

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: P242763

Luminaire Tested: **S124RDR-S795D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242763
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-S795D940-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2797.4 lumens
Efficiency: N/A
Efficacy: 106.4 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

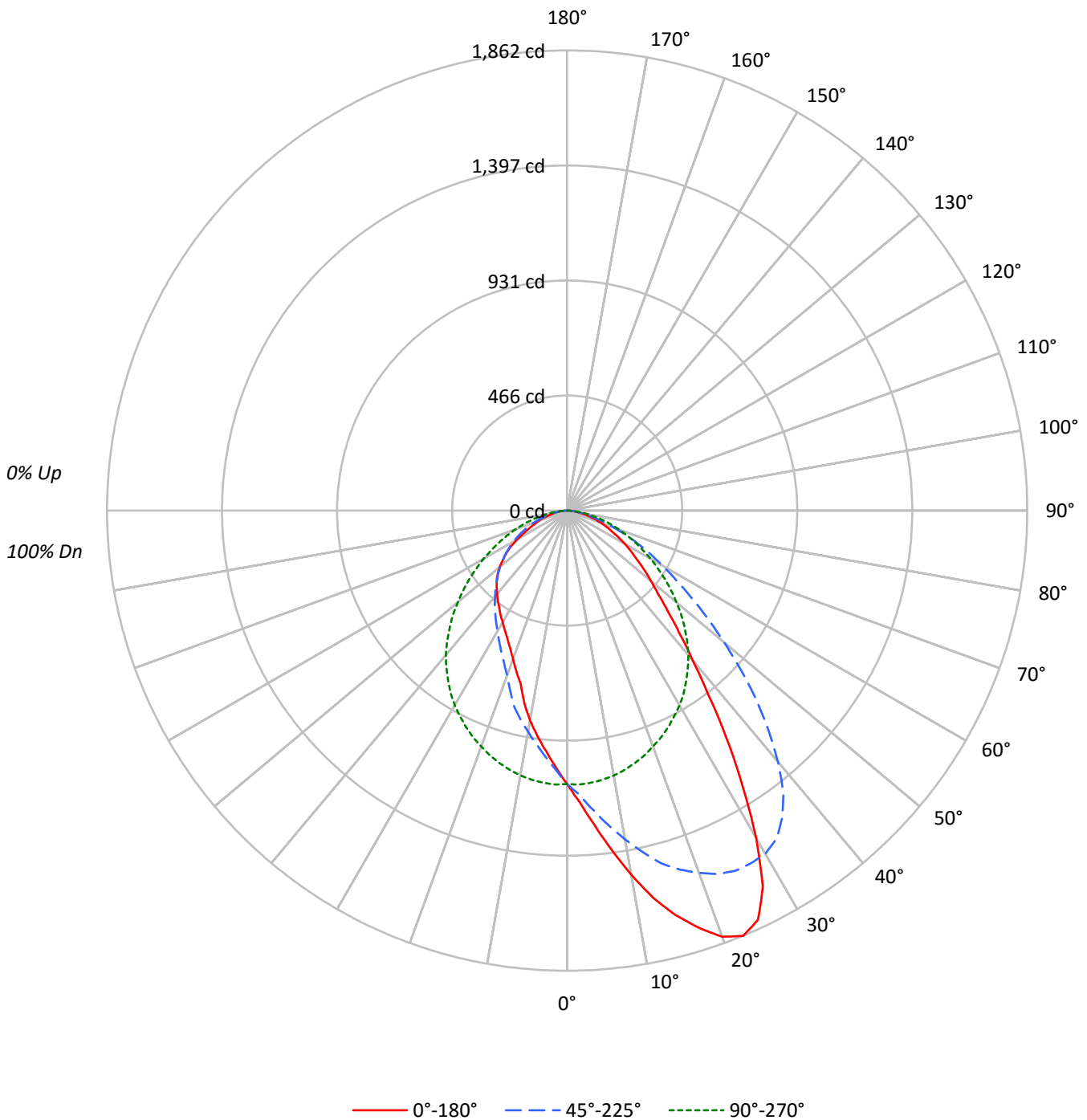
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242763

CATALOG NUMBER: S124RDR-S795D940-X4F0-XX-UDD-A-W

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°	9836	9836	9836
5°	11410	9866	8720
10°	13498	9823	7783
15°	15592	9733	6687
20°	17359	9608	6048
25°	17920	9485	5615
30°	15688	9335	5355
35°	12211	9115	5197
40°	9158	8863	5111
45°	7231	8458	5067
50°	6104	7990	4920
55°	5320	7476	4657
60°	4788	6944	4121
65°	4219	6367	3544
70°	3800	5770	3199
75°	3184	5114	2727
80°	2693	4361	2554
85°	2274	3406	2274



TEST NUMBER: P242763

CATALOG NUMBER: S124RDR-S795D940-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.2	3.8
10°-20°	323.6	11.6
20°-30°	506.9	18.1
30°-40°	562.9	20.1
40°-50°	498.8	17.8
50°-60°	388.7	13.9
60°-70°	254.3	9.1
70°-80°	124.7	4.5
80°-90°	30.4	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°	937.6	33.5
0°-40°	1500.5	53.6
0°-60°	2388.0	85.4
0°-90°	2797.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2797.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1107	1107	1107	1107	1107	
5°	1279	1217	1106	1000	977	129
15°	1694	1479	1058	824	727	482
25°	1827	1609	967	630	572	816
35°	1125	1517	840	506	479	704
45°	575	1081	673	403	403	454
55°	343	612	482	304	300	312
65°	201	314	303	197	168	201
75°	93	120	149	95	79	102
85°	22	24	33	24	22	26
90°	0	0	0	0	0	



TEST NUMBER: P242763

CATALOG NUMBER: S124RDR-S795D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6
2.5°	1182.4	1186.4	1182.4	1182.0	1177.5	1176.2	1174.4	1168.6	1157.9	1151.6	1153.0
5°	1278.7	1289.9	1283.6	1282.7	1272.9	1263.1	1256.9	1242.6	1227.4	1217.2	1208.7
7.5°	1385.7	1392.4	1388.0	1383.0	1366.1	1360.8	1346.0	1329.1	1303.7	1284.5	1267.1
10°	1495.4	1500.8	1499.0	1487.4	1475.8	1452.2	1438.8	1412.5	1378.1	1350.9	1325.5
12.5°	1603.3	1609.1	1589.9	1593.5	1569.0	1551.6	1528.4	1493.6	1452.6	1415.6	1382.2
15°	1694.3	1687.1	1687.1	1678.2	1653.7	1627.8	1606.0	1571.2	1521.3	1479.4	1435.2
17.5°	1769.2	1772.3	1768.7	1746.0	1728.1	1701.8	1662.6	1622.9	1579.7	1523.5	1479.8
20°	1835.1	1835.1	1831.1	1816.9	1791.9	1763.4	1720.1	1676.0	1617.1	1560.5	1509.7
22.5°	1861.9	1863.7	1858.8	1847.6	1825.8	1798.1	1762.9	1717.9	1656.8	1591.3	1525.3
25°	1827.1	1835.6	1836.5	1833.4	1826.7	1809.7	1778.1	1732.2	1677.8	1608.7	1540.9
27.5°	1714.8	1725.9	1730.4	1740.2	1758.5	1765.1	1761.1	1730.4	1677.8	1609.5	1542.2
30°	1528.4	1537.3	1566.3	1604.2	1633.6	1660.4	1683.6	1689.8	1663.0	1603.3	1531.5
32.5°	1321.5	1334.4	1363.4	1404.9	1458.8	1508.8	1568.1	1599.7	1605.5	1575.7	1510.6
35°	1125.3	1134.3	1161.0	1203.8	1262.7	1330.0	1412.5	1476.7	1520.4	1517.3	1476.7
37.5°	937.2	949.7	976.9	1012.1	1070.1	1156.1	1234.1	1320.2	1398.7	1437.0	1416.5
40°	789.2	789.6	815.9	852.5	906.0	978.7	1065.6	1163.7	1253.7	1327.3	1341.6
42.5°	672.4	672.4	687.5	727.6	762.4	829.7	911.8	1009.0	1118.2	1206.0	1249.7
45°	575.2	579.2	593.4	617.1	647.4	705.3	771.8	862.3	980.4	1081.2	1144.1
47.5°	498.5	505.6	514.1	535.5	560.4	601.0	657.6	742.4	840.4	952.4	1039.3
50°	441.4	442.3	453.9	464.6	485.5	516.3	564.5	632.2	720.5	827.1	926.5
52.5°	392.4	391.9	397.7	412.0	428.0	450.3	486.9	547.1	622.9	715.6	819.0
55°	343.3	345.5	350.9	361.6	374.5	391.5	422.2	468.6	530.1	611.7	704.9
57.5°	305.9	307.2	312.1	316.1	328.6	341.1	366.0	399.5	453.4	521.7	613.1
60°	269.3	269.7	271.1	277.8	287.1	298.7	314.3	341.5	385.2	446.3	515.0
62.5°	233.6	234.5	236.7	241.2	247.9	255.0	271.5	292.0	326.4	376.3	436.5
65°	200.6	201.1	204.2	206.0	211.8	218.9	231.0	245.7	270.6	314.3	361.1
67.5°	173.0	173.0	173.0	175.7	180.1	185.0	193.1	205.5	225.6	253.7	297.4
70°	146.2	146.2	147.1	148.5	150.7	154.7	158.7	167.6	181.5	203.3	235.0
72.5°	121.3	121.7	122.6	122.6	123.5	126.6	129.3	134.2	143.6	158.7	182.8
75°	92.7	94.1	96.3	98.1	100.3	99.9	103.0	106.6	109.7	119.5	134.2
77.5°	73.1	72.2	72.2	74.0	74.5	74.9	77.1	80.3	82.9	88.3	93.6
80°	52.6	52.6	53.9	54.4	53.9	54.4	56.6	58.0	58.9	60.6	65.5
82.5°	36.6	37.5	36.6	37.0	37.5	37.9	39.7	39.7	40.6	41.0	42.4
85°	22.3	22.7	23.2	22.3	22.3	22.3	23.2	23.6	24.5	24.1	25.0
87.5°	9.8	9.4	9.8	9.8	10.3	9.8	10.3	11.1	10.3	10.7	10.7
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: P242763

CATALOG NUMBER: S124RDR-S795D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6
2.5°	1148.5	1142.3	1139.2	1132.0	1123.6	1119.1	1115.1	1109.3	1101.7	1093.7	1087.9
5°	1198.0	1187.3	1173.9	1157.9	1143.6	1129.8	1117.8	1105.7	1091.9	1077.6	1063.4
7.5°	1247.1	1227.9	1207.4	1182.9	1159.2	1137.4	1117.8	1098.6	1076.7	1057.1	1038.8
10°	1298.8	1270.2	1238.6	1205.2	1171.7	1142.7	1114.2	1088.3	1059.8	1034.4	1013.0
12.5°	1340.7	1305.9	1266.2	1222.5	1180.6	1144.1	1110.2	1074.5	1041.1	1013.0	982.7
15°	1388.0	1342.0	1290.8	1240.8	1188.7	1140.9	1096.8	1057.6	1020.6	981.8	954.6
17.5°	1420.5	1367.4	1306.8	1248.8	1189.1	1133.8	1083.9	1038.4	996.0	957.3	925.2
20°	1449.0	1388.8	1319.7	1251.5	1182.4	1122.2	1067.4	1015.7	971.5	928.7	895.3
22.5°	1465.1	1396.9	1319.7	1247.5	1175.3	1108.8	1047.3	992.9	943.9	901.1	863.2
25°	1466.0	1394.6	1317.5	1235.5	1157.0	1087.9	1025.5	967.1	913.6	870.8	831.5
27.5°	1462.4	1379.9	1302.3	1219.0	1138.3	1064.7	1000.1	938.1	885.0	839.5	799.4
30°	1451.7	1361.6	1276.9	1189.5	1107.5	1037.5	968.4	909.5	853.8	806.1	765.5
32.5°	1428.5	1339.4	1246.6	1156.6	1073.2	1000.5	935.9	876.6	822.2	773.1	729.4
35°	1396.4	1305.9	1206.9	1115.1	1033.5	958.6	897.1	840.0	787.8	735.7	690.2
37.5°	1359.4	1264.9	1167.3	1066.5	985.3	914.0	856.5	801.7	750.8	703.1	652.7
40°	1302.3	1218.1	1116.4	1016.6	932.7	864.5	812.4	763.8	712.5	665.2	614.8
42.5°	1233.2	1164.6	1061.6	961.3	878.8	813.7	766.0	718.7	673.2	627.8	574.7
45°	1154.8	1100.4	1004.1	907.8	824.4	759.3	714.7	672.8	631.8	588.1	538.6
47.5°	1067.4	1027.3	943.4	842.7	764.6	704.9	662.1	627.3	591.2	547.1	502.5
50°	975.5	951.9	871.7	781.6	708.0	654.1	609.9	577.8	548.8	506.9	468.1
52.5°	877.4	867.6	803.0	717.8	647.4	594.8	558.7	530.6	501.1	468.1	432.5
55°	777.6	784.3	726.7	652.3	585.4	540.8	506.5	482.4	457.4	428.0	399.9
57.5°	673.7	699.1	656.3	589.0	524.3	482.4	456.1	434.7	413.8	388.8	363.4
60°	582.3	602.8	581.0	523.4	468.6	430.3	406.2	390.6	369.6	347.3	329.0
62.5°	493.1	515.4	504.7	461.0	411.1	379.4	358.9	344.6	330.4	311.7	292.5
65°	421.3	435.6	429.4	397.3	361.1	333.1	313.4	302.7	288.5	274.2	257.3
67.5°	337.1	365.2	360.7	342.9	308.1	285.8	272.0	262.2	248.8	238.1	226.0
70°	265.3	290.7	290.3	276.4	259.5	239.0	230.1	222.0	210.4	200.2	190.8
72.5°	205.1	227.8	232.3	222.5	212.2	198.0	189.5	184.6	173.4	167.2	160.1
75°	152.0	169.0	173.4	173.4	168.1	160.1	152.5	148.9	140.9	134.6	130.2
77.5°	107.0	118.6	125.3	126.6	127.1	123.9	116.8	114.1	107.9	105.7	100.8
80°	70.4	77.6	85.6	88.3	90.5	89.6	86.9	85.2	79.4	77.1	75.3
82.5°	43.2	46.4	52.6	59.3	58.0	61.1	58.9	57.5	53.5	53.1	51.3
85°	25.4	25.9	26.8	30.8	33.0	33.9	34.3	33.4	32.1	32.1	29.0
87.5°	10.7	10.3	11.1	11.1	11.6	13.4	14.7	15.2	13.8	12.5	11.1
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: P242763

CATALOG NUMBER: S124RDR-S795D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6	1106.6
2.5°	1081.6	1077.2	1071.4	1064.7	1056.7	1049.5	1046.4	1049.1	1050.4	1046.9	1046.4
5°	1053.6	1042.4	1033.5	1020.1	1009.4	1000.5	994.3	991.6	992.5	985.3	983.6
7.5°	1022.3	1010.3	995.6	980.4	966.2	953.7	947.0	943.9	936.3	933.2	928.3
10°	992.5	974.6	960.4	941.6	924.7	909.1	901.5	895.3	887.7	884.1	876.6
12.5°	961.7	940.3	924.3	904.6	887.3	867.6	860.5	847.6	834.6	826.2	815.9
15°	933.2	908.2	889.0	865.9	845.3	823.9	804.8	783.4	775.3	758.4	748.6
17.5°	899.3	873.4	852.0	822.2	791.4	765.5	744.1	721.8	709.8	698.2	693.3
20°	865.9	842.7	809.7	773.6	738.3	708.9	692.4	679.0	665.7	658.1	652.7
22.5°	834.2	803.0	763.3	723.6	688.4	667.0	653.6	639.8	629.5	622.4	614.8
25°	798.1	759.3	718.7	674.1	650.1	630.0	614.8	603.7	597.0	587.6	584.1
27.5°	762.9	716.0	670.1	639.8	614.8	595.7	581.8	573.8	564.9	558.7	553.8
30°	721.0	673.2	633.1	604.6	579.2	564.0	553.3	543.5	536.8	531.9	528.3
32.5°	679.5	631.8	599.7	568.5	549.7	535.0	523.4	516.7	511.8	505.2	503.4
35°	639.8	597.4	568.0	540.4	519.9	506.5	497.6	490.0	485.5	483.8	482.4
37.5°	601.0	565.8	533.2	511.0	491.8	481.5	469.9	466.4	463.2	459.2	461.0
40°	564.5	531.9	503.8	479.7	465.0	453.4	447.2	442.7	440.1	440.1	440.1
42.5°	532.8	501.1	473.9	453.0	438.3	428.9	421.8	418.2	417.8	417.3	420.0
45°	499.8	470.4	442.7	424.9	412.4	402.6	398.6	395.5	395.5	397.3	397.7
47.5°	466.8	439.2	416.9	396.4	384.8	378.5	375.0	373.2	373.2	375.4	377.2
50°	436.9	409.7	387.9	370.1	359.4	353.6	350.4	349.6	350.4	350.4	353.6
52.5°	404.4	380.8	359.4	345.1	332.6	327.3	325.9	324.6	325.0	326.8	327.7
55°	372.7	350.9	330.4	316.1	307.2	303.6	299.6	300.1	299.2	300.1	300.1
57.5°	340.6	321.5	301.4	289.8	282.2	276.9	272.4	273.8	272.4	272.4	272.0
60°	309.9	288.5	273.3	263.1	254.1	249.7	245.7	246.6	245.2	244.3	242.5
62.5°	276.4	259.5	245.2	235.4	228.7	223.4	219.4	218.0	214.5	210.9	206.4
65°	244.3	229.6	216.7	207.3	200.6	196.6	193.5	190.8	184.1	177.0	173.4
67.5°	212.7	202.0	189.5	181.5	176.1	170.8	165.0	160.1	153.4	148.9	146.7
70°	182.4	172.1	161.8	154.3	148.5	143.6	136.9	133.8	129.3	127.5	125.3
72.5°	153.4	144.0	134.6	128.0	121.7	118.2	113.2	110.1	108.8	108.3	106.1
75°	123.9	116.4	109.2	103.0	98.1	95.4	93.2	91.0	90.1	86.1	83.8
77.5°	95.4	90.1	85.6	80.7	77.6	75.8	70.9	67.8	66.0	63.8	63.3
80°	70.4	66.9	62.4	59.7	54.8	53.1	51.3	50.8	50.4	49.9	49.5
82.5°	48.6	45.0	40.6	39.2	38.8	37.9	37.0	36.6	36.1	36.6	36.6
85°	26.8	25.0	25.0	24.5	24.1	23.6	23.2	23.2	22.7	23.2	22.7
87.5°	11.1	10.7	10.7	9.8	10.3	10.3	9.8	9.8	10.3	9.4	9.4
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: P242763

CATALOG NUMBER: S124RDR-S795D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1106.6	1106.6	1106.6	1106.6
2.5°	1043.8	1044.6	1041.5	1040.6
5°	980.0	979.1	976.9	977.3
7.5°	924.7	921.6	923.8	920.2
10°	874.8	869.9	865.9	862.3
12.5°	806.6	802.5	796.7	799.0
15°	742.8	736.1	725.4	726.7
17.5°	685.7	686.6	680.4	682.2
20°	643.4	640.3	640.7	639.4
22.5°	613.9	609.9	605.9	602.8
25°	580.1	577.4	573.4	572.5
27.5°	550.2	549.7	548.0	545.7
30°	524.8	523.9	523.0	521.7
32.5°	502.0	501.6	500.7	501.1
35°	480.6	480.2	479.3	478.9
37.5°	460.6	461.9	461.0	461.0
40°	439.6	440.1	441.0	440.5
42.5°	422.2	422.2	423.6	421.8
45°	400.8	403.5	403.1	403.1
47.5°	378.1	381.2	381.7	381.7
50°	355.8	354.9	356.2	355.8
52.5°	328.6	329.0	328.6	328.2
55°	300.5	301.0	300.1	300.5
57.5°	270.6	268.9	270.2	269.3
60°	238.1	234.5	233.6	231.8
62.5°	201.5	199.3	195.7	198.0
65°	169.9	168.1	166.8	168.5
67.5°	144.5	143.6	143.6	142.7
70°	125.3	123.9	123.9	123.1
72.5°	105.7	104.3	104.8	104.3
75°	81.1	78.9	78.9	79.4
77.5°	63.3	62.9	63.8	62.4
80°	49.5	49.0	48.6	49.9
82.5°	35.7	35.7	35.7	37.5
85°	23.2	22.3	23.2	22.3
87.5°	10.3	9.8	9.4	9.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)