

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: P242758

Luminaire Tested: **S124RDR-S795D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242758
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-S795D935-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2701.0 lumens
Efficiency: N/A
Efficacy: 102.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

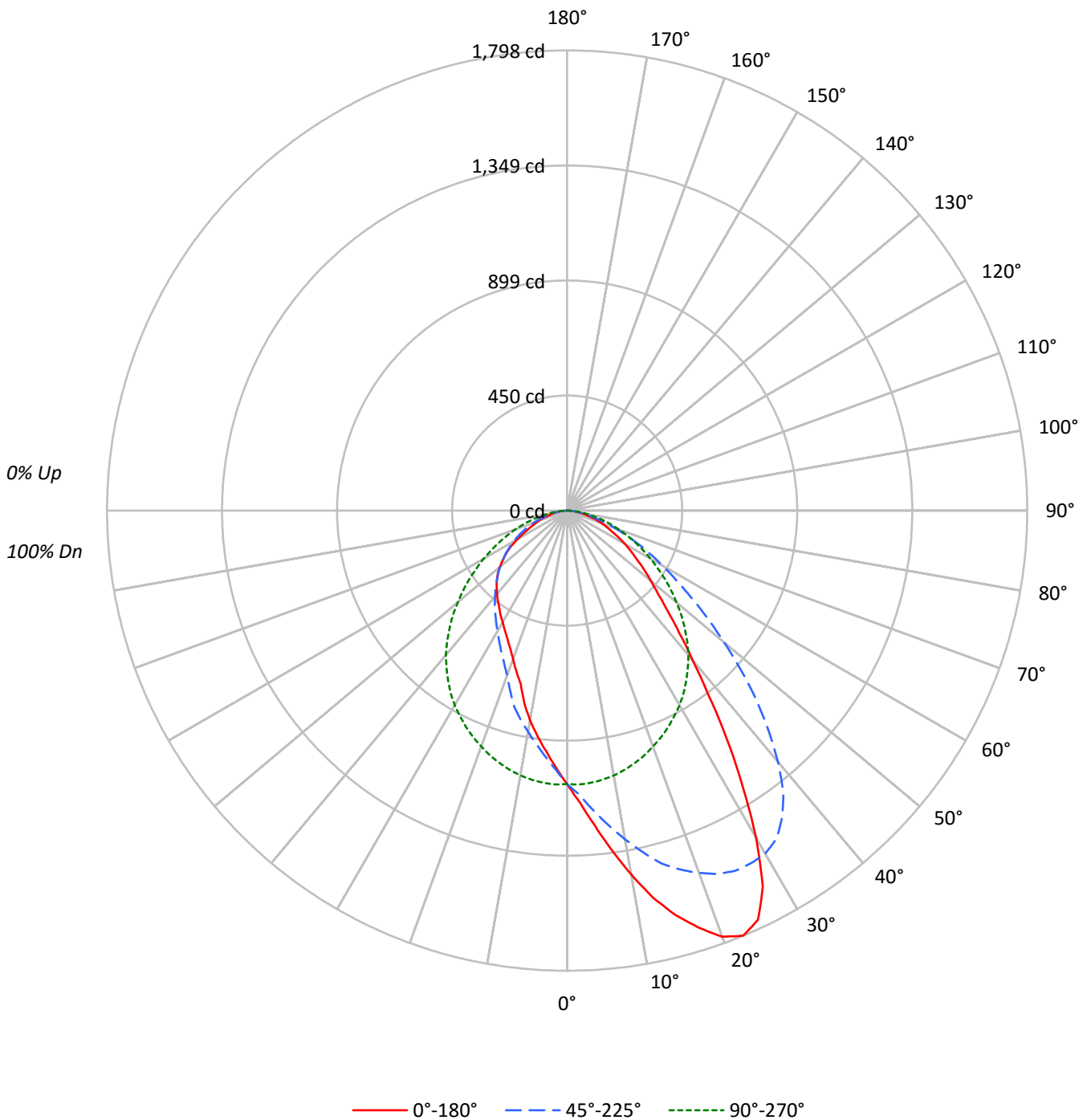
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76					74				
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65					63				
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57					55				
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50					48				
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45					43				
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40					38				
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36					34				
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33					31				
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30					28				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9498	9498	9498
5°	11017	9526	8421
10°	13033	9485	7515
15°	15054	9397	6457
20°	16761	9277	5839
25°	17303	9159	5422
30°	15148	9014	5170
35°	11791	8802	5018
40°	8842	8557	4935
45°	6981	8166	4893
50°	5894	7715	4750
55°	5137	7219	4497
60°	4622	6704	3980
65°	4074	6148	3422
70°	3670	5572	3088
75°	3074	4939	2631
80°	2600	4208	2467
85°	2193	3294	2193



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.5	3.8
10°-20°	312.4	11.6
20°-30°	489.4	18.1
30°-40°	543.5	20.1
40°-50°	481.6	17.8
50°-60°	375.3	13.9
60°-70°	245.5	9.1
70°-80°	120.5	4.5
80°-90°	29.3	1.1
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°	905.3	33.5
0°-40°	1448.8	53.6
0°-60°	2305.8	85.4
0°-90°	2701.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2701.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1068	1068	1068	1068	1068	
5°	1235	1175	1068	966	944	124
15°	1636	1428	1021	796	702	465
25°	1764	1553	934	608	553	788
35°	1087	1465	811	489	462	680
45°	555	1044	650	389	389	438
55°	332	591	466	293	290	301
65°	194	304	292	190	163	195
75°	90	115	144	92	77	98
85°	22	23	32	23	22	25
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°	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5
2.5°	1141.7	1145.6	1141.7	1141.3	1137.0	1135.7	1133.9	1128.3	1118.0	1112.0	1113.3
5°	1234.7	1245.4	1239.4	1238.6	1229.1	1219.6	1213.6	1199.8	1185.2	1175.3	1167.1
7.5°	1338.0	1344.5	1340.2	1335.4	1319.1	1313.9	1299.7	1283.3	1258.8	1240.3	1223.5
10°	1443.9	1449.1	1447.3	1436.2	1425.0	1402.1	1389.2	1363.8	1330.7	1304.4	1279.9
12.5°	1548.1	1553.7	1535.2	1538.6	1514.9	1498.1	1475.8	1442.2	1402.6	1366.8	1334.6
15°	1635.9	1629.0	1629.0	1620.4	1596.7	1571.8	1550.7	1517.1	1468.9	1428.4	1385.8
17.5°	1708.2	1711.2	1707.8	1685.8	1668.6	1643.2	1605.3	1567.0	1525.3	1471.0	1428.8
20°	1771.9	1771.9	1768.1	1754.3	1730.2	1702.6	1660.9	1618.3	1561.4	1506.8	1457.7
22.5°	1797.8	1799.5	1794.8	1784.0	1762.9	1736.2	1702.2	1658.7	1599.7	1536.5	1472.7
25°	1764.2	1772.4	1773.2	1770.2	1763.8	1747.4	1716.8	1672.5	1620.0	1553.2	1487.8
27.5°	1655.7	1666.5	1670.8	1680.2	1697.9	1704.4	1700.5	1670.8	1620.0	1554.1	1489.1
30°	1475.8	1484.4	1512.4	1548.9	1577.4	1603.2	1625.6	1631.6	1605.8	1548.1	1478.8
32.5°	1276.0	1288.5	1316.5	1356.5	1408.6	1456.8	1514.1	1544.6	1550.2	1521.4	1458.5
35°	1086.6	1095.2	1121.0	1162.4	1219.2	1284.2	1363.8	1425.8	1468.0	1465.0	1425.8
37.5°	904.9	917.0	943.2	977.2	1033.2	1116.3	1191.6	1274.7	1350.5	1387.5	1367.7
40°	762.0	762.4	787.8	823.1	874.8	945.0	1028.9	1123.6	1210.6	1281.6	1295.4
42.5°	649.2	649.2	663.8	702.6	736.2	801.2	880.4	974.2	1079.7	1164.5	1206.7
45°	555.3	559.2	573.0	595.8	625.1	681.1	745.2	832.6	946.7	1044.0	1104.7
47.5°	481.3	488.2	496.4	517.0	541.1	580.3	635.0	716.8	811.5	919.6	1003.5
50°	426.2	427.1	438.3	448.6	468.8	498.5	545.0	610.5	695.7	798.6	894.6
52.5°	378.8	378.4	384.0	397.8	413.3	434.8	470.1	528.2	601.4	691.0	790.8
55°	331.5	333.6	338.8	349.1	361.6	378.0	407.7	452.5	511.9	590.6	680.6
57.5°	295.3	296.6	301.4	305.2	317.3	329.3	353.4	385.7	437.8	503.7	591.9
60°	260.0	260.5	261.7	268.2	277.2	288.4	303.5	329.8	372.0	430.9	497.2
62.5°	225.6	226.4	228.6	232.9	239.4	246.2	262.2	282.0	315.1	363.3	421.5
65°	193.7	194.2	197.2	198.9	204.5	211.4	223.0	237.2	261.3	303.5	348.7
67.5°	167.0	167.0	167.0	169.6	173.9	178.7	186.4	198.5	217.8	245.0	287.1
70°	141.2	141.2	142.1	143.4	145.5	149.4	153.3	161.9	175.2	196.3	226.9
72.5°	117.1	117.5	118.4	118.4	119.2	122.3	124.8	129.6	138.6	153.3	176.5
75°	89.5	90.8	93.0	94.7	96.9	96.4	99.4	102.9	105.9	115.4	129.6
77.5°	70.6	69.7	69.7	71.5	71.9	72.3	74.5	77.5	80.1	85.2	90.4
80°	50.8	50.8	52.1	52.5	52.1	52.5	54.7	56.0	56.8	58.5	63.3
82.5°	35.3	36.2	35.3	35.7	36.2	36.6	38.3	38.3	39.2	39.6	40.9
85°	21.5	22.0	22.4	21.5	21.5	21.5	22.4	22.8	23.7	23.2	24.1
87.5°	9.5	9.0	9.5	9.5	9.9	9.5	9.9	10.8	9.9	10.3	10.3
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°	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5
2.5°	1109.0	1102.9	1099.9	1093.0	1084.9	1080.6	1076.7	1071.1	1063.8	1056.0	1050.4
5°	1156.8	1146.4	1133.5	1118.0	1104.2	1090.9	1079.3	1067.6	1054.3	1040.5	1026.7
7.5°	1204.1	1185.6	1165.8	1142.1	1119.3	1098.2	1079.3	1060.8	1039.7	1020.7	1003.1
10°	1254.1	1226.5	1195.9	1163.6	1131.4	1103.4	1075.8	1050.9	1023.3	998.8	978.1
12.5°	1294.5	1260.9	1222.6	1180.4	1140.0	1104.7	1071.9	1037.5	1005.2	978.1	948.8
15°	1340.2	1295.8	1246.3	1198.1	1147.7	1101.7	1059.0	1021.1	985.4	948.0	921.7
17.5°	1371.6	1320.3	1261.8	1205.8	1148.1	1094.8	1046.5	1002.6	961.7	924.3	893.3
20°	1399.1	1341.0	1274.3	1208.4	1141.7	1083.6	1030.6	980.7	938.1	896.7	864.4
22.5°	1414.6	1348.8	1274.3	1204.5	1134.8	1070.7	1011.2	958.7	911.4	870.0	833.5
25°	1415.5	1346.6	1272.1	1192.9	1117.2	1050.4	990.2	933.8	882.1	840.8	802.9
27.5°	1412.0	1332.4	1257.5	1177.0	1099.1	1028.0	965.6	905.8	854.5	810.6	771.9
30°	1401.7	1314.8	1233.0	1148.6	1069.4	1001.8	935.0	878.2	824.4	778.3	739.2
32.5°	1379.3	1293.2	1203.7	1116.7	1036.2	966.0	903.6	846.4	793.8	746.5	704.3
35°	1348.3	1260.9	1165.4	1076.7	997.9	925.6	866.2	811.1	760.7	710.3	666.4
37.5°	1312.6	1221.3	1127.1	1029.8	951.4	882.5	827.0	774.0	725.0	678.9	630.3
40°	1257.5	1176.1	1078.0	981.5	900.6	834.7	784.4	737.4	687.9	642.3	593.7
42.5°	1190.8	1124.5	1025.0	928.2	848.5	785.7	739.6	694.0	650.1	606.1	554.9
45°	1115.0	1062.5	969.5	876.5	796.0	733.1	690.1	649.6	610.0	567.8	520.0
47.5°	1030.6	991.9	910.9	813.6	738.3	680.6	639.3	605.7	570.8	528.2	485.2
50°	941.9	919.1	841.6	754.7	683.6	631.5	588.9	557.9	529.9	489.5	452.0
52.5°	847.2	837.8	775.3	693.1	625.1	574.3	539.4	512.3	483.9	452.0	417.6
55°	750.8	757.3	701.7	629.8	565.2	522.2	489.0	465.8	441.7	413.3	386.2
57.5°	650.5	675.0	633.7	568.7	506.3	465.8	440.4	419.7	399.5	375.4	350.9
60°	562.2	582.0	560.9	505.4	452.5	415.4	392.2	377.1	356.9	335.4	317.7
62.5°	476.1	497.7	487.3	445.1	396.9	366.4	346.6	332.8	319.0	300.9	282.4
65°	406.8	420.6	414.6	383.6	348.7	321.6	302.6	292.3	278.5	264.8	248.4
67.5°	325.5	352.6	348.3	331.1	297.5	276.0	262.6	253.1	240.2	229.9	218.3
70°	256.1	280.7	280.3	266.9	250.6	230.7	222.1	214.4	203.2	193.3	184.3
72.5°	198.0	220.0	224.3	214.8	204.9	191.1	183.0	178.2	167.5	161.4	154.6
75°	146.8	163.2	167.5	167.5	162.3	154.6	147.2	143.8	136.0	130.0	125.7
77.5°	103.3	114.5	121.0	122.3	122.7	119.7	112.8	110.2	104.2	102.0	97.3
80°	68.0	74.9	82.7	85.2	87.4	86.5	83.9	82.2	76.6	74.5	72.8
82.5°	41.8	44.8	50.8	57.3	56.0	59.0	56.8	55.5	51.7	51.2	49.5
85°	24.5	25.0	25.8	29.7	31.9	32.7	33.1	32.3	31.0	31.0	28.0
87.5°	10.3	9.9	10.8	10.8	11.2	12.9	14.2	14.6	13.3	12.1	10.8
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°	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5	1068.5
2.5°	1044.4	1040.1	1034.5	1028.0	1020.3	1013.4	1010.4	1013.0	1014.3	1010.8	1010.4
5°	1017.3	1006.5	997.9	985.0	974.7	966.0	960.0	957.4	958.3	951.4	949.7
7.5°	987.1	975.5	961.3	946.7	932.9	920.8	914.4	911.4	904.1	901.0	896.3
10°	958.3	941.1	927.3	909.2	892.9	877.8	870.5	864.4	857.1	853.7	846.4
12.5°	928.6	907.9	892.4	873.5	856.7	837.8	830.9	818.4	805.9	797.7	787.8
15°	901.0	876.9	858.4	836.0	816.2	795.6	777.1	756.4	748.6	732.3	722.8
17.5°	868.3	843.4	822.7	793.8	764.1	739.2	718.5	697.0	685.4	674.2	669.4
20°	836.0	813.6	781.8	746.9	712.9	684.5	668.6	655.7	642.7	635.4	630.3
22.5°	805.5	775.3	737.0	698.7	664.7	644.0	631.1	617.8	607.9	601.0	593.7
25°	770.6	733.1	694.0	650.9	627.7	608.3	593.7	582.9	576.4	567.4	564.0
27.5°	736.6	691.4	647.0	617.8	593.7	575.1	561.8	554.1	545.4	539.4	534.7
30°	696.1	650.1	611.3	583.8	559.2	544.6	534.3	524.8	518.3	513.6	510.1
32.5°	656.1	610.0	579.0	548.9	530.8	516.6	505.4	499.0	494.2	487.8	486.0
35°	617.8	576.9	548.5	521.8	502.0	489.0	480.4	473.1	468.8	467.1	465.8
37.5°	580.3	546.3	514.9	493.4	474.8	464.9	453.7	450.3	447.3	443.4	445.1
40°	545.0	513.6	486.5	463.2	449.0	437.8	431.8	427.5	424.9	424.9	424.9
42.5°	514.4	483.9	457.6	437.4	423.2	414.1	407.3	403.8	403.4	402.9	405.5
45°	482.6	454.2	427.5	410.3	398.2	388.7	384.9	381.9	381.9	383.6	384.0
47.5°	450.7	424.0	402.5	382.7	371.5	365.5	362.1	360.3	360.3	362.5	364.2
50°	421.9	395.6	374.5	357.3	347.0	341.4	338.4	337.5	338.4	338.4	341.4
52.5°	390.5	367.6	347.0	333.2	321.2	316.0	314.7	313.4	313.8	315.6	316.4
55°	359.9	338.8	319.0	305.2	296.6	293.2	289.3	289.7	288.9	289.7	289.7
57.5°	328.9	310.4	291.0	279.8	272.5	267.3	263.0	264.3	263.0	263.0	262.6
60°	299.2	278.5	263.9	254.0	245.4	241.1	237.2	238.1	236.8	235.9	234.2
62.5°	266.9	250.6	236.8	227.3	220.8	215.7	211.8	210.5	207.1	203.6	199.3
65°	235.9	221.7	209.2	200.2	193.7	189.9	186.8	184.3	177.8	170.9	167.5
67.5°	205.3	195.0	183.0	175.2	170.0	164.9	159.3	154.6	148.1	143.8	141.6
70°	176.1	166.2	156.3	149.0	143.4	138.6	132.2	129.2	124.8	123.1	121.0
72.5°	148.1	139.1	130.0	123.6	117.5	114.1	109.3	106.3	105.0	104.6	102.5
75°	119.7	112.4	105.5	99.4	94.7	92.1	90.0	87.8	87.0	83.1	80.9
77.5°	92.1	87.0	82.7	77.9	74.9	73.2	68.4	65.4	63.7	61.6	61.1
80°	68.0	64.6	60.3	57.7	53.0	51.2	49.5	49.1	48.6	48.2	47.8
82.5°	46.9	43.5	39.2	37.9	37.5	36.6	35.7	35.3	34.9	35.3	35.3
85°	25.8	24.1	24.1	23.7	23.2	22.8	22.4	22.4	22.0	22.4	22.0
87.5°	10.8	10.3	10.3	9.5	9.9	9.9	9.5	9.5	9.9	9.0	9.0
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: P242758

CATALOG NUMBER: S124RDR-S795D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1068.5	1068.5	1068.5	1068.5
2.5°	1007.8	1008.7	1005.7	1004.8
5°	946.2	945.4	943.2	943.7
7.5°	892.9	889.8	892.0	888.6
10°	844.6	839.9	836.0	832.6
12.5°	778.8	774.9	769.3	771.5
15°	717.2	710.8	700.4	701.7
17.5°	662.1	663.0	656.9	658.7
20°	621.2	618.2	618.6	617.3
22.5°	592.8	588.9	585.1	582.0
25°	560.1	557.5	553.6	552.8
27.5°	531.2	530.8	529.1	526.9
30°	506.7	505.8	505.0	503.7
32.5°	484.7	484.3	483.5	483.9
35°	464.1	463.7	462.8	462.4
37.5°	444.7	446.0	445.1	445.1
40°	424.5	424.9	425.8	425.3
42.5°	407.7	407.7	409.0	407.3
45°	387.0	389.6	389.2	389.2
47.5°	365.1	368.1	368.5	368.5
50°	343.5	342.7	344.0	343.5
52.5°	317.3	317.7	317.3	316.8
55°	290.2	290.6	289.7	290.2
57.5°	261.3	259.6	260.9	260.0
60°	229.9	226.4	225.6	223.9
62.5°	194.6	192.4	189.0	191.1
65°	164.0	162.3	161.0	162.7
67.5°	139.5	138.6	138.6	137.8
70°	121.0	119.7	119.7	118.8
72.5°	102.0	100.7	101.2	100.7
75°	78.4	76.2	76.2	76.6
77.5°	61.1	60.7	61.6	60.3
80°	47.8	47.4	46.9	48.2
82.5°	34.4	34.4	34.4	36.2
85°	22.4	21.5	22.4	21.5
87.5°	9.9	9.5	9.0	9.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)