

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: P332694-927

Luminaire Tested: **S124DIP-S1195D810U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332694-927  
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: S124DIP-S1195D810U927-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6615.2 lumens  
Efficiency: N/A  
Efficacy: 109.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

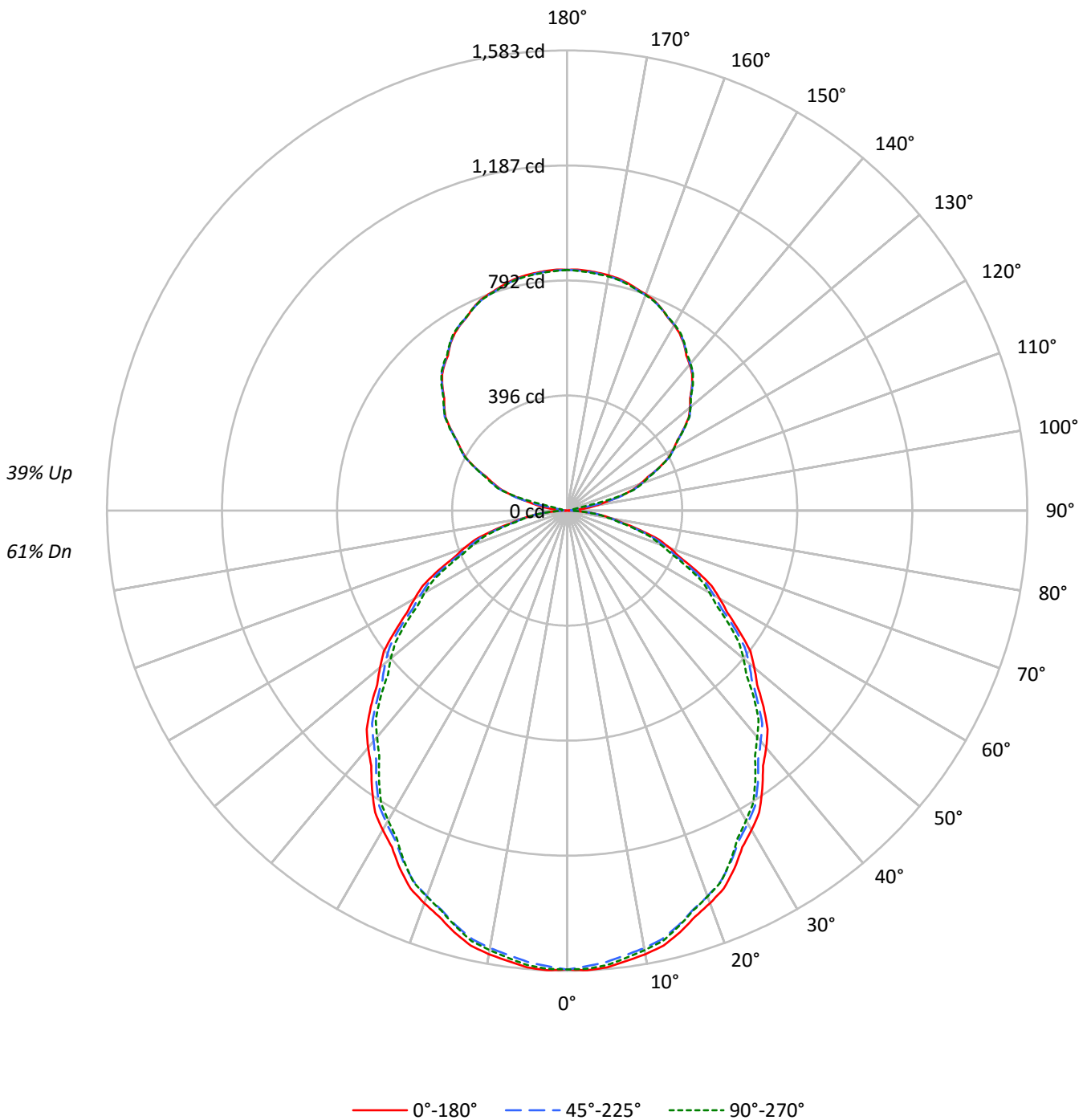
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	66	66	66	61
1	100	96	92	88	94	90	86	83	79	76	74	68	66	65	59	57	56	52
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	62	57	61	56	51	53	49	46	46	43	40	37
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	34	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17	16

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

	0°	45°	90°
0°	12745	12745	12745
5°	12783	12630	12721
10°	12703	12527	12588
15°	12549	12349	12380
20°	12345	12128	12138
25°	12113	11875	11843
30°	11828	11580	11473
35°	11532	11269	11121
40°	11225	10918	10718
45°	10904	10572	10369
50°	10550	10262	9946
55°	10166	9864	9543
60°	9783	9415	9131
65°	9352	8990	8627
70°	8868	8419	8091
75°	8125	7735	7536
80°	7234	6936	6760
85°	6326	6095	5974



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.7	2.2
10°-20°	418.9	6.3
20°-30°	616.5	9.3
30°-40°	716.7	10.8
40°-50°	716.8	10.8
50°-60°	627.0	9.5
60°-70°	465.6	7.0
70°-80°	264.5	4.0
80°-90°	78.7	1.2
90°-100°	28.3	0.4
100°-110°	180.6	2.7
110°-120°	345.5	5.2
120°-130°	438.6	6.6
130°-140°	469.2	7.1
140°-150°	438.8	6.6
150°-160°	353.8	5.3
160°-170°	228.2	3.4
170°-180°	78.7	1.2
0°-30°	1184.1	17.9
0°-40°	1900.8	28.7
0°-60°	3244.6	49.0
0°-90°	4053.5	61.3
90°-120°	554.4	8.4
90°-150°	1901.0	28.7
90°-180°	2562.0	38.7
0°-180°	6615.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1579	1579	1579	1579	1579	
5°	1577	1572	1558	1571	1570	150
15°	1502	1496	1478	1484	1481	423
25°	1360	1350	1333	1334	1330	625
35°	1170	1161	1144	1135	1128	731
45°	955	946	926	913	908	736
55°	722	718	701	686	678	647
65°	490	483	471	458	452	485
75°	260	254	248	243	242	277
85°	68	68	66	66	64	75
90°	2	9	14	17	19	5
95°	34	14	14	17	18	44
105°	186	190	193	197	176	195
115°	348	350	349	351	351	342
125°	489	492	491	492	493	437
135°	607	607	609	610	611	467
145°	700	702	702	702	704	437
155°	768	768	766	768	767	354
165°	810	807	806	811	806	229
175°	828	825	825	830	823	79
180°	828	828	828	828	828	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1582.7	1582.1	1581.4	1580.7	1580.0	1578.4	1576.0	1573.5	1571.1	1568.6	1570.8
5°	1577.4	1576.3	1575.2	1574.1	1573.0	1570.8	1567.7	1564.6	1561.5	1558.5	1561.5
7.5°	1562.7	1561.6	1560.5	1559.3	1558.2	1556.0	1552.5	1549.1	1545.7	1542.2	1544.8
10°	1549.6	1548.5	1547.4	1546.2	1545.1	1542.7	1539.1	1535.4	1531.8	1528.1	1530.3
12.5°	1532.4	1531.3	1530.1	1529.0	1527.9	1525.3	1521.5	1517.7	1513.8	1509.9	1512.4
15°	1501.5	1500.4	1499.3	1498.2	1497.0	1494.4	1490.1	1485.9	1481.7	1477.5	1479.2
17.5°	1464.3	1462.9	1461.5	1460.2	1458.7	1456.0	1452.0	1448.0	1444.1	1440.0	1441.1
20°	1437.0	1435.6	1434.2	1432.8	1431.4	1428.5	1424.3	1420.1	1415.9	1411.7	1412.5
22.5°	1407.6	1405.8	1404.0	1402.1	1400.3	1397.2	1393.0	1388.8	1384.6	1380.3	1381.9
25°	1359.9	1357.9	1355.9	1353.9	1351.9	1349.0	1345.0	1341.2	1337.2	1333.2	1333.6
27.5°	1305.2	1303.1	1301.2	1299.1	1297.1	1294.3	1290.6	1287.0	1283.3	1279.6	1279.0
30°	1268.8	1266.5	1264.2	1262.0	1259.8	1256.8	1253.2	1249.5	1245.9	1242.2	1241.1
32.5°	1230.3	1228.3	1226.3	1224.2	1222.2	1219.2	1215.4	1211.5	1207.6	1203.7	1202.4
35°	1170.1	1168.2	1166.2	1164.2	1162.2	1159.3	1155.3	1151.4	1147.5	1143.5	1141.5
37.5°	1106.6	1104.8	1103.0	1101.2	1099.4	1096.4	1092.2	1088.0	1083.7	1079.5	1077.4
40°	1065.1	1062.9	1060.6	1058.4	1056.1	1052.9	1048.7	1044.4	1040.2	1036.0	1033.2
42.5°	1020.6	1019.2	1017.9	1016.5	1015.2	1012.2	1007.5	1002.8	998.1	993.5	990.2
45°	955.1	953.1	951.1	949.1	947.2	944.0	939.4	934.9	930.4	926.0	922.9
47.5°	886.5	885.1	883.8	882.4	881.1	878.4	874.2	870.1	865.9	861.7	858.3
50°	840.0	838.8	837.7	836.5	835.4	832.9	828.9	825.1	821.1	817.1	813.3
52.5°	794.4	793.1	791.7	790.4	789.0	786.2	782.1	777.9	773.8	769.6	766.1
55°	722.3	721.4	720.6	719.8	718.9	716.5	712.6	708.7	704.7	700.8	697.4
57.5°	653.5	652.5	651.6	650.6	649.7	647.2	643.3	639.4	635.6	631.7	628.5
60°	605.9	604.5	603.1	601.7	600.3	597.8	594.1	590.5	586.8	583.1	580.6
62.5°	559.4	558.2	557.0	555.8	554.7	552.2	548.3	544.4	540.5	536.6	534.3
65°	489.6	488.1	486.7	485.3	483.9	481.8	479.0	476.2	473.4	470.6	467.8
67.5°	419.2	418.0	416.6	415.3	414.1	412.0	409.3	406.6	403.9	401.2	398.5
70°	375.7	373.8	371.8	369.8	367.8	365.8	363.5	361.2	358.9	356.7	354.5
72.5°	329.2	327.2	325.2	323.2	321.3	319.4	317.6	315.8	314.0	312.2	310.4
75°	260.5	259.2	257.8	256.4	254.9	253.6	252.2	250.7	249.4	248.0	246.8
77.5°	195.0	194.4	193.8	193.2	192.6	191.6	190.4	189.2	188.0	186.7	186.4
80°	155.6	154.7	153.9	153.0	152.3	151.5	151.0	150.4	149.8	149.2	148.7
82.5°	117.2	116.8	116.4	116.0	115.6	115.3	115.2	115.1	114.9	114.9	114.5
85°	68.3	68.3	68.3	68.3	68.3	68.0	67.5	66.9	66.3	65.8	65.8
87.5°	26.7	26.8	26.9	26.9	27.0	27.0	27.0	27.0	27.0	27.0	27.2
90°	1.8	3.4	4.9	6.4	7.9	9.2	10.3	11.4	12.5	13.6	14.4
92.5°	7.8	7.9	8.0	8.1	8.2	8.7	9.8	10.9	12.0	13.2	13.9
95°	34.1	29.4	24.7	20.0	15.4	13.1	13.2	13.4	13.5	13.6	14.4
97.5°	72.3	75.3	78.2	81.1	84.1	77.8	62.4	47.1	31.7	16.3	16.4
100°	101.6	104.1	106.5	109.0	111.5	103.2	84.2	65.3	46.3	27.3	24.9
102.5°	134.3	136.1	137.9	139.7	141.6	141.2	138.7	136.3	133.8	131.3	106.1
105°	186.4	187.3	188.1	188.9	189.7	190.5	191.2	191.9	192.6	193.2	194.5
107.5°	234.9	235.3	235.7	236.1	236.5	237.2	238.1	239.1	240.0	241.0	241.5
110°	267.6	268.0	268.4	268.8	269.3	269.8	270.7	271.5	272.4	273.1	273.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.3	300.0	300.8	301.5	302.3	302.9	303.2	303.6	304.0	304.4	304.4
115°	348.1	348.5	349.0	349.4	349.7	349.9	349.7	349.6	349.5	349.4	349.6
117.5°	392.1	392.6	393.2	393.7	394.3	394.7	395.0	395.3	395.6	395.9	395.9
120°	421.8	422.4	422.9	423.5	424.0	424.2	424.1	424.0	423.8	423.7	424.0
122.5°	449.6	449.9	450.2	450.5	450.9	451.1	451.3	451.5	451.7	451.9	452.1
125°	489.3	489.9	490.4	491.0	491.5	491.6	491.4	491.2	490.8	490.6	491.0
127.5°	527.0	527.1	527.3	527.4	527.5	527.9	528.5	529.2	529.8	530.4	530.4
130°	551.3	551.4	551.5	551.7	551.8	552.1	552.5	552.9	553.3	553.7	553.9
132.5°	573.5	573.8	574.1	574.3	574.6	575.0	575.4	576.0	576.5	577.0	577.2
135°	607.0	606.9	606.7	606.6	606.5	606.7	607.2	607.8	608.3	608.9	609.1
137.5°	636.6	636.7	636.8	636.8	636.8	637.2	637.8	638.4	639.0	639.6	639.9
140°	655.9	656.2	656.5	656.8	657.0	657.4	657.6	657.9	658.1	658.4	658.9
142.5°	673.3	673.8	674.3	674.8	675.3	675.6	675.7	676.0	676.1	676.3	676.6
145°	699.9	700.4	700.8	701.2	701.6	701.8	701.8	701.8	701.8	701.8	702.0
147.5°	721.1	721.9	722.6	723.4	724.2	724.5	724.4	724.2	724.1	724.0	724.1
150°	736.5	737.0	737.6	738.2	738.6	738.9	738.7	738.6	738.5	738.3	738.3
152.5°	749.3	749.8	750.2	750.7	751.1	751.2	751.0	750.8	750.4	750.2	750.4
155°	767.5	767.5	767.7	767.9	768.0	767.9	767.5	767.0	766.6	766.2	766.8
157.5°	782.7	782.6	782.5	782.4	782.4	782.0	781.6	781.2	780.7	780.2	780.9
160°	791.6	791.2	790.8	790.4	790.0	789.6	789.6	789.4	789.3	789.1	790.0
162.5°	799.5	799.0	798.4	798.0	797.4	797.1	796.9	796.9	796.7	796.5	797.4
165°	809.5	808.9	808.2	807.5	806.8	806.4	806.4	806.4	806.4	806.4	807.6
167.5°	817.5	816.7	816.0	815.3	814.6	814.2	814.1	814.0	814.0	813.9	815.1
170°	822.0	821.1	820.3	819.4	818.6	818.3	818.4	818.6	818.7	818.9	819.9
172.5°	824.9	824.1	823.2	822.4	821.7	821.3	821.4	821.6	821.7	821.8	822.9
175°	828.1	827.3	826.5	825.7	824.8	824.5	824.7	824.7	824.9	825.1	826.2
177.5°	829.7	828.9	828.1	827.3	826.6	826.2	826.5	826.7	827.0	827.1	828.0
180°	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1573.0	1575.3	1577.6	1578.6	1578.3	1578.1	1577.9	1577.6
5°	1564.6	1567.7	1570.8	1572.1	1571.5	1571.0	1570.4	1569.8
7.5°	1547.2	1549.7	1552.1	1553.2	1552.9	1552.5	1552.2	1551.9
10°	1532.6	1534.9	1537.1	1537.9	1537.4	1536.8	1536.2	1535.6
12.5°	1514.8	1517.3	1519.8	1520.6	1519.8	1519.0	1518.2	1517.4
15°	1480.8	1482.6	1484.2	1484.6	1483.8	1483.0	1482.1	1481.3
17.5°	1442.2	1443.3	1444.3	1444.5	1444.0	1443.4	1442.9	1442.3
20°	1413.4	1414.2	1415.1	1415.2	1414.7	1414.1	1413.6	1412.9
22.5°	1383.4	1384.9	1386.4	1386.6	1385.7	1384.7	1383.6	1382.6
25°	1333.9	1334.1	1334.4	1334.0	1332.8	1331.7	1330.6	1329.5
27.5°	1278.3	1277.6	1276.9	1275.9	1274.5	1273.1	1271.7	1270.3
30°	1239.9	1238.8	1237.7	1236.4	1235.0	1233.7	1232.2	1230.8
32.5°	1201.0	1199.7	1198.3	1197.0	1195.6	1194.1	1192.8	1191.4
35°	1139.6	1137.7	1135.7	1134.0	1132.6	1131.2	1129.7	1128.4
37.5°	1075.2	1073.1	1071.0	1069.0	1067.1	1065.2	1063.4	1061.5
40°	1030.4	1027.5	1024.8	1022.6	1021.3	1019.9	1018.4	1017.0
42.5°	987.0	983.7	980.5	978.3	977.4	976.4	975.5	974.5
45°	919.8	916.7	913.6	911.6	910.8	909.9	909.1	908.2
47.5°	854.8	851.3	847.8	844.9	842.8	840.7	838.5	836.4
50°	809.3	805.3	801.5	798.6	796.9	795.3	793.5	791.9
52.5°	762.6	759.1	755.7	752.9	750.8	748.6	746.5	744.3
55°	694.0	690.7	687.3	684.8	683.1	681.4	679.7	678.0
57.5°	625.3	622.1	618.9	616.5	614.9	613.2	611.6	610.0
60°	578.1	575.6	573.1	571.1	569.7	568.2	566.9	565.5
62.5°	532.0	529.7	527.4	525.5	524.1	522.7	521.3	519.9
65°	464.9	462.2	459.3	457.2	455.8	454.4	453.0	451.6
67.5°	395.9	393.2	390.5	388.9	388.5	388.1	387.7	387.3
70°	352.2	350.0	347.7	346.2	345.3	344.5	343.6	342.8
72.5°	308.6	306.8	305.0	303.6	302.9	302.0	301.1	300.3
75°	245.7	244.5	243.4	242.7	242.5	242.2	241.9	241.6
77.5°	186.0	185.7	185.4	184.8	184.1	183.4	182.6	181.9
80°	148.1	147.6	147.0	146.6	146.3	146.0	145.8	145.4
82.5°	114.2	113.8	113.5	113.2	112.9	112.6	112.3	112.1
85°	65.8	65.8	65.8	65.7	65.4	65.0	64.8	64.5
87.5°	27.3	27.5	27.6	27.8	27.8	27.9	28.0	28.0
90°	15.3	16.1	17.0	17.5	17.7	18.1	18.3	18.6
92.5°	14.8	15.6	16.4	16.9	17.0	17.0	17.0	17.1
95°	15.3	16.1	17.0	17.4	17.6	17.7	17.8	18.0
97.5°	16.6	16.6	16.7	16.8	17.0	17.0	17.2	17.3
100°	22.6	20.2	17.9	16.8	17.0	17.0	17.2	17.3
102.5°	80.8	55.6	30.3	17.7	17.7	17.7	17.8	17.8
105°	195.7	196.9	198.2	196.4	191.4	186.4	181.5	176.5
107.5°	242.2	242.7	243.4	243.9	244.5	244.9	245.5	246.1
110°	273.7	274.0	274.3	274.6	275.0	275.4	275.8	276.2





TEST NUMBER: P332694-927

CATALOG NUMBER: S124DIP-S1195D810U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	304.3	304.2	304.1	304.4	304.9	305.5	305.9	306.5
115°	349.9	350.1	350.5	350.6	350.6	350.6	350.6	350.6
117.5°	395.8	395.8	395.7	395.6	395.6	395.5	395.5	395.5
120°	424.2	424.5	424.8	424.8	424.5	424.2	424.0	423.7
122.5°	452.3	452.4	452.6	452.5	452.3	451.9	451.7	451.4
125°	491.4	491.8	492.2	492.5	492.7	492.7	492.9	493.1
127.5°	530.3	530.2	530.1	530.0	529.9	529.8	529.7	529.6
130°	554.1	554.1	554.3	554.4	554.4	554.4	554.4	554.4
132.5°	577.3	577.4	577.6	577.6	577.5	577.3	577.3	577.2
135°	609.4	609.7	610.0	610.2	610.5	610.8	611.1	611.3
137.5°	640.2	640.5	640.8	640.9	640.8	640.7	640.6	640.6
140°	659.3	659.7	660.0	660.4	660.5	660.6	660.8	660.9
142.5°	676.8	677.2	677.5	677.6	677.6	677.7	677.7	677.7
145°	702.0	702.2	702.3	702.5	702.8	703.1	703.4	703.6
147.5°	724.2	724.3	724.4	724.5	724.7	724.8	724.9	725.1
150°	738.3	738.3	738.3	738.4	738.6	738.6	738.8	738.9
152.5°	750.7	750.9	751.1	751.1	751.1	751.0	750.9	750.8
155°	767.3	767.9	768.4	768.5	768.0	767.6	767.2	766.8
157.5°	781.6	782.4	783.1	783.1	782.4	781.6	780.9	780.2
160°	790.8	791.6	792.4	792.4	791.6	790.8	790.0	789.1
162.5°	798.2	799.0	799.9	799.8	798.8	797.9	797.0	796.1
165°	808.7	809.8	810.9	810.8	809.5	808.3	807.1	805.8
167.5°	816.3	817.5	818.7	818.6	817.3	815.9	814.5	813.2
170°	821.0	822.1	823.2	823.1	821.7	820.4	819.0	817.6
172.5°	824.0	825.1	826.2	826.0	824.6	823.1	821.6	820.1
175°	827.5	828.8	830.0	829.8	828.1	826.5	824.8	823.2
177.5°	828.9	829.8	830.7	830.4	829.1	827.8	826.5	825.1
180°	828.1	828.1	828.1	828.1	828.1	828.1	828.1	828.1

(END OF REPORT)