

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: P242586

Luminaire Tested: **S123RDR-S775D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242586
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-30)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-S775D935-X4F0-XX-UDD-A-W
Description: DEFINE 3 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: 2504.1 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.35
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

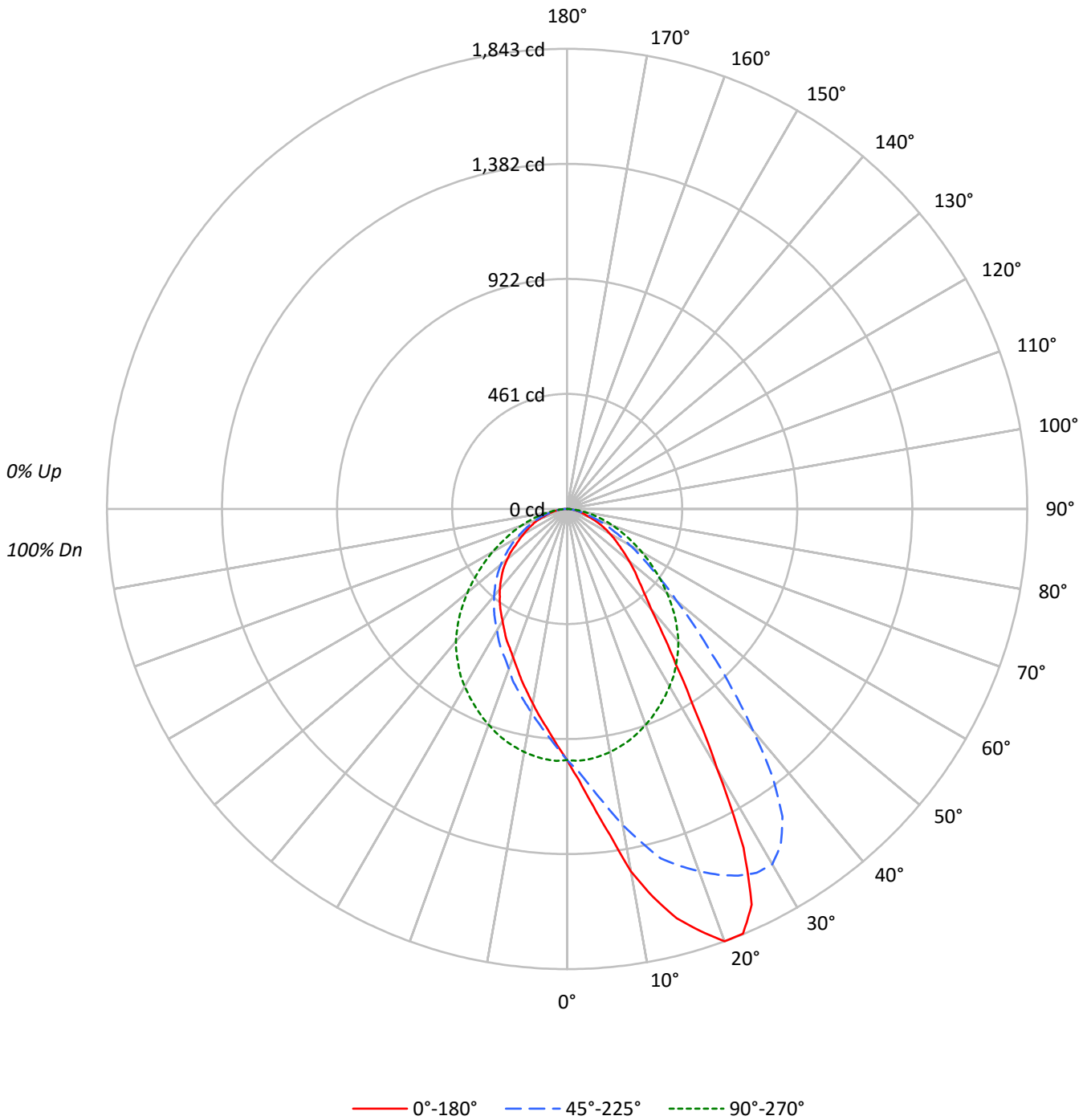
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242586

CATALOG NUMBER: S123RDR-S775D935-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P242586

CATALOG NUMBER: S123RDR-S775D935-X4F0-XX-UDD-A-W

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	99	108	104	100	97	100	97	94	96	93	91	92	90	89					87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					74				
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66					64				
4	86	75	67	61	84	74	66	61	71	65	60	69	64	59	67	62	58					56				
5	80	68	60	53	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46					44				
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41					39				
8	64	52	44	38	63	51	43	38	50	43	38	48	42	38	47	42	37					36				
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34					32				
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31					29				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	12190	12190	12190
5°	14530	12242	10780
10°	18144	12172	9739
15°	21297	12047	8882
20°	23768	11862	8152
25°	23388	11665	7704
30°	16811	11484	7243
35°	11225	11250	6944
40°	8269	10967	6635
45°	6937	10472	6332
50°	6121	9823	5910
55°	5368	9079	5332
60°	4781	8371	4885
65°	4199	7606	4543
70°	3296	6929	4150
75°	2904	6051	3789
80°	2527	5138	3727
85°	2031	4131	3950



TEST NUMBER: P242586

CATALOG NUMBER: S123RDR-S775D935-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	3.9
10°-20°	309.2	12.3
20°-30°	486.9	19.4
30°-40°	506.4	20.2
40°-50°	433.2	17.3
50°-60°	330.2	13.2
60°-70°	211.5	8.4
70°-80°	101.3	4.0
80°-90°	26.7	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°	894.8	35.7
0°-40°	1401.2	56.0
0°-60°	2164.6	86.4
0°-90°	2504.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2504.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1006	1006	1006	1006	1006	
5°	1194	1120	1006	908	886	122
15°	1697	1449	960	755	708	481
25°	1749	1620	872	623	576	760
35°	759	1503	760	509	469	493
45°	405	816	611	402	369	317
55°	254	407	430	290	252	229
65°	146	201	265	181	158	144
75°	62	73	129	92	81	66
85°	15	16	30	28	28	17
90°	0	0	0	0	0	



TEST NUMBER: P242586

CATALOG NUMBER: S123RDR-S775D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7
2.5°	1087.5	1089.2	1083.6	1082.7	1076.3	1074.5	1074.5	1065.5	1059.9	1052.6	1048.3
5°	1194.2	1201.1	1197.7	1189.9	1177.0	1174.0	1165.8	1152.9	1138.3	1120.2	1111.6
7.5°	1316.5	1330.7	1328.1	1316.1	1302.3	1293.7	1270.9	1252.3	1224.4	1199.0	1179.2
10°	1474.1	1464.2	1456.4	1444.8	1432.3	1412.1	1388.0	1354.8	1316.5	1286.4	1252.8
12.5°	1592.0	1592.5	1582.1	1570.1	1551.1	1532.2	1501.2	1459.0	1412.9	1366.0	1326.4
15°	1697.1	1699.6	1693.2	1680.7	1655.7	1621.7	1577.0	1560.2	1496.4	1449.1	1401.7
17.5°	1772.0	1772.4	1771.1	1754.3	1727.2	1704.0	1662.2	1623.0	1562.7	1498.6	1435.3
20°	1842.6	1838.3	1839.1	1819.8	1800.8	1772.8	1732.4	1668.2	1620.9	1543.8	1477.9
22.5°	1840.9	1840.9	1844.7	1841.3	1828.8	1809.0	1779.3	1727.6	1663.9	1586.0	1509.8
25°	1748.7	1745.3	1765.5	1771.1	1793.1	1796.9	1787.5	1757.8	1700.5	1620.4	1528.7
27.5°	1529.2	1516.7	1558.9	1600.6	1656.2	1691.5	1727.6	1735.8	1708.7	1643.3	1547.2
30°	1201.1	1241.6	1260.5	1328.5	1404.3	1494.7	1573.9	1649.3	1667.8	1642.8	1567.5
32.5°	946.3	980.3	995.3	1051.3	1120.6	1230.4	1359.1	1473.6	1563.2	1593.3	1555.4
35°	758.6	759.0	795.1	821.0	886.4	995.3	1110.7	1253.6	1395.7	1503.3	1514.5
37.5°	626.0	627.7	650.9	676.8	729.3	790.4	897.6	1018.2	1189.1	1349.6	1433.2
40°	522.6	526.5	542.9	568.3	603.6	647.1	726.3	838.2	975.1	1158.9	1309.2
42.5°	456.3	463.2	469.7	487.8	506.3	546.3	606.6	686.7	808.1	979.4	1158.5
45°	404.7	408.1	414.6	423.6	443.4	471.8	514.9	573.0	676.3	816.2	989.7
47.5°	365.1	362.9	370.2	378.0	391.3	412.0	442.1	492.5	570.0	687.1	837.3
50°	324.6	324.2	328.9	334.5	347.0	361.2	384.9	420.6	479.2	572.1	706.9
52.5°	286.7	288.9	291.9	299.2	307.4	318.1	338.8	362.1	410.3	487.3	594.1
55°	254.0	255.3	260.0	263.9	270.4	282.0	295.3	316.9	351.3	407.3	499.8
57.5°	225.6	225.2	229.9	230.3	238.5	248.4	259.2	276.0	302.2	346.6	411.1
60°	197.2	195.9	199.8	202.8	206.6	214.4	223.0	239.4	259.2	289.7	343.1
62.5°	171.3	170.9	173.5	176.5	179.5	186.4	193.3	204.9	219.6	244.1	283.7
65°	146.4	147.7	149.0	150.2	152.0	156.3	163.2	171.8	182.5	200.6	231.2
67.5°	120.5	122.3	122.7	125.7	129.2	131.3	135.2	143.4	151.5	167.9	186.0
70°	93.0	92.6	93.0	94.3	99.0	103.8	109.3	114.9	119.7	130.4	145.1
72.5°	76.6	75.8	77.1	77.1	78.8	79.2	82.2	87.4	93.9	100.3	109.8
75°	62.0	62.0	62.0	62.0	63.7	64.6	65.9	67.2	69.3	72.8	80.5
77.5°	48.2	48.2	49.1	49.5	49.9	50.4	51.2	52.5	53.4	55.1	59.0
80°	36.2	36.6	36.2	36.6	36.6	37.5	37.9	39.2	39.6	41.8	43.1
82.5°	25.0	24.5	25.0	25.4	25.4	26.3	26.3	27.1	27.1	28.0	29.3
85°	14.6	13.8	14.6	14.2	15.1	14.2	14.6	15.5	15.5	15.9	17.7
87.5°	4.3	5.2	4.3	4.7	4.7	5.2	5.2	5.2	6.0	5.6	6.0
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: P242586

CATALOG NUMBER: S123RDR-S775D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7
2.5°	1046.6	1045.3	1039.2	1032.4	1023.3	1017.3	1012.6	1010.0	1002.2	992.8	986.3
5°	1102.5	1089.6	1075.8	1059.1	1043.6	1027.6	1017.7	1006.1	991.9	976.0	964.8
7.5°	1158.1	1135.7	1111.1	1085.7	1059.9	1037.1	1016.0	998.8	977.3	955.3	940.2
10°	1223.9	1186.9	1148.6	1109.4	1073.7	1040.1	1014.3	988.9	961.8	935.5	915.7
12.5°	1283.8	1232.1	1186.5	1136.1	1087.9	1046.1	1006.1	975.1	941.1	912.7	889.4
15°	1332.4	1282.5	1229.1	1155.9	1095.2	1044.4	999.2	960.0	920.4	886.0	864.0
17.5°	1383.2	1307.5	1237.3	1180.5	1101.2	1039.7	986.7	941.1	898.0	862.7	835.2
20°	1412.5	1339.7	1261.8	1183.9	1106.4	1035.4	971.2	919.6	874.4	833.0	808.1
22.5°	1430.1	1345.3	1262.3	1177.0	1093.5	1019.0	955.7	897.6	847.7	808.9	776.6
25°	1443.1	1344.9	1254.5	1171.8	1087.9	1007.8	932.5	872.2	819.3	777.5	744.8
27.5°	1453.4	1339.7	1236.0	1146.0	1061.2	979.8	911.8	847.2	794.3	750.8	715.1
30°	1456.0	1333.3	1214.0	1114.6	1028.1	954.9	881.7	820.5	763.7	716.8	684.1
32.5°	1459.4	1317.4	1184.3	1077.1	988.0	915.7	851.1	793.4	734.9	688.8	655.2
35°	1447.4	1313.5	1154.2	1032.8	944.1	873.9	814.1	760.3	703.0	658.2	624.2
37.5°	1410.8	1292.4	1124.1	983.3	891.6	827.0	777.1	728.0	675.0	626.0	594.5
40°	1349.2	1257.9	1087.9	938.9	842.1	775.3	731.4	693.1	642.3	597.1	562.7
42.5°	1257.5	1211.0	1053.5	892.4	786.1	722.4	687.1	651.8	608.7	562.7	530.8
45°	1141.3	1148.6	1003.9	842.5	735.3	670.7	635.9	610.9	571.3	533.4	500.3
47.5°	1000.1	1061.2	951.0	790.0	680.2	619.5	588.9	566.1	538.6	499.4	468.8
50°	862.3	960.0	884.7	737.0	629.0	568.7	538.6	520.9	497.7	468.4	439.5
52.5°	735.3	842.1	804.6	678.1	573.4	519.6	490.3	476.6	459.4	432.2	406.8
55°	620.4	726.7	716.4	618.6	517.9	468.4	446.0	429.6	417.2	396.5	375.8
57.5°	520.5	623.4	625.5	552.8	469.7	419.3	399.9	387.0	378.4	362.1	341.8
60°	427.1	519.6	537.7	486.0	417.2	374.1	355.2	345.3	338.8	326.3	311.7
62.5°	349.6	424.9	446.0	412.4	366.8	327.2	313.4	303.9	300.1	289.7	277.2
65°	279.4	344.8	364.6	344.0	317.7	285.4	273.4	265.2	261.3	255.3	245.8
67.5°	220.4	271.2	292.7	275.5	265.6	242.8	234.6	229.9	226.4	222.1	214.0
70°	168.8	204.1	226.4	222.6	214.8	204.1	198.5	195.5	192.0	188.6	181.7
72.5°	127.4	149.0	169.6	173.1	167.0	167.0	162.3	161.4	159.7	155.4	152.4
75°	90.0	106.8	121.4	127.0	129.6	131.7	129.6	129.2	128.7	125.3	123.1
77.5°	62.4	73.2	83.1	93.0	96.4	99.4	99.9	101.6	100.3	98.2	97.3
80°	45.2	47.4	53.8	62.0	68.5	71.0	72.8	73.6	73.2	72.8	71.0
82.5°	29.7	31.4	33.6	38.7	43.9	48.6	49.5	49.1	50.4	50.8	49.5
85°	17.7	18.1	18.9	19.8	22.8	27.6	28.8	29.7	30.6	30.6	28.0
87.5°	6.9	6.5	7.3	7.3	8.6	9.0	11.6	13.8	14.2	12.5	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



TEST NUMBER: P242586

CATALOG NUMBER: S123RDR-S775D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7	1005.7
2.5°	984.1	978.5	974.7	966.1	960.5	954.4	948.4	952.3	951.9	951.4	951.4
5°	955.3	945.4	936.4	924.7	917.4	908.4	901.5	900.6	902.3	896.3	892.9
7.5°	928.2	915.3	902.3	890.3	876.9	866.6	860.2	857.6	852.8	849.0	845.5
10°	899.3	883.4	870.9	855.0	840.4	827.4	819.3	813.7	810.6	807.6	802.0
12.5°	869.6	854.1	837.3	818.8	805.1	789.6	784.0	777.5	771.0	767.6	759.4
15°	840.8	820.5	803.8	784.8	769.3	754.7	746.1	733.6	731.9	727.6	719.8
17.5°	812.8	790.4	765.9	753.0	737.5	722.0	708.2	704.3	691.4	687.1	679.8
20°	778.4	758.1	740.5	722.0	696.6	682.4	672.0	666.4	656.5	650.5	646.2
22.5°	748.7	728.0	706.9	684.5	664.7	648.3	641.5	632.0	627.7	618.6	613.9
25°	720.7	698.3	673.7	650.5	635.4	623.4	611.3	603.6	595.8	591.9	583.3
27.5°	686.7	664.3	640.6	622.5	605.3	593.2	581.6	575.2	565.3	558.8	554.1
30°	659.5	632.0	612.2	596.3	572.6	561.4	553.2	544.6	537.7	530.8	526.1
32.5°	628.1	603.6	585.1	564.4	547.6	535.1	523.9	516.6	511.0	504.6	499.8
35°	595.0	573.9	554.5	534.7	521.3	508.9	496.4	489.9	484.3	478.3	474.0
37.5°	564.8	545.0	526.9	508.0	491.6	480.9	470.5	466.2	458.5	454.2	449.9
40°	537.3	517.9	498.1	480.0	462.8	455.0	446.0	438.7	431.8	428.8	424.1
42.5°	507.1	487.8	471.8	452.0	438.7	427.5	419.3	411.1	406.4	401.7	399.5
45°	477.4	460.2	443.9	424.5	411.1	402.1	392.6	385.3	380.6	377.6	372.8
47.5°	449.0	431.4	415.0	397.8	384.9	374.5	364.6	359.9	353.4	350.0	346.6
50°	417.6	402.1	384.4	368.9	356.0	345.7	337.9	331.5	325.9	321.2	319.0
52.5°	388.7	372.0	357.3	343.1	329.3	317.3	310.4	303.5	299.6	294.0	291.5
55°	356.5	340.5	327.6	313.4	300.1	290.2	281.6	275.5	271.2	265.2	261.7
57.5°	326.8	313.0	297.1	284.6	270.4	262.6	255.3	246.7	241.5	236.8	233.3
60°	296.6	280.3	266.9	255.3	243.2	232.5	226.0	219.6	214.0	209.2	206.2
62.5°	265.2	251.4	238.9	226.0	215.3	206.2	198.5	193.3	188.6	186.0	183.0
65°	232.9	221.7	208.8	198.5	188.1	181.2	175.2	170.5	167.0	164.9	162.3
67.5°	203.2	192.4	180.8	170.1	163.2	157.6	153.3	149.0	147.2	144.7	142.9
70°	174.4	163.2	153.3	145.5	138.6	134.7	132.2	129.2	127.4	124.0	122.3
72.5°	142.9	135.6	129.2	123.1	118.0	114.5	111.1	107.2	104.2	100.3	98.6
75°	117.5	110.2	104.6	100.3	96.9	92.1	87.4	83.5	82.2	80.9	80.5
77.5°	91.7	87.0	82.7	79.2	74.5	70.2	68.9	68.0	67.6	66.7	66.7
80°	68.5	64.1	61.1	56.8	54.2	54.2	54.2	53.4	53.8	53.8	53.8
82.5°	46.5	42.6	41.3	40.5	40.5	40.9	40.9	41.3	40.9	41.8	41.3
85°	26.3	26.7	27.6	27.1	27.6	27.6	28.4	28.0	28.4	27.6	28.4
87.5°	12.1	13.3	13.8	14.2	14.6	14.2	14.6	14.6	15.1	15.1	15.1
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: P242586

CATALOG NUMBER: S123RDR-S775D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1005.7	1005.7	1005.7	1005.7
2.5°	946.3	945.8	946.3	944.5
5°	891.6	891.2	889.9	886.0
7.5°	842.1	841.2	837.8	838.6
10°	799.0	799.5	794.3	791.3
12.5°	757.3	754.7	750.8	747.4
15°	721.5	717.2	706.9	707.8
17.5°	677.2	673.7	673.3	667.3
20°	639.3	637.2	638.0	632.0
22.5°	609.6	607.4	602.7	601.9
25°	580.8	577.3	573.9	576.0
27.5°	551.5	548.9	545.0	545.0
30°	523.9	521.3	519.6	517.5
32.5°	495.9	495.9	492.5	492.5
35°	472.3	469.7	468.8	469.3
37.5°	449.5	446.0	444.3	442.6
40°	424.5	421.0	420.2	419.3
42.5°	396.5	395.6	395.2	393.5
45°	371.5	371.1	368.5	369.4
47.5°	344.8	342.7	341.4	342.7
50°	317.3	316.4	312.5	313.4
52.5°	289.7	285.9	285.0	284.1
55°	258.7	254.9	253.1	252.3
57.5°	228.2	226.9	225.2	226.4
60°	201.9	201.9	201.9	201.5
62.5°	181.7	180.4	180.0	180.8
65°	161.0	160.6	158.9	158.4
67.5°	142.1	140.3	140.3	139.5
70°	120.1	119.3	116.7	117.1
72.5°	96.4	95.6	95.6	94.7
75°	80.1	79.6	79.2	80.9
77.5°	66.7	66.7	67.2	66.3
80°	53.8	53.8	53.4	53.4
82.5°	40.5	40.9	41.3	40.5
85°	28.4	28.0	28.8	28.4
87.5°	15.9	15.1	15.1	15.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)