193.7	196.1
90°	158.1	167.2	176.3	181.5	184.7	187.8	189.1	191.4
92.5°	315.8	279.0	259.1	245.8	237.2	234.5	233.6	235.8
95°	807.3	672.2	556.5	472.2	429.7	403.7	389.6	380.2
97.5°	1124.7	1079.0	996.4	905.2	841.5	788.5	763.3	746.6
100°	1221.5	1247.4	1210.0	1146.6	1068.5	1014.3	988.6	983.3
102.5°	1210.8	1309.5	1329.9	1306.3	1259.4	1220.9	1194.0	1190.3
105°	1128.5	1294.8	1393.0	1435.4	1439.4	1434.3	1423.7	1420.4
107.5°	1015.8	1192.3	1327.5	1414.1	1461.7	1484.6	1495.9	1500.3
110°	947.5	1113.3	1253.2	1358.8	1426.4	1467.4	1486.1	1496.7





TEST NUMBER: P332711-927

CATALOG NUMBER: S124DIP-S1195D1205U927-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	895.6	1042.7	1175.1	1280.6	1357.0	1406.0	1431.5	1447.2
115°	841.4	960.8	1074.7	1167.1	1241.8	1299.0	1330.4	1339.7
117.5°	810.2	909.8	1000.4	1079.3	1143.7	1192.3	1224.3	1232.3
120°	794.5	885.7	965.0	1034.3	1088.9	1131.7	1157.9	1170.3
122.5°	780.5	868.9	941.5	1002.6	1048.9	1085.6	1107.9	1120.0
125°	758.6	843.1	912.0	966.1	1004.6	1033.0	1052.2	1059.4
127.5°	732.1	812.8	881.1	932.6	971.6	997.3	1013.9	1021.4
130°	712.3	790.0	857.7	909.8	949.3	974.0	990.4	997.6
132.5°	692.3	765.4	831.4	883.4	922.1	949.7	965.4	972.6
135°	662.9	727.2	787.9	837.0	875.5	902.9	919.4	926.6
137.5°	637.0	691.7	743.1	787.5	823.3	850.1	863.7	871.7
140°	621.9	668.9	714.0	755.2	788.8	810.5	824.7	833.5
142.5°	608.7	650.1	688.8	724.5	754.2	774.2	786.8	793.1
145°	590.7	623.7	652.9	680.2	704.3	721.0	731.3	737.1
147.5°	575.8	600.9	623.1	644.0	661.8	676.1	684.0	686.6
150°	568.0	589.1	607.5	624.1	638.8	650.8	656.3	657.3
152.5°	559.8	578.1	595.0	608.6	621.2	630.9	634.2	635.2
155°	547.7	562.4	576.2	587.3	596.5	603.9	606.7	606.7
157.5°	534.6	547.0	558.6	567.4	574.4	580.0	581.6	581.6
160°	526.6	536.6	546.8	554.1	559.7	565.2	566.1	566.1
162.5°	518.4	527.1	535.0	541.6	545.7	551.2	552.2	551.4
165°	507.2	512.7	519.2	523.8	527.4	531.2	530.2	529.3
167.5°	496.4	500.6	505.7	508.5	510.3	512.7	512.5	511.8
170°	489.7	492.5	496.1	498.9	500.7	501.7	500.7	500.7
172.5°	483.8	485.8	488.1	490.0	491.2	492.1	491.2	489.7
175°	475.9	476.8	478.6	478.6	478.6	480.5	478.6	476.8
177.5°	470.7	471.5	471.5	472.2	471.5	472.2	470.7	469.3
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6

(END OF REPORT)