

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: P334117

Luminaire Tested: **S124DS-S795D935-4F0-1E-UDD-A**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334117
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DS-S795D935-4F0-1E-UDD-A
Description: DEFINE 4 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 795 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

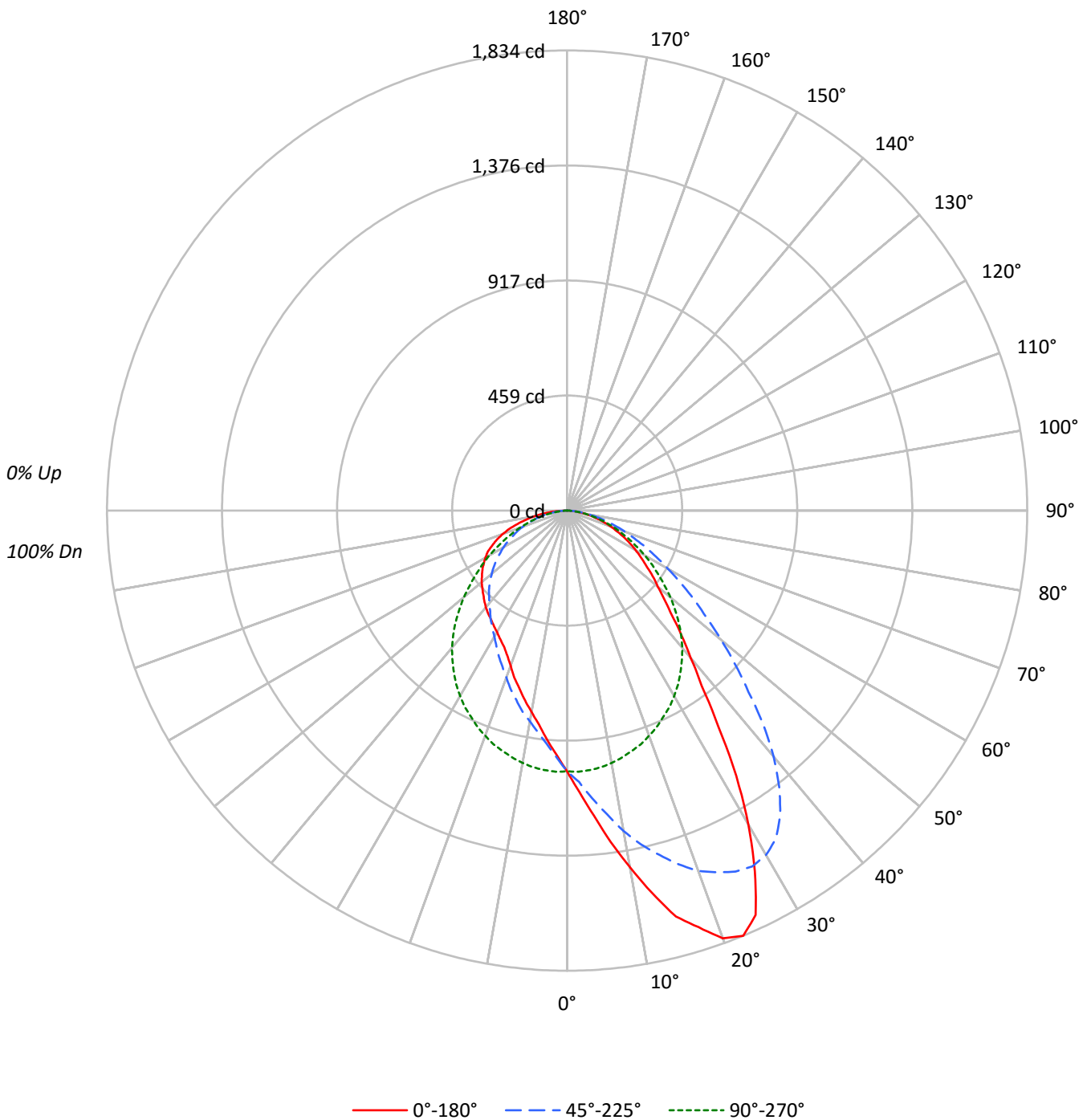
Lumens per Lamp: N/A
Luminaire Lumens: 2867.7 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 4' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 26.3
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8389	8389	8389
5°	9880	8411	7424
10°	11829	8375	6684
15°	13997	8290	6138
20°	15585	8204	5651
25°	15838	8076	5315
30°	13476	7954	5209
35°	10361	7756	5210
40°	8076	7522	5308
45°	6734	7171	5397
50°	5925	6742	5580
55°	5429	6229	5804
60°	5088	5769	6076
65°	4737	5255	6300
70°	4329	4744	6441
75°	3868	4177	6366
80°	3240	3422	6165
85°	2390	2473	5900



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.1	3.5
10°-20°	312.2	10.9
20°-30°	495.9	17.3
30°-40°	551.1	19.2
40°-50°	501.2	17.5
50°-60°	409.5	14.3
60°-70°	292.4	10.2
70°-80°	160.8	5.6
80°-90°	43.5	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	909.3	31.7
0°-40°	1460.3	50.9
0°-60°	2371.0	82.7
0°-90°	2867.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2867.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1039	1039	1039	1039	1039	
5°	1219	1152	1038	933	916	123
15°	1675	1421	992	782	734	473
25°	1778	1587	907	643	597	789
35°	1051	1480	787	531	529	665
45°	590	1022	628	440	473	463
55°	386	615	443	344	412	348
65°	248	343	275	239	330	245
75°	124	160	134	133	204	132
85°	26	33	27	38	64	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2
2.5°	1122.8	1122.3	1118.0	1117.2	1114.1	1110.3	1109.4	1102.5	1088.7	1082.3	1080.6
5°	1219.2	1227.8	1216.6	1214.4	1213.2	1198.9	1191.6	1183.0	1163.2	1151.6	1142.6
7.5°	1332.0	1332.4	1327.7	1322.9	1314.8	1302.7	1286.3	1267.4	1244.6	1221.3	1205.0
10°	1443.0	1446.5	1440.9	1440.0	1418.1	1404.3	1376.7	1353.5	1326.8	1297.1	1270.0
12.5°	1560.1	1553.3	1551.1	1528.3	1528.7	1500.7	1467.6	1443.5	1398.7	1363.4	1325.1
15°	1674.7	1665.2	1659.2	1633.8	1621.3	1586.4	1552.4	1526.1	1472.3	1421.1	1382.3
17.5°	1741.0	1752.6	1737.1	1726.7	1692.7	1669.9	1635.9	1582.1	1542.1	1478.3	1434.0
20°	1814.1	1815.0	1807.2	1796.5	1771.1	1740.1	1702.2	1641.9	1591.6	1528.3	1461.1
22.5°	1833.9	1833.9	1831.8	1821.9	1804.2	1780.6	1742.2	1694.5	1630.7	1560.6	1493.4
25°	1778.0	1776.3	1780.1	1791.3	1784.0	1776.3	1754.3	1716.8	1660.0	1587.3	1514.9
27.5°	1619.6	1630.7	1654.0	1681.5	1701.3	1719.0	1717.7	1701.8	1661.3	1598.5	1521.4
30°	1445.6	1460.3	1476.6	1504.2	1557.6	1588.1	1621.7	1647.1	1632.9	1585.1	1514.5
32.5°	1254.5	1255.3	1281.6	1313.9	1361.7	1427.5	1485.7	1543.8	1568.8	1549.4	1493.4
35°	1051.3	1057.3	1083.6	1114.6	1174.4	1246.3	1326.4	1397.8	1456.8	1480.5	1450.4
37.5°	880.8	899.8	919.6	954.9	1009.5	1074.5	1160.6	1249.7	1336.3	1388.8	1394.4
40°	766.3	777.1	790.4	815.8	860.6	924.3	995.8	1101.7	1195.1	1279.5	1307.0
42.5°	675.9	681.1	687.9	710.3	741.8	805.0	868.8	958.7	1052.6	1157.6	1208.4
45°	589.8	596.2	610.0	623.4	649.2	693.1	753.8	830.4	924.7	1022.0	1107.3
47.5°	525.2	529.5	538.1	552.8	576.0	605.7	657.4	722.4	814.5	908.8	1000.1
50°	471.8	475.3	481.7	494.6	511.4	537.3	577.7	637.6	706.0	801.2	890.3
52.5°	429.6	430.5	434.8	442.6	455.0	475.7	507.1	554.1	616.5	698.7	787.4
55°	385.7	387.5	391.8	398.2	409.8	423.6	449.0	486.0	541.6	615.2	692.2
57.5°	349.6	351.3	354.7	357.3	367.6	379.3	399.9	426.6	470.1	535.5	605.7
60°	315.1	314.3	318.6	320.7	327.2	336.7	351.7	377.1	413.7	464.1	527.4
62.5°	281.5	280.3	283.7	286.7	289.7	297.5	309.1	327.6	355.6	399.9	452.5
65°	248.0	246.2	248.4	251.8	255.3	259.6	268.6	286.3	310.0	342.7	384.4
67.5°	213.5	215.7	215.7	217.8	220.0	226.0	232.5	246.2	263.0	289.7	326.8
70°	183.4	183.8	185.5	185.5	186.8	192.0	197.2	204.5	220.8	245.0	273.8
72.5°	153.3	155.4	154.1	155.8	156.7	159.7	163.2	170.0	183.4	199.8	223.0
75°	124.0	125.3	125.3	125.7	127.0	128.3	131.3	136.5	146.4	159.7	176.5
77.5°	95.6	95.6	96.4	98.2	98.2	100.3	102.9	106.8	112.4	122.3	133.0
80°	69.7	70.6	70.2	71.0	71.0	72.8	73.6	78.8	80.9	87.0	95.1
82.5°	46.5	47.4	47.4	48.6	49.5	49.5	50.8	52.1	54.2	59.4	61.6
85°	25.8	26.7	25.8	26.7	28.0	28.4	29.7	30.1	31.9	33.1	36.2
87.5°	9.5	10.8	10.8	11.2	12.1	12.5	12.9	12.5	14.2	14.6	16.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2
2.5°	1081.0	1075.0	1070.7	1067.2	1057.7	1052.1	1047.8	1041.8	1034.9	1027.6	1018.6
5°	1133.5	1118.9	1108.1	1091.8	1076.3	1063.3	1050.0	1037.9	1023.3	1007.4	995.8
7.5°	1187.3	1167.1	1140.0	1118.9	1093.5	1071.5	1052.1	1031.9	1010.4	989.7	970.4
10°	1238.1	1210.1	1179.1	1142.6	1108.1	1077.5	1049.1	1021.6	994.9	968.2	945.4
12.5°	1292.8	1256.2	1206.7	1162.4	1122.8	1079.3	1043.5	1008.2	974.7	946.2	918.7
15°	1340.6	1290.2	1237.3	1180.0	1129.2	1081.4	1034.5	991.9	955.7	918.7	892.9
17.5°	1370.7	1308.3	1251.5	1191.6	1133.1	1073.2	1024.6	976.8	932.0	895.9	863.6
20°	1400.4	1338.4	1263.1	1203.3	1130.1	1068.1	1009.5	954.9	907.5	868.3	834.7
22.5°	1426.3	1352.2	1276.9	1193.4	1120.6	1053.9	988.4	933.3	884.7	842.9	811.1
25°	1432.3	1350.1	1268.3	1189.9	1107.3	1029.3	971.2	906.6	855.0	811.5	777.1
27.5°	1434.4	1347.5	1256.6	1171.4	1086.2	1015.1	939.4	883.0	829.6	783.5	750.8
30°	1429.7	1338.0	1238.6	1144.3	1058.6	979.8	916.1	853.3	798.6	752.9	718.5
32.5°	1414.6	1318.2	1215.3	1114.1	1024.6	948.0	881.7	822.7	769.7	725.0	688.4
35°	1382.8	1288.5	1179.6	1075.8	985.0	907.1	847.7	787.0	733.6	691.0	656.1
37.5°	1340.2	1252.3	1141.7	1033.6	946.2	867.0	807.2	751.2	703.0	659.1	622.9
40°	1280.7	1205.8	1094.8	990.2	893.7	819.2	764.1	713.8	666.0	625.1	591.1
42.5°	1212.3	1149.4	1049.1	936.8	844.6	769.7	716.4	672.4	628.1	591.1	557.1
45°	1128.3	1085.3	988.9	886.4	789.5	718.9	667.7	628.1	590.2	553.2	524.8
47.5°	1034.9	1010.8	926.9	828.7	735.7	665.1	620.8	582.9	548.5	516.2	490.8
50°	940.6	930.3	860.1	766.3	678.5	613.0	568.3	536.8	508.4	480.9	457.2
52.5°	847.7	849.8	788.3	704.3	624.7	562.2	517.9	489.1	465.4	444.3	423.6
55°	752.5	764.6	715.1	638.4	565.7	508.9	468.8	442.6	425.3	406.8	390.9
57.5°	665.1	685.4	642.3	572.1	510.6	456.3	421.0	400.8	381.9	369.8	357.3
60°	579.9	598.8	567.0	510.1	452.9	408.1	375.0	357.3	341.4	333.6	325.5
62.5°	504.1	520.5	499.0	447.3	399.5	356.9	330.2	313.4	303.9	295.3	290.6
65°	432.7	446.9	426.6	388.3	345.7	311.3	288.4	275.1	264.8	261.3	255.3
67.5°	362.1	375.0	364.2	330.6	294.5	267.3	249.3	235.1	229.0	225.6	221.7
70°	300.5	313.4	301.8	273.4	247.1	225.2	208.4	201.0	194.6	193.3	187.3
72.5°	248.4	256.1	244.5	223.9	202.3	184.7	172.6	164.9	162.3	159.7	157.1
75°	194.2	201.9	194.2	176.9	161.0	148.1	136.9	133.9	130.0	128.7	126.6
77.5°	145.5	152.8	146.8	135.2	122.7	111.9	105.5	101.2	100.7	98.2	99.0
80°	105.0	109.3	103.8	96.4	87.0	80.1	75.8	73.6	71.0	70.2	71.9
82.5°	68.0	69.3	67.2	62.9	56.4	52.5	49.9	47.4	47.4	47.8	47.4
85°	39.2	38.7	38.3	34.0	31.9	28.8	27.1	26.7	26.3	27.1	28.0
87.5°	16.4	16.8	16.4	14.6	13.3	12.1	11.6	11.2	11.6	12.1	12.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2	1039.2
2.5°	1014.3	1010.4	1004.8	997.0	990.6	983.7	982.0	979.4	984.6	980.3	979.0
5°	985.9	976.8	965.2	951.8	944.1	932.9	930.7	926.4	922.1	921.7	917.4
7.5°	956.1	943.7	929.0	915.2	903.2	891.1	883.4	882.5	875.6	872.2	867.9
10°	927.7	911.4	893.7	880.8	866.2	853.3	844.2	839.0	834.7	830.0	825.7
12.5°	894.2	876.5	862.7	848.5	830.4	821.4	805.0	795.1	795.1	796.4	783.5
15°	869.6	852.4	830.0	810.2	800.7	781.8	773.6	763.3	756.8	750.4	745.2
17.5°	839.5	818.4	801.2	778.8	761.1	746.9	735.7	730.1	719.8	710.3	703.9
20°	811.5	788.7	770.2	746.1	726.3	707.7	698.7	690.1	682.8	675.0	667.7
22.5°	783.1	759.0	735.3	712.1	694.0	674.2	665.6	653.1	646.2	642.7	635.4
25°	752.9	727.1	701.3	678.9	660.0	642.7	631.1	622.1	614.3	610.9	606.1
27.5°	720.2	694.8	670.3	644.5	622.5	610.0	600.6	593.2	588.5	583.3	581.2
30°	689.2	662.5	635.9	612.2	592.4	579.9	571.3	566.5	563.1	560.9	558.8
32.5°	657.8	631.5	603.1	582.0	564.8	554.1	548.0	543.3	542.0	541.6	541.1
35°	623.8	597.1	571.3	551.9	535.1	530.8	525.2	522.6	521.8	524.8	526.1
37.5°	591.1	566.1	542.0	522.6	511.4	504.5	502.4	502.0	505.0	507.6	510.6
40°	559.7	535.5	513.2	496.8	486.5	482.6	481.7	483.9	487.3	490.3	493.8
42.5°	529.1	505.4	485.6	470.5	464.1	460.6	461.5	463.7	468.8	472.7	478.3
45°	497.2	477.4	457.6	445.1	439.1	440.0	440.0	443.8	448.6	454.2	459.8
47.5°	467.5	447.3	430.5	419.7	416.7	415.4	417.6	422.8	429.2	435.7	443.4
50°	437.4	418.4	404.2	394.8	391.3	392.6	396.1	400.8	409.0	417.6	425.8
52.5°	406.8	390.0	377.1	368.5	366.4	368.9	372.4	380.6	387.5	396.9	407.3
55°	375.0	360.3	350.0	343.5	342.7	344.0	347.8	356.0	366.4	378.0	387.5
57.5°	343.5	331.1	321.2	316.4	316.8	317.7	323.7	333.6	344.0	356.5	368.5
60°	311.7	300.5	292.7	289.3	289.7	292.3	300.1	309.1	322.9	334.9	347.8
62.5°	281.5	272.1	264.8	261.7	260.9	267.3	274.7	284.1	297.9	311.7	325.9
65°	248.8	241.1	235.1	233.3	234.6	238.9	248.4	260.9	272.5	286.7	301.4
67.5°	217.0	210.5	206.2	207.1	208.4	214.4	222.6	233.3	246.2	260.9	276.0
70°	186.8	180.8	177.4	177.8	180.4	188.1	195.0	205.8	220.0	235.1	247.1
72.5°	155.8	152.4	149.4	151.5	154.1	158.9	167.9	178.7	190.7	204.5	217.4
75°	124.4	124.4	122.7	124.0	127.9	133.0	139.5	150.7	163.2	174.4	184.7
77.5°	97.7	96.4	97.3	98.6	101.2	107.6	114.9	123.1	133.0	144.6	153.3
80°	70.6	71.0	73.2	75.8	76.6	81.4	89.1	96.4	103.8	113.2	121.4
82.5°	48.6	49.1	49.9	53.4	54.2	59.4	63.7	71.0	77.5	83.1	89.5
85°	28.8	28.8	31.0	32.3	34.4	37.9	40.9	45.2	51.2	55.5	62.0
87.5°	13.8	13.8	15.5	16.4	17.7	19.8	20.7	25.4	27.1	29.3	33.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P334117

CATALOG NUMBER: S124DS-S795D935-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1039.2	1039.2	1039.2	1039.2
2.5°	978.1	977.2	974.2	973.8
5°	914.8	912.7	911.4	916.1
7.5°	867.0	865.3	861.4	860.1
10°	821.4	819.7	816.2	815.4
12.5°	777.5	773.6	773.6	774.9
15°	739.6	737.9	733.1	734.4
17.5°	700.9	699.1	692.7	699.1
20°	664.7	661.3	658.2	657.8
22.5°	630.3	627.2	627.7	624.2
25°	602.7	599.7	598.8	596.7
27.5°	580.3	578.6	576.9	577.7
30°	560.1	559.7	558.8	558.8
32.5°	543.3	543.3	544.2	544.2
35°	527.8	529.1	529.9	528.7
37.5°	514.0	514.9	516.2	517.5
40°	497.7	500.7	501.5	503.7
42.5°	482.2	485.6	488.2	488.2
45°	466.2	469.7	472.7	472.7
47.5°	449.9	454.6	457.6	458.1
50°	433.1	439.1	442.1	444.3
52.5°	416.7	422.8	427.1	427.9
55°	397.4	406.0	410.7	412.4
57.5°	380.1	387.9	393.0	394.3
60°	359.5	368.1	375.0	376.3
62.5°	338.4	347.4	353.4	357.3
65°	313.4	322.4	328.5	329.8
67.5°	287.1	296.6	300.5	303.1
70°	259.2	266.5	270.8	272.9
72.5°	227.3	235.1	240.2	240.2
75°	194.6	201.5	204.1	204.1
77.5°	160.6	164.5	167.9	168.8
80°	127.9	130.0	132.6	132.6
82.5°	94.3	96.0	98.6	98.2
85°	61.1	65.0	64.6	63.7
87.5°	34.4	34.9	36.2	37.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)